

**Government Of India**

Ministry Of Housing &amp; Urban Affairs

**Central Public Works Department**

Excellence in Public Works

**Tender Published****Current Tender Details**

<b>Tender ID</b>	117026	<b>NIT/RFP NO</b>	01/2025-26/SE/CCU/CED-I/New Delhi
<b>Name of Work</b>	Renovation of Ganga Auditorium, Godavari Conference Hall, Dinning Hall, office of Secretary, EF&CC and washrooms adjoining the Conference Halls and Dinning Hall of MoEF&CC at Indira Paryavaran Bhawan, Jorbagh Road, New Delhi.		
<b>Procurement Type</b>	Works	<b>Bid Type</b>	Percentage
<b>Tender Type</b>	OPEN	<b>Estimated Cost</b>	₹ 9,50,45,312 ( Nine Crore Fifty Lakh Forty Five Thousand Three Hundred and Twelve Rupees )
<b>Bid Submission Closing Date</b>	14/07/2025 15:00	<b>Competitive Bidding Type</b>	NCB

**Tender Published Successfully.**

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Ministry Of Housing &amp; Urban Affairs

**Central Public Works Department**

Excellence in Public Works

**Tender Consolidation View**[Print](#)[Download As Pdf](#)**Enquiry Particulars**

Regional Office	<b>EE - CED - I</b>	Office Inviting Bids	<b>Chandigarh - CE - E and F - EE - CED - I</b>
Tender ID	<b>117026</b>	NIT/RFP NO	01/2025-26/SE/CCU/CED-I/New Delhi
Name of Work	Renovation of Ganga Auditorium, Godavari Conference Hall, Dinning Hall, office of Secretary, EF&CC and washrooms adjoining the Conference Halls and Dinning Hall of MoEF&CC at Indira Paryavaran Bhawan, Jorbagh Road, New Delhi.	Subwork/Packages	
Time Allowed	4 months	Tender Type	OPEN
Procurement Type	WORKS	Bid Type	Percentage
Type of Work	Civil Works - Buildings	Category of Tender	COMPOSITE
Estimated Cost(INR)	₹ 9,50,45,312	Competitive Bidding Type	NCB

**Bid Submission Dates**

Last Date & Time of receipt of Pre-Bid Queries	27/06/2025 10:50	Receipt of Queries through	Email
Email	eeced1ccu-mef@nic.in		
Pre Bid Meeting Date & Time	27/06/2025 11:00	Pre Bid Meeting Venue	Office of Superintending Engineer CCU 7th floor CGO Complex Lodhi Road New Delhi 110003
Bid Submission Closing Date & Time	14/07/2025 15:00	Bid Validity Period (In Days)	30
Bid Validity Expiry Date	13/08/2025 15:30	Tender Notice Type	Standard Notice Tender

**Tender Inviting Authority Particulars**

Office Inviting Bids	EE - CED - I	Designation	Executive Engineer
Address	Civil Construction Unit, 7th Floor, Pt. Deendayal Antyodaya Bhawan, CGO Complex, Lodhi Road, New Del	Contact Details	9953116700
Email	daulat.ram66@gov.in		

**EMD Details**

EMD (INR)	EMD in favour of	Mode of Payment
₹ 19,00,906	Executive Engineer, CED-I, CCU, MoEF&CC, New Delhi-110003	DD,FDR,BC,BG

**Bid Openers**

Department User Name	Region	Mobile Number	Email	Designation	Certificate serial No	Certificate Expiry
DAULAT RAM	EE - CED - I	9953116700	daulatram2508@gmail.com	Executive Engineer	188ea67	14/10/2026 02:47
Bhim Singh Chauhan	EE - CED - I	9911384213	bhimsinghchauhan85@gmail.com	Assistant Engineer	17eaae6	25/02/2026 03:17

**Tender Documents**

S.No	File Name	File Description	File Size (in Bytes)	Uploaded Date
1	NIT Part-A.pdf	NIT Part A	1197502	23/06/2025 19:57
2	NIT Part-B.pdf	NIT Part B	1347729	23/06/2025 20:01
3	NIT Part-C.pdf	NIT Part C	1183780	23/06/2025 20:02
4	NIT Part-D.pdf	NIT Part D	530032	23/06/2025 20:02
5	Eligibility.pdf	Eligibility	697102	23/06/2025 20:02

**Mandatory Documents Details**

S.No	Documents Required from Vendor	Document Type
1	Copy of Enlistment Order of the Contractor.	Mandatory
2	Copy of EMD in proper Form	Mandatory
3	Copy of receipt of deposition of original bank guarantee including e-Bank Guarantee in any divisions of CPWD/CCU, MoEF and CC	Mandatory
4	GST Registration Certificate, if already obtained by the bidder. If the bidder has not obtained GST registration as applicable, then he shall scan and upload following under taking along with bid documents.	Mandatory
5	Any other Document as specified in the NIT	Mandatory

**Eligibility Documents Details**

S.No	Documents Required from Vendor	Document Type
1	Eligibility	Mandatory

**Tender Covers**

S.No	Cover Name	Bid Opening date	View Details
1	Single Bid	14/07/2025 15:30	View Action

**Single Bid**

S.No	File Name	File Size(in Bytes)
1	117026-PercentageComposite1.xls	59904

Done

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**Name of work:** Renovation of Ganga Auditorium, Godavari Conference Hall, Dining Hall, office of Secretary, EF&CC and washrooms adjoining the Conference Halls and Dining Hall of MoEF&CC at Indira Paryavaran Bhawan, Jorbagh Road, New Delhi.

**NIT No.:** 01/2025-26/SE/CCU/CED-I/New Delhi

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Executive Engineer, CED-I, CCU  
(For and on behalf of the President of India)

# PART-A

## GENERAL INFORMATION

## INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR E-TENDERING FORMING PART OF BID DOCUMENT

The Executive Engineer, Civil Engineering Division-I, Civil Construction Unit (CCU), Ministry of Environment, Forest & Climate Change (MoEF&CC), CGO Complex, Lodhi Road, New Delhi -110003 ([email- eeecd1ccu-mef@nic.in](mailto:eeecd1ccu-mef@nic.in)) on behalf of President of India invites online percentage rate bids from CPWD enlisted contractors of appropriate class in Buildings & Roads (erstwhile composite /Building/ Infrastructure) category) for the following work: -

NIT No.	01/2025-26/SE/CCU/CED-I/New Delhi
Name of Work	Renovation of Ganga Auditorium, Godavari Conference Hall, Dining Hall, office of Secretary, EF&CC and washrooms adjoining the Conference Halls and Dining Hall of MoEF&CC at Indira Paryavaran Bhawan, Jorbagh Road, New Delhi.
Location	Jor bagh, New Delhi
Estimated cost put to bid (Rs.)	Rs. <b>9,50,45,312/-</b>
Earnest Money (Rs.)	Rs. <b>19,00,906/-</b>
Stipulated Period of Completion of work (in months)	04 Months
Last time & date of submission of online bid, copy of receipt of deposition of original EMD and other documents as specified in Notice Inviting e-Tender.	03:00 PM on 14.07.2025
Time date of opening of bid	03:30 PM on 14.07.2025
Pre-Bid Conference	Pre-bid conference shall be held on 27.06.2025. at 11:00 AM with the eligible and intending bidders in <b>office of Superintending Engineer, CCU, 7<sup>th</sup> floor, CGO Complex, Lodhi Road, New Delhi -110003.</b>

**\*\*To be filled by Executive Engineer, CED-I**

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) 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 websites shall form part of bid document.

- 3) The enlistment of the contractors should be valid on the last date of submission of bids. In case the last date of opening of bid is extended, the enlistment of contractor should be valid on the original date of opening of tender.
- 4) 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 <https://etender.cpwd.gov.in> free of cost.
- 5) But the bid can only be submitted after deposition of EMD through Payment Online payment mode and original bank guarantee including e-Bank guarantee (for balance amount as prescribed) **either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD/CCU, MoEF&CC within the period of bid submission** and uploading the mandatory scanned documents as mentioned in the NIT, receipt for deposition of original EMD to any division office of CCU, MoEF&CC/ CPWD or office of **Executive Engineer, CED-I, CCU, Delhi** and other documents as specified.
- 6) Those contractors who are not registered or have not updated their profile on the website mentioned above, are required to get registered / update their profile beforehand. The necessary training materials including the videos with step-to-step process are available on download section of <https://etender.cpwd.gov.in>.
- 7) The intending bidder must have valid Class-III digital signature certificate with encryption key (combo type) to perform any operations / transactions on the e-tendering portal / website and the bidder should download and install the eMsigner on their system as per instructions available on download section of <https://etender.cpwd.gov.in>.
- 8) On opening date, the contractor can login and see the bid opening process. After opening of bids he will receive the competitor bid sheets.
- 9) Contractor can upload documents in the form of JPG format and PDF format.
- 10) Contractor must ensure to quote rate of each item. The column meant for quoting rate in figures appears in yellow colour and the moment rate is entered, it turns sky blue. In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0". Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (ZERO). However, if a tenderer quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section / sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.
- 11) Pre-Bid conference shall be held on 27.06.2025 at 11 AM with the eligible and intending bidders in **office of Superintending Engineer, CCU, 7<sup>th</sup> floor CGO Complex, Lodhi Road, New Delhi -110003** to clear the doubt of intending bidders, if any.
- 12) The department reserves the right to reject any prospective application without assigning any reason and to restrict the list of qualified contractors to any number deemed suitable by it, if too many bids are received satisfying the laid down criterion.
- 13) Copy of enlistment order and certificate of work experience and other documents as specified in the tender documents for eligibility shall be scanned and uploaded to the e-tendering website within the period of bid submission.

- 14) Online bid documents submitted by intending bidders shall be opened only of those bidders, whose deposited EMD and other documents scanned and uploaded are found in order.
- 15) If any information furnished by the applicant is found incorrect at a later stage, he shall be liable to be debarred from tendering/taking up of works in department. The department reserves the right to verify the particulars furnished by the applicant independently.

**List of Documents to be scanned and uploaded within the period of tender submission**

- 1) Copy of Enlistment Order of the Contractor.
- 2) Copy of EMD in proper Form
- 3) Copy of receipt of deposition of original bank guarantee including e-Bank Guarantee in any divisions of CPWD/CCU, MoEF&CC
- 4) GST Registration Certificate, if already obtained by the bidder. If the bidder has not obtained GST registration as applicable, then he shall scan and upload following under taking along with bid documents.

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

- 5) Any other Document as specified in the NIT.

Executive Engineer, CED-I, CCU  
(For and on behalf of the President of India)



## CPWD 6 FOR E- TENDERING

1. Percentage rate bids are invited on behalf of President of India from approved and eligible contractors of CPWD in appropriate class in Buildings & Roads (erstwhile composite /Building/ Infrastructure) category for the work **“Renovation of Ganga Auditorium, Godavari Conference Hall, Dining Hall, office of Secretary, EF&CC and washrooms adjoining the Conference Halls and Dining Hall of MoEF&CC at Indira Paryavaran Bhawan, Jorbagh Road, New Delhi.”**

The enlistment of the contractors should be valid on the last date of submission of bids.

In case the last date of submission of bid is extended, the enlistment of contractor should be valid on the original date of submission of bids.

- 1.1 The work is estimated to cost Rs. **9,50,45,312/-**. 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**. 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 **04 months** from the date of start as defined in schedule ‘F’ or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the bid documents.
4. The site for the work is available on as it is where it is basis and will be made available in phases. **The bidders have to quote their rates in view of the site conditions and other parameters.**
5. The architectural drawings shall be made available in phased manner, as per requirement of the same and as per approved programme of completion submitted by the contractor after award of work.
6. 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 (GCC) Form can be seen on website <https://etender.cpwd.gov.in> or [www.cpwd.gov.in](http://www.cpwd.gov.in) free of cost.
7. After submission of the bid the contractor can re-submit revised bid any number of times **or withdraw it** before last date and time of submission of bid as notified. **No post-tender modification is allowed by the tenderers except through negotiations, if required. In case, any tenderer does so, the tender will be rejected and the tenderer will be debarred for future tendering in CCU/CPWD for two years by the concerned enlisting authority (in case of CPWD enlisted contractor) and by the concerned CE/SE (in case of non-enlisted contractor).**
8. While submitting the revised bid, contractor can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of bid as notified.

9. Earnest Money in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee including e- Bank Guarantee (for balance amount as prescribed) from any of the Commercial Banks (drawn in favour of **Executive Engineer, CED-I, CCU, MoEF&CC, New Delhi**) shall be scanned and uploaded to the e-Tendering website within the period of bid submission. The original EMD should be deposited either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CCU/CPWD within the period of bid submission. The EMD receiving Executive Engineer (including NIT issuing EE/AE) shall issue a receipt of deposition of earnest money deposit to the bidder in a prescribed format (enclosed) uploaded by tender inviting EE in the NIT.

A part of earnest money is acceptable in the form of bank guarantee also. In such case, minimum 50% of earnest money or Rs. 20 lac, whichever is less, shall have to be deposited in shape prescribed above, and balance may be deposited in shape of Bank Guarantee including e- Bank Guarantee of any Commercial bank having validity for a period of **180 days** or more from the last date of receipt of bids which is to be scanned and uploaded by the intending bidders.

Copy of Enlistment Order and certificate of work experience and other documents as specified in the notice inviting e- tender shall be scanned and uploaded on the e-Tendering website within the period of bid submission. However, certified copy of all the scanned and uploaded documents as specified in e- tender notice shall have to be submitted by the lowest bidder within a week physically in the office of tender opening authority. Online bid documents submitted by intending bidders shall be opened only of those bidders, whose original EMD deposited with any division of CPWD/CCU and other document scanned and uploaded are found in order.

10. The bid submitted shall become invalid and e-Tender processing fee (if applicable) shall not be refunded if:
- (i) The bidder is found ineligible.
  - (ii) The bidder does not upload scanned copies of all the documents stipulated in the bid document.
  - (iii) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest bidder in the office of bid opening authority.
  - (iv) If a tenderer quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section / sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer
11. The contractor whose bid is accepted will be required to furnish performance guarantee at specified percentage of the tendered amount as mentioned in schedule E and within the period specified in Schedule F. This guarantee shall be in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt or Bank Guarantee from any of the Commercial Banks in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F', including the extended period if any, the Earnest Money deposited by the

contractor shall be forfeited automatically without any notice to the contractor. The earnest money deposited along with bid shall be returned after receiving the aforesaid performance guarantee. 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 licenses, registration with EPFO, ESIC and BOCW Welfare Board including Provident Fund Code No. If applicable and also ensure the compliance of aforesaid provisions by the subcontractors, if any engaged by the contractor for the said work within the period specified in Schedule F.

12. Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidder shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.
13. The competent authority on behalf of the President of India does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidder 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 President of India reserves to himself the right of accepting the whole or any part of the bid and the bidder shall be bound to perform the same at the rate quoted.
16. The contractor shall not be permitted to bid for works in the CCU Circle responsible for award and execution of contracts, in which his near relative is posted as 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 Civil Construction Unit or in the Ministry of Environment, Forests and Climate Change. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of the 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 work shall remain open for acceptance for a period of **30 (Thirty)** days from the date of opening of tenders.

- i) If any tenderer withdraws his tender within 7 days after last date **and time (24 hours basis)** of submission of bids, then the Government shall without prejudice to any other right or remedy, be at liberty to forfeit 50% of the earnest money absolutely irrespective of letter of acceptance for the work is issued or not.
- ii) If any tenderer withdraws his tender or makes any modification in the terms & conditions of the tender which is not acceptable to the department after expiry of 7 days after last date **and time (24 hours basis)** of submission of bids, then the Government shall without prejudice to any other right or remedy, be at liberty to forfeit 100% of the earnest money absolutely irrespective of letter of acceptance for the work is issued or not.
- iii) **Withdrawal of the tender, by the tenderer, shall only be made through e-tender portal. Any other method i.e. through letter/ e-mail etc. shall not be considered.**
- iv) In case of forfeiture of earnest money as prescribed in para (i) and (ii) above, the bidders shall not be allowed to participate in the rebidding process of the same work..

19. The pre-bid meeting will be held on 27.06.2025 at 11 AM with the eligible and intending bidders in **office of Superintending Engineer, CCU, 7<sup>th</sup> floor, CGO Complex, Lodhi Road, New Delhi -110003** to clear the doubt of intending bidders if any.

**\*\* to be filled by EE**

20. 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: -

- i) 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.
- ii) Standard C.P.W.D. Form 7 or other Standard C.P.W.D. Form as applicable.
- iii) General Conditions of Contract 2023 for Construction works, Central Public Works Department, as corrected up to last date of submission of bids.

21. Specialized Agencies for E&M services: The tenderer must associate himself with agencies of the appropriate eligibility for each of specialized nature of items / work as per part- 'C' of NIT. Such works shall be got executed only through associated agencies specialized in these fields. Separate MOU has to be signed with each of the specialized works with either OEMS (Authorised channel partners) or with specialized agencies who have the credentials of executing either one work of 80% value or two work of 60% value or three works of 40% value of the corresponding component of the specialized work in last seven years. It shall be the responsibility of main contractor to sort out any

dispute / litigation with the Specialized Agencies without any time & cost overrun to the Department. The main contractor shall be solely responsible for settling any dispute / litigation arising out of his agreement with the Specialized Agencies. The contractor shall ensure that the work shall not suffer on account of litigation/ dispute between him and the specialized agencies / sub-contractor(s). No claim of hindrance in the work shall be entertained from the Contractor on this account. No extension of time shall be granted and no claim what so ever, of any kind, shall be entertained from the Contractor on account of delay attributable to the selection/rejection of the Specialized Agency. The main contractor has to associate agency(s) for specialized 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 within prescribed time. Name of the agency(s) to be associated shall be approved by Engineer –in-Charge.

22. The proposal for all specialized agencies (for Civil works and E& M works as specified in part 'B' and Part 'C' of notice inviting tender respectively) shall be submitted by the contractor within 7 days of the date of start/commencement. MOU should be submitted within 15 days of the date of start/commencement. In case of non-submission or incomplete or part submission of the proposals, deduction @ Rs. 10000/- per day per proposal of specialised agency shall be made from any amount payable to the contractor.
23. In case the main contractor intends to change any of the above agency/agencies during the operation of the contract, he shall obtain prior approval of Engineer-in-Charge. The new agency/agencies shall also have to satisfy the laid down eligibility criteria. In case Engineer-in-Charge is not satisfied with the performance of any agency, he can direct the contractor to change the agency executing such items of work and this shall be binding on the contractor.
24. The main contractor has to enter into MoU with agency(s) associated by him/ Copy of such MoU shall be submitted to Engineer in charge. In case of change of associate contractor, the main agency(s) has to enter into MoU/agreement with the new contractor associated by him.
25. The intending bidders are required to update their profile in CPWD e- tender portal and to upload their bids well in advance of last date of submission of tender. Any issue related to updating profile/uploading tender can be resolved through ERP helpline no. 18001803286 or e-mail Id cpwd.support@techmahindra.com. The e- tendering bidders are also advised not to wait to raise any issues till the last date of submission of bid in their own interest.

Executive Engineer, CED-I  
(For and on behalf of the President of India)

**GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT, FORESTS & CLIMATE CHANGE**

**PERCENTAGE RATE BID AND CONTRACT FOR WORKS**

Tender for the work of **“Renovation of Ganga Auditorium, Godavari Conference Hall, Dining Hall, office of Secretary, EF&CC and washrooms adjoining the Conference Halls and Dining Hall of MoEF&CC at Indira Paryavaran Bhawan, Jorbagh Road, New Delhi”**

- i) To be uploaded by 03:00 hours on 14.07.2025 to/upload at
- ii) To be opened in presence of tenderers who may be present at 03:30 hours on 14.07.2025 in the office of in the office of the Executive Engineer, CED-I, CCU, Delhi.

\*\* To be filled by EE, CED-I

**TENDER**

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

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

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

A copy of earnest money deposit receipt of prescribed amount deposited in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee (as prescribed) issued by a Commercial Bank, is scanned and uploaded. If I/We, fail to furnish the prescribed performance guarantee within prescribed period, I/We agree that the said President of India or his successors, in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/We fail to commence work as specified, I/ We agree that President of India or the successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said performance guarantee absolutely. The said Performance Guarantee shall be a guarantee to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2(c) of the tender form. I/We hereby declare that I/we shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information derived there from to any person other than a person to whom I/we am/are authorized to communicate the same or use the information in any manner prejudicial to the safety and integrity of the State.

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

I/We undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back-to-back basis. Further that, if such a violation comes to the notice of Department, then I/We shall be debarred for tendering in CCU, MoEF&CC in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.

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

Signature of contractor

Postal Address -----\*\*

Telephone No. -----\*\*

Fax -----\*\*

E-MAIL -----\*\*

Witness:

Address:

Occupation:

\*\* To be filled by Bidder

#### 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 President of India for a sum of Rs.....

(Rupees.....

.....

....)

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

(a) -----\*

(b) -----\*

(c) -----\*

For & on behalf of President of India

Signature.....\*

Dated: -----\*

.....\*

Designation

\* To be filled by Executive Engineer



## **SCHEDULE – ‘A’, ‘B’, ‘C’, ‘D’, ‘E’ & ‘F’ FOR THE WORK**

### **SCHEDULE ‘A’**

Schedule of Quantities -

As per contract document

### **SCHEDULE ‘D’**

Extra schedule for specific requirements/document for the work, if any:	As per tender documents
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### **SCHEDULE ‘E’**

Reference to General Conditions of contract	CPWD General Conditions of Contract 2023 Construction works, as amended up to last date of submission of bids.
Name of Work	<b>Renovation of Ganga Auditorium, Godavari Conference Hall, Dining Hall, office of Secretary, EF&amp;CC and washrooms adjoining the Conference Halls and Dining Hall of MoEF&amp;CC at Indira Paryavaran Bhawan, Jorbagh Road, New Delhi.</b>
Estimated cost of the work	<b>Rs. 9,50,45,312/-</b>
Earnest money	Rs.19,00,906/-
Performance Guarantee	5.00% of tendered amount
Security Deposit	2.50% of tendered amount.

### **SCHEDULE ‘F’**

#### **GENERAL RULES AND DIRECTION**

Officer inviting tender	The Executive Engineer, CED-I, Civil Construction Unit (CCU), Ministry of Environment, Forest & Climate Change (MoEF&CC), CGO Complex, Lodhi Road, New Delhi -110003
Maximum percentage of quantity of items of work to be executed beyond which rates are to be determined in accordance with Clause 12.2(c)	See at appropriate clause

#### **Definitions:**

2(vi)	Engineer-in-Charge	Executive Engineer, CED-I, CCU, MoEF&CC, New Delhi or his or his legal successor or Assignee thereof.
2(viii)	Accepting Authority	Superintending Engineer, CCU, MoEF&CC or his or his legal successor or Assignee thereof
2(x)a	Percentage on cost of materials and labour to cover all overheads and profits	7.5% for items of supply of materials and 15% for execution of items



2(x)b	Standard Schedule of Rates	
	Civil Works	DSR-2023 with correction slips issued upto last date of submission of bids and Market Rates
	Electrical & Mechanical Works	DSR-2022 with correction slips issued upto last date of submission of bids & Market rates
2(xi)	Department:	Civil Construction Unit, Ministry of Environment, Forest & Climate Change, Government of India.
9(ii)	Standard CPWD Contract Form	CPWD Form 7 of General Conditions of Contract 2023 for Construction works, Central Public Works Department, as modified and corrected up to last date of submission of bids.

<b>Clause 1</b>		
i)	Time allowed for submission of Performance Guarantee, Programme Chart (Time and Progress) and applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying thereof from the date of issue of letter of acceptance.	07 Days
ii)	Maximum allowable extension with late fee @0.1% per day of Performance Guarantee amount beyond the period as provided in (i) above	03 Days
<b>Clause 2</b>		
i)	Authority for fixing Compensation under Clause 2:	Superintending Engineer, CCU, MoEF&CC or his legal successor or Assignee thereof
<b>Clause 5</b>		
i)	Number of days from the date of issue of letter of acceptance for reckoning date of start	7 Days

**Mile stones as per table given below**

Sl. No.	Description of mile stone (s)	Time allowed (From date of start)	Amount to be withheld in case of Non-achievement of each Mile stone(s)
1	Work done amounting to 20% of accepted tender amount (Civil + Electrical).	<b>01 Months</b>	1.00 % of accepted tendered amount.
2	Work done amounting to 40% of accepted tender amount (Civil + Electrical).	<b>02 Months</b>	1.00 % of accepted tendered amount.
3	Work done amounting to 60% of accepted tender amount (Civil + Electrical).	<b>2.5 Months</b>	1.00 % of accepted tendered amount
4	Work done amounting to 80% of accepted tender amount (Civil + Electrical).	<b>3.5 Months</b>	1.00 % of accepted tendered amount

5	Work done amounting to 100% of accepted tender amount (Civil + Electrical).	<b>04 Months</b>	1.00 % of accepted tendered amount
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**Time allowed for execution of work:**

**04 Months**

**Note:-** Withheld amount shall be released if and when subsequent milestone is achieved within respective time specified. However, in case milestones are not achieved by the Bidder for the work, the amount shown against milestone shall be withheld.

Monthly recovery for delay in submission of the monthly progress report within specified period - not exceeding Rs. 2000/- per month for each month default.

**Schedule of handing over of site:**

Part	Portion of site	Time period for handing over reckoned from date of issue of letter of intent
Part A	First part of site	On date of commencement
Part B	Remaining part of site	As per the approved programme chart and progress of work

Authority to decide:

i) Authority to convey the decision of shifting of milestone and extension of time:	Executive Engineer, CED-I, CCU, MoEF&CC or his legal successor or Assignee thereof
ii) Authority to decide rescheduling of milestones and extension of time.	Superintending Engineer, CCU, MoEF&CC or his legal successor or Assignee thereof
iii) Shifting of date of start in case of delay in handing over of site	Superintending Engineer, CCU, MoEF&CC or his legal successor or Assignee thereof

**CLAUSE 5.4:** Schedule of rate of recovery for delay in submission of the modified programme in terms of delay days

S.N.	Contract Value	Recovery Rs / Per day
1.	More than Rs. 1 Crore	2000

**Clause 6**

i) Mode of measurement	CMB
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**Clause 7**

Gross work to be done together with net payment/ adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment	<b>Rs. 90 Lakhs for Civil &amp; Furniture Works and 150 lakhs for Electrical &amp; Mechanical works</b>
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<b>Clause 7A</b> <b>Whether clause 7A shall be applicable</b>	Yes
<b>Clause -7B</b> <b>Whether clause 7B shall be applicable</b>	Yes

**Clause 8 A: Completion plans to be submitted by the contractor**

Authority to decide compensation on account if contractor fails to submit completion plans	Superintending Engineer, CCU, MoEF&CC or his legal successor or Assignee thereof.
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**Clause 10 A**

As per details attached in the relevant pages of this bid document

**Clause 10 B**

<b>Clause 10B (ii)</b>	
Whether Clause 10 B (ii) shall be applicable	No

**Clause 10 C**

Whether Clause 10 C shall be applicable	Yes
Component of labour expressed as percent of value of work	25%

**Clause 10CC – Not Applicable**

**Clause 11:**

Specifications to be followed for execution of civil work	:	CPWD Specifications 2019 Volume-I and II with correction slips issued upto last date of submission of bids.
Specifications to be followed for execution of Electrical & Mechanical Works	:	CPWD Specifications for Electrical Work. Part-I (Internal) 2023, Part- II (External) 2023, Part-IV (Substation) 2013, Part-VI Fire detection and alarm System-2018, HVAC 2017 and as amended up to date.

**Clause 12 : Construction work**

12.2 (c)	Deviation limit beyond which clauses 12.2(c) shall apply for building work.	:	100%
	i) Deviation limit beyond which clauses 12.2(c) shall apply for foundation work (except items mentioned in earth work sub head in DSR and related items)	:	100%
	ii) Deviation limit for items mentioned in earth work sub head of DSR and related items	:	100%

**Clause 16:**

Competent authority for deciding reduced rates	:	Superintending Engineer, CCU, MoEF&CC or his legal successor or Assignee thereof
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**Clause 18:**

List of Mandatory Machinery, tools & plants to be deployed by the contractor at site: -

As per details attached in the relevant pages of this bid document
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**Clause 19**

<b>Clause 19 C</b>	Authority to decide penalty for each default	Executive Engineer, CED-I, CCU, MoEF&CC or his legal successor or Assignee thereof
<b>Clause 19 D</b>	Authority to decide penalty for each default	Executive Engineer, CED-I, CCU, MoEF&CC or his legal successor or Assignee thereof
<b>Clause 19 G</b>	Authority to decide penalty for each default	Executive Engineer, CED-I, CCU, MoEF&CC or his legal successor or Assignee thereof
<b>Clause 19 K</b>	Authority to decide penalty for each default	Executive Engineer, CED-I, CCU, MoEF&CC or his legal successor or Assignee thereof

**Clause 25:** Settlement of disputes by Conciliation and Arbitration

Conciliator:	:	SE, CCU or his legal successor or Assignee thereof
Arbitrator Appointing Authority	:	Chief Engineer, CCU, MoEF&CC or his legal successor or Assignee thereof
Place of Arbitration	:	New Delhi

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

Sl. No.	Minimum Qualification of Technical Representative	Discipline	Designation	Minimum experience	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of Clause 32
1	Graduate Engineer	Civil	Project Manager	5 (and having experience of one similar nature of work)	1	Rs. 60,000/- per month per person

2	Graduate Engineer Or Diploma Engineer	Civil + Electrical	Planning / Quality /Billing Engineer	2 or 5 years respectively	1+1	Rs. 40,000/- per month per person
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- 1) Assistant Engineers retired from Government services that are holding Diploma will be treated at par with Graduate Engineers.
- 2) Diploma holder with minimum 10-year relevant experience with a reputed construction co. can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50 % of requirement of degree engineers.

**Clause 38**

(i)	(a)	Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of Delhi Schedule of Rates	DSR 2023 with Amendments/ Correction slips up to last date of submission of Tender
(ii)		Variations permissible on theoretical quantities:	
	(a)	Cement	
		For works with estimated cost put to tender more than Rs. 5 lakh.	3% (Three percent) plus/minus.
		Bitumen for all works	2.5% (Two-point five percent) plus only and nil on minus side.
	(b)	Steel Reinforcement and structural steel sections for each diameter, section and category	2% (Two percent) plus / minus
	(c)	All other materials	Nil

**RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION**

S. No.	Description of item	Rates in figures and words at which recovery shall be made from the Contractor	
		Excess beyond permissible variation	Less use beyond permissible variation not permitted
1.	Cement OPC 43 grade /PCC	-	-
2.	Steel reinforcement bars	-	-
3.	Structural steel	-	-

Executive Engineer,  
CED-I, CCU, MoEF&CC,  
CGO Complex, New Delhi

**PROFORMA FOR THE RECEIPT TO BE ISSUED BY THE EXECUTIVE ENGINEER  
RECEIVING THE EMD**

Receipt of deposition of original EMD (drawn in favour of <b>Executive Engineer, CED-I, CCU, MoEF&amp;CC, Delhi</b> ) (Receipt No. .... / date.....)		
Name of work	:	Renovation of Ganga Auditorium, Godavari Conference Hall, Dining Hall, office of Secretary, EF&CC and washrooms adjoining the Conference Halls and Dining Hall of MoEF&CC at Indira Paryavaran Bhawan, Jorbagh Road, New Delhi.
NIT No	:	01/2025-26/SE/CCU/CED-I/New Delhi
Estimated Cost	:	<b>Rs 9,50,45,312/-</b>
Amount of Earnest Money Deposit	:	
Last date of submission of bid	:	
To be filled by EMD receiving Executive Engineer		
Name of contractor	:	
Form of EMD	:	
Amount of Earnest Money Deposit	:	
Date of Submission of EMD	:	
		(Signature) Name and Designation of EMD receiving officer (EE/AE(P)/AO/AAO) along with office stamp

**(On non-judicial stamp paper of minimum Rs. 100)****(Guarantee offered by Bank to CCU in connection with the execution of contracts)****Form of Bank Guarantee for Earnest Money Deposit /Performance Guarantee/Security Deposit**

1. Whereas the Executive Engineer ..... (name of division) ....., CCU on behalf of the President of India (hereinafter called “The Government”) has invited bids under .....(NIT number)..... dated ..... for ..... (name of work) ..... The Government has further agreed to accept irrevocable Bank Guarantee for Rs. .... (Rupees ..... only) valid upto ..... (date)\*..... as Earnest Money Deposit from ..... (name and address of contractor) .....(hereinafter called “the contractor”) for compliance of his obligations in accordance with the terms and conditions of the said NIT.

OR\*\*

Whereas the Executive Engineer ..... (name of division) ....., CCU on behalf of the President of India (hereinafter called “The Government”) has entered into an agreement bearing number ..... with .....(name and address of the contractor) ..... (hereinafter called “the Contractor”) for execution of work ..... (Name of work) ..... The Government has further agreed to accept an irrevocable Bank Guarantee for Rs. .... (Rupees ..... only) valid upto ..... (date)..... as Performance Guarantee/Security Deposit from the said Contractor for compliance of his obligations in accordance with the terms and conditions of the agreement.

2. We, ..... (indicate the name of the bank) ..... (herein after referred to as “the Bank”), hereby undertake to pay to the Government an amount not exceeding Rs. .... (Rupees..... only) on demand by the Government within 10 days of the demand.
3. We, .....(indicate the name of the Bank) ....., do hereby undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said Contractor. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. ....(Rupees .....only).
4. We, ..... (indicate the name of the Bank) ....., further undertake to pay the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor in any suit or proceeding pending before any Court or Tribunal, our liability under this Bank Guarantee being absolute and unequivocal. The payment so made by us under this Bank Guarantee shall be a valid discharge of our liability for

payment there under and the Contractor shall have no claim against us for making such payment.

5. We, ..... (indicate the name of the Bank) ....., further agree that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligation here under to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said contractor and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said Contractor or for any forbearance, act of omission on the part of the Government or any indulgence by the Government to the said Contractor or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.
6. We, ..... (indicate the name of the Bank) ....., further agree that the Government at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor at the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee the Government may have in relation to the Contractor's liabilities.
7. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.
8. We, ..... (Indicate the name of the Bank) ....., undertake not to revoke this guarantee except with the consent of the Government in writing.
9. This Bank Guarantee shall be valid up to ..... unless extended on demand by the Government. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. .... (Rupees ..... only) and unless a claim in writing is lodged with us within the date of expiry or extended date of expiry of this guarantee, all our liabilities under this guarantee shall stand discharged.

Date .....

Witnesses:

- |                    |                      |
|--------------------|----------------------|
| 1. Signature.....  | Authorized signatory |
| Name and address   | Name                 |
| Designation        | Staff code no.       |
| 2. Signature ..... | Bank seal            |
| Name and address   |                      |

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

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



## LIST OF EQUIPMENTS FOR TESTING OF MATERIALS&CONCRETE AT SITE LABORATORY

All necessary equipment for conducting all necessary tests shall be provided at the site in the well-furnished site laboratory by the contractor at his own cost. The following minimum laboratory equipment's shall be set up at site office laboratory:

Sl. No.	Equipment	Numbers (Minimum)
1	Compressing testing machine	As per requirement
2	Cube mould	As per requirement
3	Slump cone, steel plate, tamping rod, steel scale, scoop	As per requirement
4	Graduated glass measuring cylinder	As per requirement
5	Sets of sieves of 450mm internal dia for coarse aggregate [100mm, 80mm, 40mm; 20mm;12.5mm, 10mm;4.75mm complete with lid and pan]	As per requirement
8	Sets of sieves of 200mm internal dia for fine aggregate [4.75mm;2.36mm;1.18mm; 600 microns;300 microns& 150micron,	As per requirement
9	Sieve Brushes and sieve shaker capable of 200mm and 300mm dia sieves, manually operated with timing switch assembly	As per requirement
10	Electronic balance 600gx0.1g., 10kg <del>and 50kg</del>	As per requirement
11	Physical balance weight upto 5 kg	As per requirement
12	Measuring jars100ml, 200ml,500ml	As per requirement
13	Gauging trowels 100mm & 200mm with wooden Handle	As per requirement
14	Spatula 100mm & 200mm with long blade wooden Handle	As per requirement
15	Vernier callipers12" &6" size	As per requirement
16	GI tray 600x450x50mm, 450x300x40mm,300x250x40mm	As per requirement
17	Screw gauge 0.1mm-10mm, least count 0.05	As per requirement
18	Set of box spanner	As per requirement
19	Hammer1lb & 2lb	As per requirement
20	Rubber Hammer	As per requirement
21	Hacksaw with 6 blades	As per requirement
22	Measuring tape 5mtr	As per requirement
23	Depth gauge 20cm	As per requirement
24	Shovels &Spade	As per requirement

**Note:** The above list is only indicative and not exhaustive. The contractor may be required to provide more equipment's as per the requirement of work and as per the direction of the engineer-in- charge.

**LIST OF MANDATORY MACHINERY, TOOLS & PLANTS TO BE DEPLOYED BY  
THE CONTRACTOR AT SITE**

<b>S. No.</b>	<b>Equipment</b>	<b>Numbers (Minimum)</b>
1.	Needle Vibrators.	As per Requirement of work
2.	Plate Vibrator	As per Requirement of work
3.	JCB, Excavator, Dumper, Tipper	As per Requirement of work
4.	Reinforcement cutting & Bending machines	As per Requirement of work
5.	Total station.	As per Requirement of work
6.	Auto level & staff.	As per Requirement of work
7.	Water tanker (Minimum capacity of 5000 litres)	As per Requirement of work
8.	Welding machine 400 Ampere	As per Requirement of work
9.	Screener for coarse sand and fine sand	As per Requirement of work
10.	Centrifugal mono block water pump minimum capacity 2 HP	As per Requirement of work
11.	Steel Shuttering with necessary steel props	As per Requirement of work
12.	Steel scaffolding and staging materials	As per Requirement of work
13.	Plain Concrete/Mortar Mixer	As per Requirement of work
14.	Semi-Automatic Pavement Concrete Paver	As per Requirement of work
15.	Screed Vibrator	As per Requirement of work
16.	Any other machinery required for completion of the work as per decision of Engineer-in-charge.	As per Requirement of work

# **PART-B**

## **ADDITIONAL CONDITIONS, SPECIFICATIONS AND SCHEDULE OF QUANTITIES APPLICABLE TO CIVIL & FURNITURE WORK**

## **ADDITIONAL CONDITIONS**

### **1. GENERAL**

- 1.1.** The Contractors are advised to inspect and examine the site and its surroundings and satisfy themselves with the nature of site, the means of access to the site, the constraints of space for stacking material / machinery, labour etc., constraints put by local regulations (if any), weather conditions at site (rainfall, snowfall, winter/summer temperatures etc.), general ground / subsoil conditions etc. or any other circumstances which may affect or influence their tenders. No claims, whatsoever, shall be entertained at a later date for any errors found, on plea that the information supplied by the Department in the tender is insufficient or is at variance with the actual site conditions.
- 1.2.** The contractor shall, if required by him, before submission of the tender, study the drawings and tender document carefully. The Department shall not bear any responsibility for the lack of knowledge and also the consequences, thereof to the Contractor. The information and data shown in the drawings and mentioned in the tender documents have been furnished, in good faith, for general information and guidance only. The Engineer-in-Charge, in no case, shall be held responsible for the accuracy thereof and/or interpretations or conclusions drawn there from by the Contractor and all consequences shall be borne by the Contractor. It is presumed that the Contractor shall satisfy himself for all possible contingencies, incidental charges, wastages, bottlenecks etc. likely during execution of work and acts of coordination which may be required between different agencies. Nothing extra shall be payable on this account.
- 1.3.** The work shall generally be carried out in accordance with the “CPWD Specifications 2019 Vol. I & II” with correction slips up to last date of submission of bid (including any extension in last date of bid submission), additional/Particular Specifications, Architectural/Structural drawings and as per instructions of Engineer-in-Charge. Any additional item of work, if taken up subsequently, shall also conform to the relevant specifications mentioned above.
- 1.4.** The several documents forming the tender are to be taken as mutually complementary to each other. Detailed drawings shall be followed in preference to small scale drawings and figured dimensions in preference to scale dimensions. Between two or more Clauses of this Contract, the provisions of a specific Clause relevant to the issue under consideration shall prevail over those in other Clauses.
- 1.5.** The work shall be carried out in accordance with the Architectural & Structural drawings (if required), and instruction issued by the Engineer-in-Charge. Before commencement of any item of work, the contractor shall correlate all the relevant architectural, structural and services drawings issued for the work and satisfy himself that the information available there from 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 occurring by the commencement of work on the basis of any erroneous and or incomplete information
- 1.6.** Should there be any difference or discrepancy between the description of items as given in the particular specifications for individual items of work, special conditions and I.S. Codes, drawings etc., the following order of preference shall be observed-
  - (i) Nomenclature of items as per Schedule of Quantities
  - (ii) Special/Additional Conditions
  - (iii) Particular Specifications

- (iv) Architectural/Structural drawings
  - (v) CPWD Specifications including upto date correction slips.
  - (vi) CPWD General Conditions of Contract (2023) for Construction works including correction slips issued up to last date of submission of bid including extensions if any.
  - (vii) Indian Standards Specifications of B.I.S.
  - (viii) ASTM, BS, or other foreign origin code mentioned in tender document.
  - (ix) Manufacturer's specifications and as decided by the Engineer-in-Charge.
  - (x) Sound Engineering practices or well-established local construction practices.
- 1.7.** In the event of any variation/ discrepancy in the drawings, specifications and tender Documents etc. the decision of the Engineer-in-Charge shall be final, binding and conclusive. If, the contractor have any doubt, the same should be got clarified immediately from the Engineer-in-charge and no claim of the contractor shall be entertained thereafter. Moreover, the contractor is not allowed to take benefit out of any clerical/ grammatical mistake in the standard clauses/Specifications etc. being used in the agreement.
- 1.8.** The contractor shall give to the local body, 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 levied on account of these operations in executing the contract. The charges to be paid by contractor are not related to permanent constructed asset as per contract.
- 1.9.** The contractor shall ensure that there is no damage to adjoining property. If any such untoward incident happens, he shall be entirely responsible for any consequences besides making good any damages to the adjoining property whether public or private. He shall supply and maintain lights either for illumination or for cautioning the public at night.
- 1.10.** The contractor shall bear all incidental charges for cartage, storage and safe custody, insurance, erection, testing and commissioning of materials issued by department (if any) as well as to those materials arranged by the contractor. The contractor shall also be responsible for the watch and ward / guard of the buildings, safety of all fittings and fixtures including sanitary and water supply fittings and fixtures provided by him against pilferage and breakage during the period of installations and thereafter till the building is physically handed over to the department. No extra payment shall be made on this account.
- 1.11.** A reference made to any Indian Standard Specifications in these documents, shall imply to the latest version of that standard, including such revisions / amendments as issued by the Bureau of Indian Standards up to 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.
- 1.12.** No claim whatsoever on account of any discrepancy between the sub-surface strata conditions shall be entertained.
- 1.13.** Any legal or financial implications resulting out of disposal of earth shall be sole responsibility of the contractor. Nothing extra shall be paid on this account.
- 1.14.** No tools and plants including any special T&P etc. shall be supplied by the Department

and the Contractor shall have to make his own arrangements at his own cost. No claim of hindrance (or any other claim) shall be entertained on this account.

- 1.15.** Wherever required for the execution of work, scaffolding shall be provided and suitably fixed, by the Contractor. The contractor shall provide steel double scaffolding system, suitably braced for stability, with all the accessories, gangways, etc. with adjustable suitable working platforms to access the areas with ease for working and inspection. It shall be designed to take all incidental loads. It should cater to the safety features for workmen. Nothing extra shall be payable on this account. It shall be ensured that damage is not caused to any structure due to the scaffolding
- 1.16.** The Contractor shall take all precautions to abide by the environmental related restrictions imposed by any statutory body having jurisdiction in the state as well as prevent any pollution of streams, ravines, river bed and waterways. All waste or superfluous materials shall be transported by the Contractor and disposed off at designated places only. Nothing extra shall be payable on this account.
- 1.17.** No claim on account of site constraints mentioned in this document or any other site constraints such as lack of public transport, inadequate availability of skilled, semi-skilled or unskilled workers in the near vicinity, non-availability of construction machinery spare parts etc. or any other constraints not specifically stated here shall be entertained from the Contractor. Therefore, the tenderers are advised to visit site and get first-hand information of site constraints. Accordingly, they should quote their tenders. Nothing extra shall be payable on this account. Any hindrances claimed by the contractor on this account shall not be considered while action under clause '2' and '5' of General condition of contract amended upto date till last date or extended last date of submission of tender.
- 1.18.** The tenderer shall acquaint himself with the proposed site of work, its approach roads, working space available etc. before quoting his rates and no claim on this account shall be entertained by the department.
- 1.19.** The contractor will not be allowed to construct labour huts in the Campus. The contractor has to make arrangement for labour huts outside Campus at his own cost. Nothing extra shall be paid on this account.
- 1.20.** The contractor shall keep the site neat & clean during execution of the work and cover the building materials with cloths.
- 1.21.** The contractor shall take all precautions to avoid accidents by exhibiting necessary caution boards day and night. The contractor shall ensure entire necessary precaution during the entire period of work and site related activities to ensure full safety to workers and avoid any kind of accident. In case of any accident of labour's/ contractual staffs or any other human being the entire responsibility will rest on the part of the contractor both legally and financially and any compensation under such circumstances, if becomes payable, shall be entirely borne by the contractor.
- 1.22.** Any cement slurry added over base surface (or) for continuation of concreting for better bond is deemed to have been included in the contract amount and nothing extra shall be payable for extra cement considered in consumption on this account.
- 1.23.** In case of any fine imposed by authorities due to scattered malba / building materials or any harm due to malba / materials or by worker of the contractor the same shall be paid by contractor within prescribed period otherwise same shall be recovered from the bills or

securities / performance guarantee of the contractor.

- 1.24. 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.
- 1.25. The tenderer shall see the approaches to the site. In case any approach from main road is required at site or existing approach is to be improved and maintained for cartage of materials by the contractor, the same shall be provided, improved and maintained by the contractor at his own cost. No payment shall be made on this account and the quoted rates shall be deemed to be inclusive of all such activities.
- 1.26. The 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.
- 1.27. The contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants or occupiers of adjacent properties and to the public in general and to prevent any damage to such properties and any pollution of smoke, streams and water-ways. He shall make good at his cost and to the satisfaction of the Engineer-in-Charge, any damage to roads, paths, cross drainage works or public or private property whatsoever caused thereon by the contractor. All waste or superfluous materials shall be carried away by the contractor without any reservation entirely to the satisfaction of the Engineer-in-Charge.
- 1.28. Utmost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the occupants/ users of building/adjacent properties.
- 1.29. Other agencies may also simultaneously execute and install the works of other civil and E&M services for the work. The contractor shall afford necessary facilities for the same. The contractor shall leave such recesses, holes, openings, trenches etc. as may be required for such related works and the contractor shall fix the same at time of casting of concrete, stone work and brick work, if required, and nothing extra shall be payable on this account.
- 1.30. 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 of the materials being used or removed so as not to interfere with the operations of other contractor or he shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it in proper sequence to the complete satisfaction of others.
- 1.31. Royalty at the prevailing rates wherever payable shall have to be paid by the contractor on the boulders, metal, shingle, sand, local earth/soil and bajri etc. or any other material collected by him for the work direct to revenue authorities and nothing extra shall be paid by the department for the same.
- 1.32. Permission for the Excavation of the Basement and/or any Mining Approval along with carriage and disposal of surplus excavated earth shall be obtained by the contractor at his own expenses from Local Administration / Revenue Authority. Department / User Department shall only forward the case to the concerned Authority. Moreover, all the fee including royalty for surplus excavated earth is to be paid by the contractor to the concerned department. Nothing extra shall be paid on account of this to the contractor.

- 1.33.** No payment shall be made for any damage caused by rain, snowfall, flood or any other natural calamity, whatsoever during the execution of the work. The contractor shall be fully responsible for any damage to the govt. property and work for which the payment has been advanced to him under the contract and he shall make good the same at his risk and cost. The contractor shall be fully responsible for safety and security of his material, T&P, Machinery brought to the site by him.
- 1.34.** The contractor shall deploy adequate resources e.g. man power, labour, T&P, Plant & Equipment etc. as per actual requirement of work.
- 1.35.** The rates for all items of work shall, unless clearly specified otherwise, include cost of all labour, material, tools and plants and other inputs including all heights/depths, leads and carriages involved in the execution of the item.
- 1.36.** The Contractor shall keep himself fully informed of all acts/laws of the Central/State/Local Governments, orders of central/state/local government, decrees of statutory bodies, tribunals having any jurisdiction or authority, which in any manner may affect those engaged or employed and anything related to carrying out the work. All the rules & regulations and bye-laws laid down by Collector / Municipal Corporation of area (where site is located) and any other statutory bodies shall be adhered to, by the contractor, during the execution of work. The Contractor shall also adhere to all traffic restrictions notified by the national/state/local authorities. The contractor shall abide and ensure compliances to terms and conditions of various approvals obtained for the project. He shall protect and indemnify the Department and it's officials & employees against any claim and /or liability arising out of violations of any such laws, ordinances, orders, decrees, by himself or by his employees or his authorized representatives. The Contractor shall indemnify the Department against all claims in respect of patent rights, royalties, design, trademarks- of name or other protected rights, damages to adjacent buildings, roads or members of public, in course of execution of work or any other reasons whatsoever, and shall himself defend all actions arising from such claims and shall indemnify the Department in all respect from such actions, costs and expenses. Nothing extra shall be payable on this account.
- 1.37.** The fee payable to statutory authorities for obtaining the various permanent service connections and occupancy certificate for the building shall be borne by the Department.
- 1.38.** 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. The conditions shall be considered to include water from any source such as inflow of flood, rainwater, surface drainage, sewerage or due to any other reason including surface and sub-soil water etc. and shall apply to the execution in any season.
- 1.39.** Unless otherwise specified in the schedule of quantities, the rates tendered by the contractor shall be inclusive of all costs & taxes and shall apply to all leads, lifts, depth and height and nothing extra shall be payable on this account.
- 1.40.** For completing the work in time, the Contractor might be required to work in two or more shifts(including night shifts). Normally contractors shall not be allowed to execute the RCC, electrical and finishing work at night. Work at night shall, however, be allowed if the site conditions/circumstances so demand. No claim whatsoever shall be entertained on this account, not with-standing the fact that the contractor may have to pay extra amounts for any reason, to the labours and other staff engaged directly or indirectly on the work according to the provisions of the labour Act and other statutory bodies regulations and the agreement entered upon by the contractor with them.



- 1.41. 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.
- 1.42. All material shall only be brought at site as per program finalized with the Engineer-in-Charge. Any pre-delivery of the material not required for immediate consumption shall not be accepted and thus not paid for.
- 1.43. The contractor(s) shall take instructions from the Engineer-in-Charge regarding collection and stacking of materials at any place. No excavated earth or building rubbish shall be stacked on areas where other buildings, roads, services and compound walls are to be constructed. The stacking shall take place as per stacking plan however, if any change is required, the same shall be done with the approval of Engineer-in-Charge.
- 1.44. The Contractor shall bear all incidental charges for all type of cartage/carriage upto execution site, storage and safe custody of materials issued by department/arranged by the contractor.
- 1.45. The terms machine batched, machine mixed and machine vibrated concrete used elsewhere in agreement shall mean the concrete produced in concrete batching and mixing plant and if necessary, transported by transit concrete mixers, placed in position by the concrete pumps, tower crane and vibrated by surface vibrator /needle vibrator / plate vibrator, as the case may be to achieve required strength and durability.
- 1.46. The work should be planned in a systematic manner so that chase cuttings in the walls, ceilings and floors are minimized. Wherever absolutely essential, the chase shall be cut using chase cutting machines. Chases will not be allowed to be cut using hammer / chisel. The electrical boxes should be fixed in walls simultaneously while raising the brick work. The contractor shall ensure proper coordination of various disciplines viz. sanitary & water supply, electrical, fire-fighting and any other services.
- 1.47. The contractor shall be responsible for the watch and ward / guard of the buildings safety, fittings and fixtures provided by him against pilferage and breakage during the period of installations and thereafter till the building is physically handed over to the department. No extra payment shall be made on this account.

**1.48. SAFETY PRECAUTIONS**

- (i) Contractor shall within two weeks of award of work, submit to the Engineer-in-Charge for his approval, list of measures for maintaining safety of man power deployed for construction.
- (ii) *Entry to the site shall be controlled for proper security of man and materials and to avoid accidents.*
- (iii) Necessary personal protective and safety equipment's such as helmet, safety shoes & harness, gloves etc. shall be provided to the all-site Engineers, Supervisory staff, labour and technical staff of the contractor by the Contractor at his own cost and to be used at site.
- (iv) The Contractor(s) shall take all precautions to avoid accidents by exhibiting

necessary caution boards, day & night speed limit boards, red flags, red lights and providing barriers. He shall be responsible for all damages and accidents caused to existing/new work due to negligence on his part. No hindrances shall be caused to traffic during the execution of the work.

- (v) In case of any accident of labours/ contractual staff's the entire responsibility will rest on the part of the contractor and any compensation under such circumstances if becomes payable the same shall be entirely borne by the contractor and department shall have no role on this account.
- (vi) It shall be ensured by the contractor that no electric live wire is left exposed or unattended to avoid any accidents in this regard.
- (vii) Any trenching and digging for laying sewer lines/water lines/cables etc. shall be commenced by the contractor only when all men, machineries and materials have been arranged and closing of the trench(s) there after shall be ensured within the least possible time.
- (viii) *The contractor shall have to work in pandemic / epidemic conditions such as **COVID 19** for which he has to make safety arrangement / measures for the workers / staff and for the premises meant for them, as per guidelines issued by Government and directions issued by Engineer-in-charge from time to time and nothing extra shall be paid on this account.*

#### **1.49. QUALITY ASSURANCE**

- (i) 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 & contractor shall be bound to replace / remove such sub-standard / defective work immediately. If any material, even though approved by Engineer-In-Charge is found defective or not conforming to specifications shall be replaced / removed by the contractor at his own risk & cost.
- (ii) All materials and fittings brought by the contractor to the site for use shall conform to the samples approved by the Engineer-in-charge which shall be preserved till the completion of the work. If a particular brand of material is specified in the particular specification, the same shall be used after getting the same approved from Engineer-In-Charge. Wherever brand / quality of material are not specified in the particular specifications; the contractor shall submit the sample as per list of preferred make given in tender documents. For all other items, materials and fittings of ISI Marked shall be used with the approval of Engineer-In-Charge. Wherever ISI Marked material / fittings are not available, the contractor shall submit samples of materials / fittings manufactured by firms of repute conforming to relevant specifications or IS codes and use the same only after getting the approval of Engineer-In-Charge.
- (iii) The Contractor shall procure and provide all the materials from the manufacturers / suppliers as per the item description in schedule of quantity and particular specifications for the work. The equivalent brand other than brand / make mentioned in particular specification for any item, shall be permitted to be used in the work, only when the specified make is not available. This is, however, subject to documentary evidence produced by the contractor for non-availability of the brand specified and also subject to independent verification by the Engineer-in-Charge. In exceptional cases, where such approval is required, the decision of Engineer-in-Charge as regards

equivalent make of the material shall be final and binding on the Contractor. No claim, whatsoever, of any kind shall be entertained from the Contractor on this account. Nothing extra shall be payable on this account. Also, the material shall be procured only after written approval of the Engineer-in-Charge.

- (iv) Water tanks, taps, sanitary, water supply and drainage pipes, fittings and accessories should conform to byelaws and municipal body / corporation where CPWD Specifications are not available. The contractor should engage licensed plumbers for the work and get the materials (fixtures/fittings) tested by the Municipal Body/Corporation authorities wherever required at his own cost. Nothing extra shall be paid on this account.
- (v) The tests, as necessary, shall be conducted in the laboratory approved by the Engineer-in-Charge. The samples shall be taken for carrying out all or any of the tests stipulated in the particular specifications and as directed by the Engineer-in-Charge or his authorized representative.
- (vi) All the registers of tests (carried out at Construction Site or in outside laboratories) and all material at site (MAS) registers including cement register shall be maintained by the contractor which shall be issued to the contractor by Engineer-in-charge. All the entries in the registers will be made by the designated Engineering Staff of the contractor and same should be regularly reviewed by JE/AE/AEE/EE. Contractor shall be responsible for safe custody of all the registers.
- (vii) The Contractor shall at his own risk and cost make all arrangements and shall provide all such facilities including material and labour, the Engineer-in-Charge may require for collecting, preparing, forwarding the required number of samples for testing as per the frequency of test stipulated in the contract specifications or as considered necessary by the Engineer-in-Charge, at such time and to such places, as directed by the Engineer-in-Charge. Nothing extra shall be payable for the above.
- (viii) The Contractor or his authorized representative shall associate in collection, preparation, forwarding and testing of such samples. In case he or his authorized representative is not present or does not associate him, the result of such tests and consequences thereon shall be binding on the Contractor. The Contractor or his authorized representative shall remain in contact with the Engineer-in-Charge or his authorized representative associated for all such operations. No claim of payment or claim of any other kind, whatsoever, shall be entertained from the Contractor.
- (ix) Unless specified otherwise, all the testing charges shall be borne by contractor.
- (x) All the hidden items such as water supply lines, drainage pipes, electrical conduits, sewers etc. are to be properly tested as per the design conditions before covering.
- (xi) The contractor shall give performance test of the entire installation(s) as per the standing specifications before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the test.
- (xii) The Contractor shall make available, on request from the Department, the copies of challan, cash memos, receipts and other certificates, if any, vouchers towards the quantity and quality of various materials procured for the work. The Contractor shall also provide information and necessary documentation on the name of the manufacturer, manufacturer's product identification, manufacturer's instructions, warning, date of manufacturing and test certificates (from manufacturers for the

product for each consignment delivered at site), shelf life, if any etc., for the department to ensure that the material have been procured from the approved source and is of the approved quality, as directed by the Engineer-in-Charge. Wherever specified, day-to-day account of receipt of such material shall be maintained at site of work.

- (xiii) If the Contractor does not provide adequate supporting staff or labour or both for carrying out field tests or collecting and forwarding samples to outside laboratory or for maintaining test records, Engineer in charge may carry out field tests or collect and forward sample to outside laboratory or appoint any person to maintain the registers at risk and cost of Contractor. The charges so incurred shall be entirely borne by contractor and shall be deducted from Running or final bill of contractor. Further, ***recovery of Rs. 1000/- for each default shall be levied to contractor.***

#### **1.50. PROGRAM /SCHEDULE**

The Contractor shall prepare an integrated program chart including civil, electrical & mechanical, horticulture, landscaping activities 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 completion of the work within the stipulated period and submit the same for approval of the Engineer-In-Charge within fifteen days of the issuance of letter of acceptance. The integrated program chart so submitted should not have any discrepancy with the physical/financial milestones specified in this tender documents. The program chart should include the following: -

- i) Descriptive note explaining sequence of various activities.
- ii) Construction Program prepared on PRIMAVERA/ M.S. Project etc. Software, which will indicate resources in terms of materials, manpower and specialized equipment for every important stage.
- iii) Program for procurement of materials by the contractor.
- iv) Program for arranging and deployment of manpower both skilled and unskilled so as to achieve targeted progress.
- v) Program of procurement of machinery/equipment having adequate capacity, commensurate with the quantum of work to be done within the stipulated period, by the contractor.
- vi) In case of noncompliance/delay in compliance, a recovery @ Rs. 5000/- per week or part thereof will be imposed which will be recovered from the immediate next R/A Bill of the Contractor.
- vii) If at any time, it appears to the Engineer-In-Charge that the actual progress of work does not conform to the approved program referred above, the contractor shall produce a revised program showing the modifications to the approved program by additional inputs to ensure completion of the work within the stipulated time.
- viii) The submission for approval by the Engineer-In-Charge of such program or the furnishing of such particulars shall not relieve the contractor of any of his duties or responsibilities under the contract. This is without prejudice to the right of Engineer-In-Charge to take action against the contractor as per terms and conditions of the contract.

### 1.51. SUBMISSION OF PROGRESS REPORT:

Apart from the above integrated program chart, the contractor shall be required to submit fortnightly progress report of the work in a computerized form on 5th and 20th of every month. The progress report shall contain the following -

- a) Construction schedule of the various components of the work through a bar chart for the next two fortnights (or as may be specified), showing the micro-milestone/milestones, targeted tasks (including material and labour requirement) and up to date progress. At least 10 digital photographs showing all the parts of construction site along with at least 5 minutes video of executions of different items in soft copy has to be submitted in every fortnightly progress report.
- b) Comparative Progress chart of the various components of the work that were planned and achieved, for the fortnight, with reason for deviations, if any in a tabular format.
- c) Plant and machinery statement, indicating those deployed in the work.
- d) Man-power statement indicating:
  - Individually the names of all the staff deployed on the work, along with their designations.
  - No. of skilled workers (trade wise) and total no. of unskilled workers deployed on the work and their location of deployment within site.
- e) Financial statement, indicating the broad details of all the running account payment received up to date, such as gross value of work done, advances taken, recoveries effected, amount withheld, net payments details of cheque payment received, extra/substituted/deviation items if any, etc.
- f) In case of noncompliance / delay in compliance in submission of fortnightly progress report, a recovery @ Rs. 2000/- per report will be imposed which will be recovered from the immediate next R/A Bill of the Contractor.

### 1.52. TEMPORARY WATER/ ELECTRICITY/ TELEPHONE CONNECTION

- (i) Arrangement of temporary connection for telephone, water and electricity etc. by him, shall be made by the Contractor at his own cost and also necessary permissions shall be obtained by him directly from concerned authorities, under intimation to the Department. Also, all initial cost, running charges, and security deposit, if any, in this regard shall be borne by him. The Contractor shall abide by all the rules/ bye laws applicable in this regard and he shall be solely responsible for any penalty on account of violation of any of the rules / byelaws in this regard. The contractor may bring water from outside through tankers from authorized sources.
- (ii) The Contractor shall be responsible for maintenance and watch and ward of the complete installation and water / electricity meter. The contractor shall also be responsible for any pilferage, theft, damage, penalty etc. in this regard. The Contractor shall indemnify the Department against any claim arising out of pilferage, theft, damage, penalty etc. whatsoever on this account. Security deposit

for the work shall be released only after No Dues Certificates are obtained from the local Authorities from whom temporary electric/ water / telephone connection have been obtained by the Contractor.

- (iii) The Department shall in no way be responsible for either any delay in getting electric and/or water and/or telephone connections for carrying out the work or not getting connections at all. Also, contingency arrangement of stand-by water & electric supply shall be made by the Contractor for commencement and smooth progress of the work so that work does not suffer on account of power failure or disconnection or not getting connection at all. No claim of delay of any kind whatsoever shall be entertained on this account from the Contractor.

### **1.53. CLEANLINESS OF SITE**

- (i) The Contractor shall not stack building material / malba / muck on the land or road of the local development authority or on the land owned by the others, as the case may be. So, the muck, rubbish etc. shall be removed periodically, from the site of work to the approved dumping grounds as per the local byelaws and regulations of the concerned authorities and all necessary permissions in this regard from the local bodies shall be obtained by the Contractor. Nothing extra shall be payable on this account. In case, the Contractor is found stacking the building material / malba as stated above, the Contractor shall be liable to pay the stacking charges / penalty as may be levied by the local body or any other authority and also to face penal action as per the rules, regulations and bye-laws of such body or authority. The Engineer –in-Charge shall be at liberty to recover, such sums due but not paid to the concerned authorities on the above counts, from any sums due to the Contractor including amount of the Security Deposit and performance guarantee in respect of this contract agreement.
- (ii) The contractor shall take instructions from the Engineer-In-Charge regarding collection and stacking of materials at any place. No excavated earth or building rubbish shall be stacked on areas where other buildings, roads, services and compound walls are to be constructed.
- (iii) The site of work shall be always kept clean due to constraints of space and to avoid any nuisance to the users of buildings in the adjacent plots. The Contractor shall take all care to prevent any water- logging at site. The wastewater, slush etc. shall not be allowed to be collected at site. For discharge into public drainage system, necessary permission shall be obtained from relevant authorities after paying the necessary charges, if any, directly to the authorities. The work shall be carried out in such a way that the area is kept clean and tidy. All the fees/charges in this regard shall be borne by the Contractor. Nothing extra shall be payable on this account.
- (iv) It is the responsibility of contractor to keep building neat and clean. The contractor shall spray the chemicals fumigate site area to check the mosquitoes at frequent interval or as directed by the Engineer in charge. The contractor shall also make lighting and temporary ventilation arrangement in basement.
- (v) The contractor shall not wash the drum of TM (transit mixture) at site and shall avoid the spread of leachate / cement slurry to be spread at the site of work and all care shall be taken to keep the site neat and clean at his own cost.

### **1.54. INSPECTION OF WORK**



- (i) In addition to the provisions of relevant clauses of the contract, the work shall also be open to inspection by Senior Officers of department & the representative of the Consultants. The contractor shall at times during the usual working hours and at all times at which reasonable notices of the intention of the Engineer-in-charge or other officers as stated above to visit the works shall have been given to the contractor, either himself be present to receive the orders and instructions or have a responsible representative duly accredited in writing, to be present for that purpose.
  - a) The consultant and third-party quality assurance agency appointed by department shall be inspecting the works including workshops and fabrication factory to ensure that the works are in general being executed according to the design, drawings and specifications laid down in the contract. Their observations shall be communicated by department to contractor and compliance shall be reported to department by the contractor.
  - b) Senior Officers of department, Dignitaries from Central Ministry / Department, shall be inspecting the on-going work at site at any time with or without prior intimation. The contractor shall, therefore, keep updated the following requirements and detailing.
    - i) Display Board showing detail of work, weekly progress achieved with respect to targets, reason of shortfall, status of manpower, wages being paid for different categories of workers.
    - ii) Keep entrance and surrounding area clean.
    - iii) Display layout plan, key plan, building drawings including plans, elevations and sections.
    - iv) Upto date displays of progress of work in form of Bar chart, CPM and PERT etc.
    - v) Keep details of quantities executed, balance quantities to be executed, deviations, possible Extra item, etc.
    - vi) Keep plastic / cloth mounted one sets of building drawings.
    - vii) Set of Helmets and safety shoes for exclusive use for officers/dignitaries visiting at site.

**1.55.** Employ measures to segregate the waste on-site into inert, chemical or hazardous wastes. Recycle the unused chemical/hazardous wastes such as oil, paint, batteries and asbestos. The inert waste is to be disposed off to Municipal Corporation/local bodies dump yard and landfill sites.

**1.56.** The contractor shall provide potable water for all workers. The contractor shall provide the minimum level of sanitation and safety facilities for the workers at site. The contractor shall ensure cleanliness of workplace with regard to the disposal of waste and effluent; provide clean drinking water and latrines and urinals as per applicable standard.

#### **1.57. PREPARATION OF SAMPLE (MOCK UP)**

The contractor shall prepare one sample/Mock-Up for typical units (e.g. Room / Lobby/ Corridor). Samples of representative units shall be prepared by the contractor well in

advance before taking up the mass execution at the appropriate time as per mile stones. The contractor shall invariably prepare the samples units with finishing items i.e. flooring of different types, external & internal finishing i/c colour scheme of paint, tiles in dado, flooring in platforms & staircase, water supply & sanitary fittings and any other item as per direction of Engineer-in-charge. The contractor shall proceed with further finishing works only after getting the samples of these items approved in writing from Engineer-in-charge.

#### 1.58. SPECIALIZED AGENCIES

- (i) The contractor shall engage specialized agency for carrying out specialized item such as False Ceiling work, Furniture Work etc. Before engaging such agency, the contractor shall submit the name of the agency along with their working experience, presentation on method statement and materials being used for execution of such items etc. to Engineer-in-charge for approval. Contractor shall submit the proposal (along with work experience certificate issued by competent authority) of only those specialized agencies who have work experience of satisfactorily completion of similar works as per following criteria during last seven years –

Three works each costing not less than 40% of estimated cost for concerned similar work

Or

Two works each costing not less than 60% of estimated cost for concerned similar work

Or

One work costing not less than 80% of estimated cost for concerned similar work item.

- (ii) Estimated cost of the specialized item/work for various items/schemes shall be as per schedule of quantity or as determined by Engineer-in-charge. Unless specified otherwise, the contractor shall be fully responsible for and shall guarantee proper design and performance of specialized works for a period of 5 years from the date of completion of work. All the Guarantees shall be submitted before final payment and shall not in any way limit any other rights to correct which the Employer may have under the contract. In addition, an amount of 10 % of work done of specialized work, shall be retained in interim/final payment till it reaches the 10 % of estimated cost of such specialized item/work. This amount shall be withheld towards guarantee and shall be in addition to the other amounts to be withheld as mentioned elsewhere in the contract agreement. However, this amount (withheld) would be released after guarantee period if the performance, as required, is found satisfactory. If any defects are noticed during the guarantee period, it shall be rectified by the contractor within seven days of issuance of notice to the contractor, temporarily, to the satisfaction of the department or any other authorized representative of department and permanent rectification of the defects/replacement of defective should be carried out by the contractor within a period of one month after issuance of notice to the contractor. If not attended to, the same shall be got done through other agency at the risk and cost of the contractor and the cost, which shall be final and binding on the contractor, shall be recovered from the amount withheld towards the guarantee as mentioned above or from any other amount due to the contractor. However, the amount withheld as guarantee can be released in full on submission of irrevocable bank



guarantee, from a Schedule/Nationalized Banks, of the same amount, for the guarantee period by the contractor. The defects, if any, shall be rectified in a workmanlike manner, retaining the same aesthetics and other functional parameters of the original work.

- (iii) The main contractor shall submit the credential of specialized agency well in advance as per the direction of Engineer-in-charge. After verification of the same, written approval will be conveyed to main contractor in this regard. The main contractor shall not change the specialized agency. However, if the change is warranted, he may do so, with permission of Engineer-in-charge. However, before making any such change, he has to enter into similar agreement as with previous agency & submit the same to Engineer - in - Charge for approval. This shall however be without any change in the accepted rates of the contract agreement and without any cost implications to the Department. If the contractor proposes name of specialized agencies from list of preferred makes, there is no need to comply eligibility criteria mentioned in para (i) above. Also, if the specialized work is carried out by the authorized fabricator/ applicator of the manufacturers then there is no need to comply eligibility criteria mentioned in para (i) above.
- (iv) The main contractor cannot work as a specialized agency unless his name is approved as specialized agency by Engineer-in-charge in accordance with criteria mentioned at sr. No. (i) above.
- (v) Approval of the specialized agencies for each specialized work shall be obtained from the Engineer-in-Charge within three months of issuance of letter of acceptance even if, such specialized items of work shall be executed by the specialized agencies at later date. The work shall be deemed to be executed by the tenderer for all purposes and the responsibility of the quality of items of works executed etc. shall continue to be that of the tenderer only. It is expressly agreed that the Contractor shall, at all times, be responsible and liable for all its obligations under this Contract notwithstanding anything contained in the contracts with its Sub-contractors or any other contract that may be entered into by the Contractor, and no default under any such contract shall excuse the Contractor from its obligations or liability hereunder.
- (vi) It shall be the responsibility of main contractor to sort out any dispute / litigation with the Specialized Agencies without any time & cost overrun to the Department. The main contractor shall be solely responsible for settling any dispute / litigation arising out of his agreement with the Specialized Agencies. The contractor shall ensure that the work shall not suffer on account of litigation/ dispute between him and the specialized agencies / sub- contractor(s). No claim of hindrance in the work shall be entertained from the Contractor on this account. No extension of time shall be granted and no claim whatsoever, of any kind, shall be entertained from the Contractor on account of delay attributable to the selection/rejection of the Specialized Agencies or any dispute amongst them.

#### **1.59. OTHER CONDITIONS W.R.T EXECUTION OF WORK**

- a. The work shall be carried out in accordance with the contract specification/terms, tendered drawings and detailed drawings including revised drawings, if any, issued during execution of work by the Engineer-in-Charge.
- b. Before commencement of any item of work, the contractor shall correlate all the relevant architectural, structural and MEP drawings, and specifications etc. issued for

the work and satisfy himself that the information available therefrom is complete and unambiguous. The figure and written dimension of the drawings shall be superseding the measurement by scale. The discrepancy, if any, shall be brought to the notice of the Engineer-in-charge before execution of the work. The contractor alone shall be responsible for any loss or damage occurring by the commencement and execution of work based on any erroneous and or incomplete information and no claim whatsoever shall be entertained on this account.

- c. The contractor is required to deploy resources as per availability of site and as per approved programme chart of the work. However, no claims shall be entertained for idle labour, idle machinery, idle technical/no-technical staff, idle T&P etc.
  - d. The work of services may be executed simultaneously. The Contractor shall minimize the scope of making recesses, holes, opening etc. as the same shall be planned in advance and necessary grooves/niches shall be provided in shuttering of RCC.
  - e. Laminates on flush doors shall be machine pressed, preferably in factory. The design and pattern of laminates shall be as approved by engineer in charge.
  - f. The Aluminium door-windows-framework, lamination and Lipping on flush doors shall be factory made.
  - g. Unless otherwise specified, wherever mild steel / galvanized iron sections and pipes are provided in the work, priming coat of approved steel primer shall be done after removing rust from section if any and finally finished with low VOC synthetic enamel paint or as mentioned in specification.
  - h. Wall mounted door stoppers shall be provided to protect the wall where the door handle would run into it.
  - i. For avoiding of scratch marks or damage to the vitrified / ceramic floor tile, the necessary arrangement of hessian cloth with a coat of plaster of paris over it shall be provided. Nothing shall be paid extra on this account.
  - j. Fall nets and scaffolding nets for protection from debris / dusts and noise etc. are to be provided during the construction period. Nothing extra shall be paid on this account.
  - k. Wherever the doors are required to be fixed to AAC block masonry, the frame shall be fixed in RCC band or concrete block masonry.
- 1.60.** It is intended to make our built environment barrier free and accessible to all. Bidders are instructed to strictly adhere to the provision contained in Hand Book on Barrier free and accessibility containing and corresponding provisions of NBC 2016 while incorporating such features in the building.
- 1.61.** In case of reduction in scope of work, no claim on account of reduction in value of work, loss of expected profit, consequential overheads etc. shall be entertained

**LIST OF PREFERRED MAKE / MANUFACTURERS FOR DIFFERENT MATERIALS TO BE USED  
FOR CIVIL AND FURNITURE WORKS**

<b>S. NO.</b>	<b>DETAILS OF MATERIALS</b>	<b>MANUFACTURERS NAME</b>
1	ANTI TERMITE PESTICIDES	BAYER, FMC INDIA, HINDUSTAN INSECTICIDES
2	STEEL (TMT FE-500D)	TATA., RINL, JINDAL STEEL & POWER LTD, JSW STEEL LTD., SAIL
3	STRUCTURAL STEEL SECTIONS	TATA, JINDAL, SAIL, RINL
4	CEMENT [OPC/PPC]	ACC, AMBUJA, ULTRATECH, WONDER
5	READY MIXED CEMENT CONCRETE	ACC, ULTRA TECH, AFCON
6	WHITE CEMENT	BIRLA WHITE, J.K. WHITE, ULTRATECH
7	VITRIFIED TILES (DOUBLE CHARGED / FULL BODY/ULTRA SLIM /ANTISKID / ACID-ALKALI RESISTANT)- (ALL TILES SHALL BE PROCURED FROM FULLY OWNED FACTORY OF THE MANUFACTURER AND NOT FROM JV / OUTSOURCED)	SOMANY, KAJARIA, NITCO, QUTONE
8	CERAMIC GLAZED TILES	SOMANY, KAJARIA, NITCO, QUTONE
9	WATER-PROOF CEMENT PAINT, SYNTHETIC ENAMEL PAINT, PLASTIC EMULSION PAINT, DISTEMPER/ACRYLIC EMULSION PAINT, TEXTURED PAINT, STEEL PRIMER, WOOD PRIMER, EXTERIOR WATERPROOFING PAINT, WOOD FINISH (MELAMINE & PU POLISH)	ASIAN PAINT, NEROLAC, ICICI, BERGER
10	PLY BOARD, PLYWOOD (PINE BOARD), LAMINATE, FLUSH DOOR (ALL FLUSH DOORS SHALL BE PROCURED FROM FULLY OWNED FACTORY OF THE MANUFACTURER AND NOT FROM JV / OUTSOURCED), PRELAMINATED PARTICLE BOARD	GREEN, MERINO, CENTURY, DURO
11	SELF LEVELLING COMPOUND	MAPAI, ARDEX ENDURA, BIZZAR
12	EPDM GASKET	HANU, ANAND, VICTOR
13	WOOD ADHESIVE	FEVICOL, 3M, ARALDITE, SIKA
14	FIRE SEALANT	HILTI, 3M, MCCOY
15	TILE ADHESIVE, STONE ADHESIVE, EPOXY GROUTING COMPOUND	PIDILITE, ARDEX ENDURA, WEBER,
16	DASH, ANCHORING FASTENERS	HILTI, FISCHER, CANON

S. NO.	DETAILS OF MATERIALS	MANUFACTURERS NAME
17	ALUMINIUM COMPOSITE PANEL	ALUCOBOND, REYNOBOND
18	READY MIX GYPSUM PLASTER	SAINT GOBAIN, USG BORAL, ULTRATECH
19	READY MIX CEMENT PLASTER	WEBER, ULTRATECH, BIRLA WHILTE
20	SILICON SEALANT	GE, DOW CORNING, PIDILITE
21	GYPSUM BOARD	USG BORAL, LAFAGE, SAINT GOBAIN, KNAUF DANOLINE
22	FLOAT GLASS, REFLECTIVE GLASS, TINTED GLASS, HIGH PERFORMANCE GLASS, LOOKING GLASS / MIRROR LACQUERED GLASS, HIGH PERFORMANCE GLASS, FIRE RESISTANT GLASS	MODI GLASS, SAINT GOBAIN GLASS
23	MECHANICAL COUPERS	USHA MARTIN, DEXTRA, HALFEN
24	CRYSTALLIANE CEMENTITIOUS WATERPROOFING COMPOUND	XYPEX CONSTRUCTION CHEMICAL, KRYTONE,
25	BITUMEN MEMBRANE FOR WATERPROOFING, HDPE MEMBRANE FOR WATERPROOFING, POLYUREA MEMBRANE FOR WATERPROOFING	SIKA, SAINT GOBAIN, SOPREMA, FOSROC PIDILITE
26	HOLLOW METAL PRESSED DOORS (METAL DOORS)	NAVAIR, TATA PRAVESH, SHAKTI HORMANN
27	ROLLER BLIND	VISTA, MAC, HUNTER DOUGLUS
28	HYDRAULIC DOOR CLOSER, FLOOR SPRING, DOOR AUTOMATION, HARDWARES FOR FIRE RATED DOORS, STAINLESS STEEL FITTINGS/HARDWARE FOR WOODEN/METAL/GLAZED/STEEL DOOR & WINDOWS, FRICTION STAY HINGES, HARDWARE FITTINGS FOR ALUMINIUM WINDOWS & DOORS	DORMA, GEZE, EBCO, HAFELE, HORMANN
29	ADHESIVE TAPE	3M, NORTON, TESA
30	HIGH PERFORMANCE EPOXY BASED RESIN ANCHOR SYSTEM	HILTI, FOSROC, CICO, SIKA
31	EPOXY MORTAR	FOSROC, SIKA, MYK LATICRETE, CICO
32	ALUMINIUM SECTIONS FOR DOORS & WINDOWS ETC.	JINDAL, HINDALCO, BHORUKA
33	FABRICATOR FOR ALUMINUM WORK AND STRUCTURAL GLAZING WORK	SAPA, KALCO, TECHNAL

S. NO.	DETAILS OF MATERIALS	MANUFACTURERS NAME
34	MS SECTIONS (PIPES, BOXES CHANNELS)	JINDAL HISAR, TATA,
35	S.S. MATERIAL/HADRAILS/RAILINGS	JINDAL STAINLESS STEEL LTD., TATA STEEL, SAIL
36	WALL PUTTY	JK, BIRLA, ASAIN PAINT
37	FLOOR HARDENER, POLYSULPHIDE SEALANT, WATERPROOFING COMPOUND, ADMIXTURES/CURING COUMPOUND	SIKA, FORSROC, PIDILITE, SOPREMA, DR FIXIT
38	EXPANSION JOINT	MIGUA, CS, CAMEO
39	METAL/ALUMINUM FALSE CEILING	SAINT GOBAIN, HUNTER DOUGLUS, ARMSTRONG
40	WPC (WOOD POLYMER COMPOSITE)	GREENPLY, CENTURY, RAJSHREE
41	AAC BLOCK ADHESIVE	ARDEX ENDURA, PIDILITE, WEBER
42	UPVC WINDOWS	FENESTA, ALUPLAST, KOENMERLING
43	VINYL / CONDUCTIVE FLOORING, DADO SKIRTING	FORBO, TARAKETT, ARMSTRONG, GERFLOOR
44	CALCIUM SILICATE TILES FALSE CEILING	AEROLITE, RAMCO, HILUX
45	FIRE CHECK DOORS (METAL/ROLLING/GLAZED)	NAVAIR, TATA PRAVESH, SHAKTI HORMANN, 4C FIRE PROTECTION PVT LTD
46	ACOUSTIC SEAL / DOOR SEAL	LORIENT, RAVEN, DORMA, 3M, HAFELE
47	INTUMESCENT FIRE / SMOKESEAL	ASTRO FLAME, RAVEN, SEALZ, LORIENT
48	CALCIUM SILICATE BOARD FOR FIRE DOOR	PROMOTECH, PROMINA, RAMCO
49	POLYCARBONATE SHEET	DANPALON, SOLALITE, DPI SYSTEM, EVERLITE, CPI
50	GI PIPES	JINDAL HISAR, TATA
51	GI FITTINGS	UNIK, TATA
52	CPVC PIPES	ASTRAL, PRINCE, SFMC
53	HDPE PIPES	SUPREME, FINOLEX, ASTRAL, RELIANCE,
54	SOIL, WASTE, VENT PIPES & FITTINGS	ASTRAL, PRINCE, SFMC
55	C.P. BRASS FITTING AND ACESSORIES	JAQUAR, ROCA, KOHLER, KEROVIT
56	SS SINK	NILKANTH, NIRALI, JAYNA
57	SANITARY WARE (URINAL, WASH BASIN, WC ETC.)	JAQUAR, GROHE, KOHLER, KEROVIT
58	GLASS MOSAIC TILE	ITALIA, CORAL, KAJARIA

S. NO.	DETAILS OF MATERIALS	MANUFACTURERS NAME
59	FAÇADE AND WINDOW SYSTEM	SCHUCO, ALUK, REYNAERS, GUTMANN
60	FIRE STOP IN CURTAIN WALL SYSTEM	HILTI, 3M, FISCHER, LORIENT
61	POP OUT VENT FOR FAÇADE AND SYSTEM WINDOW HARDWARE	COTSWOLD, SCHUCO, ALUK, REYNAERS
62	ALUMINIUM OPERABLE LOUVER	TECHNAL, DOMAL, YOGI GLAZE, SCHUCO
63	AIR TRANSFER GRILL	RUSKIN, SYSTEM AIR, TROX, TREMCO
64	ENGINEERED WOODEN FLOORING AND SKIRTING	MIKASA (GREENLAM), TARKETT, HAVWOODS, PARADOR (HIL), PERGO, KAHRS
65	ENGINEERED MARBLE	HR JOHNSON, KALINGA STONE, NITCO, ASIAN
66	SS TACTILE	EMINENT, FERROTECH, SUNDARAM, JINDAL
67	BAMBOO DECKING, ROOFING & CLADDING	ECO GREEN FLOORING, EPITOME BAMBOOWOOD, LAMIWOOD
68	OUTDOOR SIGNAGES	3M, AVERY DENNISON, VEDAAANSHI SIGNS
69	ACOUSTIC PANELS	ARMSTRONG, USG BORAL, ANUTONE
70	WEATHER/STRUCTURE SILICON SEALANT	WACKER, MCCOY, DOW CORNING
71	BACKER ROD	SUPREME/SYSTRANS
72	POLYSTRENE BOARD	SUPREME, DOW CORNING, TEXAS, PIDILITE
73	DUCTILE IRON PIPES	ELECTROSTEEL, KESORAM, TISCO
74	STAINLESS STEEL PIPES AND FITTINGS	JINDAL STAINLESS STEEL, J-PRESS ALFA PRESS
75	SLUICE VALVES, GATE / BALL VALVES	ZOLOTO, KIRLOSKAR, LEADER
76	FURNITURE	HERMAN-MILLER, HAYWORTH, STEEL CASE, ROCKWORTH, GODREJ, DURIAN

**Note: - The articles / materials which are not mentioned in the above said list shall be approved by the Engineer-in-Charge before execution of work.**

**GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR FOR REMOVAL  
OF DEFECTS AFTER COMPLETION OF SPECILAISED WORKS**

The agreement made this..... day of ..... (Two Thousand----- only) .....  
between .....S/o .....(hereinafter called the GUARANTOR of the one  
part) and the PRESIDENT OF INDIA (hereinafter called the Government of the other part)

WHEREAS THIS agreement is supplementary to a contract (Hereinafter called the Contract)  
dated ..... and made between the GUARANTOR OF THE ONE PART AND the  
Government of the other part whereby the contractor inter alia undertook to remove all the  
defects in .....(name of specialized work) in said contract completely.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the affect that the said  
work will remain intact without any defect for ..... (No. of years) from the date of  
completion of the work.

NOW THE GUARANTOR hereby guarantee that the works executed by him will remain intact  
and full functional without any defects of any kind for .....(No. of years) to be reckoned  
from the date of completion of work under the contract.

The decision of the Engineer-in-Charge with regard to nature and cause of defects shall be final.

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

That if the guarantor fails to make good all defects or commits breach there under, then the  
Guarantor will indemnify Engineer-in-Charge and his successor against all loss, damage, cost  
expense or otherwise which may be incurred by him by reason of any default on the part of the  
GUARANTOR in performance and observance of this supplementary agreement. As to the  
amount of loss and/or damage and / or cost incurred by the Government, the decision of the  
Engineer-in-charge will be final and binding on both the parties.

IN WITNESS WHEREOF these presents have been executed by the obligator  
..... and ..... by ..... for and on behalf of  
the PRESIDENT OF INDIA on the day, month and year first above written.

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

1. .... 2. ....

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

1. .... 2. ....





# Schedule of Quantity

### Schedule of Quantity

Name of work: Renovation of Ganga Auditorium, Godavari Conference Hall, Dining Hall, office of Secretary, EF&CC and washrooms adjoining the Conference Halls and Dining Hall of MoEF&CC at Indira Paryavaran Bhawan, Jorbagh Road, New Delhi.

Sl. No.	Sub-heads and item of work	Qty..	Unit	Rate	Amount (Rs)
	<b>DSR-2023 Items</b>				
1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :				
1.1	1:5:10 (1 cement : 5 coarse sand (zone-III) derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	4.00	Cum	6532.88	26132.00
2	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work above plinth level upto floor V level.				
2.1	1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	14.00	Cum	9578.95	134105.00
3	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing of edges to give high gloss finish etc. complete at all levels.				
3.1	Granite stone slab of colour black, Cherry/Ruby red				
3.1.1	Area of slab upto 0.50 sqm	3.00	Sqm	5425.36	16276.00
3.1.2	Area of slab over 0.50 sqm	9.00	Sqm	5147.55	46328.00
4	Providing and fixing 15 mm thick engineering marble of required size, approved shade, colour and texture laid over existing wooden/stone or any type surface and stick to existing surface with araldite/bond tite/epoxy resin based adhesive, joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing of edges to give high gloss finish etc. complete at all levels.				
4.1	Engineering marble of approved shade and pattern				
4.1.1	Area of slab over 0.50 sqm	31.00	Sqm	8015.90	248493.00

5	Extra for providing opening of required size & shape for wash basin/ kitchen sink in kitchen platform, vanity counter and similar location in marble/ Granite/ stone work, including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete.	17.00	Each	980.65	16671.00
6	Mirror polishing on marble work/Granite work/stone work where ever required to give high gloss finish complete.	499.00	Sqm	507.81	253397.00
7	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS : 15622 (thickness to be specified by the manufacturer) of approved make in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thick bed of cement Mortar 1:3 (1 cement: 3 coarse sand)and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete.	20.00	Sqm	1270.73	25415.00
8	Providing and fixing Glazed Vitrified tiles of size 600x1200 mm, conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, using bonding material (Adhessive- araldite/bond tite/epoxy resin based adhesive) for stick tile over plyboard base and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	130.00	Sqm	2244.45	291779.00
9	Providing and fixing Vitrified tiles in wall with water absorption less than 0.08% and conforming to ISO:10545, of approved brand & manufacturer of size 600x1200 mm , in all colours and shade, of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	382.00	Sqm	1,809.55	691248.00
10	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length (hold fast lugs or dash fastener shall be paid for separately).				
10.1	Second class teak wood	3.50	Cum	143262.76	501420.00
11	Providing and fixing frame work for partitions/ wall lining etc. made of hollow Alumunium section, placed along the walls, ceiling and floor in a grid pattern with spacing @ 60 cm centre to centre both ways (vertically & horizontally) or at required spacing near opening, fixing the frame to wall/ ceiling/ floors with necessary Stainless Steel screw, Alumunium angle cleat etc. as required at junctions, including making provision for opening for doors, windows, electrical conduits, switch				

	boards etc. complete, as per direction of Engineer-in-charge.				
11.1	Anodised aluminium, anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15	5287.00	kg	429.20	2269180.00
12	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part 1) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:				
12.1	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws.	53.00	Sqm	3481.46	184517.00
13	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part 1) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:				
13.1	30 mm thick including ISI marked Stainless Steel butt hinges with necessary screws.	33.00	Sqm	2176.85	71836.00
14	Extra for providing vision panel not exceeding 0.1 sqm in all type of flush doors (cost of glass excluded) (overall area of door shutter to be measured):				
14.1	Rectangular or square	17.00	Sqm	199.58	3393.00
15	Providing and fixing wooden moulded beading to door and window frames with iron screws, plugs and priming coat on unexposed surface etc. complete :				
15.1	2nd class teak wood				
15.1.1	50x12 mm	33.00	mtr	221.58	7312.00
16	Providing and fixing aluminium die cast body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 35 kg and door width upto 700 mm), with necessary accessories and screws etc. complete.:	16.00	Each	1127.32	18037.00
17	Providing and fixing aluminium extruded section body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564 embossed on the body, door weight upto 36 kg to 80 kg and door width from 701 mm to 1000 mm), with double speed adjustment with necessary accessories and screws etc. complete.	8.00	Each	985.30	7882.00
18	Providing and fixing mortise lock and a pair of lever handles of approved make (Dorma or equivalent reputed make) and quality with necessary screws etc. all complete. as per direction of Engineer-in-charge.	7.00	Each	4683.05	32781.00

19	Providing and fixing Stainless steel Tower bolt, ISI Marked to required colour or shade, with necessary screws etc. complete :				
19.1	300x10 mm	17.00	Each	389.70	6625.00
20	Providing and fixing Stainless Steel handles of approved quality & make of Dorma (Cat. No.XLC-3001A) or equivalent make with necessary screws etc for door all complete as per direction of Engineer in-charge.				
20.1	Handle D Type 169 mm long, 150 mm CTC and 19 mm Diameter	38.00	Each	1,469.85	55854.00
21	Providing and fixing stainless steel sliding door bolt, ISI marked to required colour or shade, with nuts and screws etc. complete :				
21.1	300X16 mm	8.00	Each	1,117.60	8941.00
22	Providing and fixing aluminium hanging floor door stopper, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade, with necessary screw etc. complete.				
22.1	Twin rubber stopper	20.00	Each	72.51	1450.00
23	Providing and fixing bright finished 100 mm mortice lock with 6 levers without pair of handles of approved quality for aluminium/flush door, with necessary screws etc complete as per direction of Engineer- in-charge.	4	each	851.91	3408.00
24	Providing & Fixing decorative high pressure laminated sheet of plain /:wood grain in gloss / matt/ suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS 2046 Type S, including cost of adhesive of approved quality.				
24.1	1.5 mm thick	59.00	sqm	1048.24	61846.00
25	Providing and fixing plain lining with necessary screws/nuts & bolts/ nails, including a coat of approved primer on one face, and fixed on wooden /steel frame work, complete as per direction of Engineer-in- charge (Frame work shall be paid for separately).				
25.1	12 mm thick commercial ply conforming to IS : 1328 BWR type	731.00	Sqm	1227.33	897178.00
26	Providing and fixing plain lining with necessary screws/nuts & bolts/ nails and fixed on wooden /steel frame work/Alumunium frame work complete as per direction of Engineer-in- charge (Frame work shall be paid for separately).				
26.1	20mm thick wood wool Board of approved make and quality	134.00	Sqm	1208.10	161885.00
27	Providing & Fixing acoustically absorptive fabric paneling, over 20 mm thick wood wool board lining, to be neatly fixed on the base structure, finished with 350 gsm, Fire Retardent, stretch fabric of approved shade over gripper system (UK) UPVC Grippers, standard, Cove, mono, edge. Installation of fabric with gripper will be as per drawing/ design approved as per manufacturer	134.00	Sqm	521.00	69814.00

	specifications and entire satisfaction of engineer in charge. (Cost of wood wool board lining and frame work for wood wool board to be paid seperately)				
28	Providing and fixing 4mm thick veneers with necessary screws/nuts & bolts/ nails/silicone adhesive on Aluminium frame work including making groove pattern, complete as per direction of Engineer-in- charge (Cost of Aluminium frame work to be paid for separately).	629.00	Sqm	3371.20	2120485.00
29	Providing and fixing 6mm thick High Pressure Interior Compact laminate made out of thermosetting resign treated Kraft as core material and design paper as a finish surface on both sides of required colour, pattern and shade in wall lining fixed over aluminium frame work, adhesive and Metal dash fasteners as per site requirement and directions of engineer-in-charge. Compact laminates will be resistant to water immersion through permissible increase on thickness and mass <0.60% and board should have density >1.35kg/cm3. Compact should be flame retardant fulfilled the criteria of under BS-476/97 and EN438-6 with classification of BS1D0 standard property with Anti-Viral, Anti-bacterial & Anti-termite (under JIS Z2801:2000 certification), Chemical resistance, Scratch resistant ,flame resistance, weather & climatic shock resistance. (Note: Cost of Aluminium frame work will be paid separately).	299.00	Sqm	3696.05	1105119.00
30	Providing and fixing acoustical wall paneling with square edge panels (having minimum NRC of 0.80) of size 300 mm x 300 mm made of minimum thickness of 18 mm thick foam having a density of 45 kg per cum including backing base of PVC board, wrapped on the front side with an acoustical and fire-resistant leatherette fabric of 410 gsm having UV treated antipeeling properties of colours and in design approved by the Engineer-in-charge. The panels will be pasted on ply board of any thickness with approved construction adhesives. (cost of HPL/HDMR/PLY board shall be paid separately)	26.00	Sqm	6884.25	178991.00
31	Providing & fixing of motorized Window Blinds as per the approved sample, consisting of 3" vane size having head rail, rotator rail and bottom rail made of aluminum alloy 6063-T6 PER ASTM B221 - 85 extruded profile, powder coated and provided in standard natural white color. The rolling tube should be made up of aluminum alloy from extruded profile of 34 mm dia . The head rail dimensions should be of suitable size according to the length of head rail and space available and finished with fabric cover matching with the louver fabric. The light filtering fabric of Blind should be of anti static polyester vanes which have facings between two sheer layers (50 mm wide) to reduce glare. Sheer layers should be of white 100% knit polyester, the colors, textures and opacities as approved. The fabric shall be made of spun-bonded	105.00	Sqm	12458.50	1308143.00

	100% polyester fiber (having Green guard certification ) treated with soil & dust repellent requiring minimum regular interval cleaning. GREEN GUARD Gold certified for low-emitting products to maintain Indoor environment. Upto 80% ultraviolet protection with vanes open and 90% with vanes closed. The shading to be operated by Easy rise mechanism with a continuous cord loop operating system. All parts, components & hardware are in approved shade as per direction of Engineer-in-charge.				
32	Providing and fixing of charcoal mouldings of approved shade, pattern and design including fixing accessories adhesive, nail, screw etc all complete as per direction of Engineer-in-charge.				
32.1	width upto 45 mm	20.00	mtr	297.15	5943.00
33	Providing and fixing factory made ISI marked partially insulated metal fire rated doorset assembly, for staircase/exit pathway and refuge areas applications, consisting of galvanized iron steel frame and double leaf shutter including necessary hardware accessories, conforming to FD 120 classification of IS 3614 : 2021 with fire rating of 120 minutes integrity and 30 minutes insulation. The door frame and shutter shall be made out of minimum 1.20 mm thick GI Sheet with minimum 120 GSM Zinc coating as per IS : 277. The entire fire rated doorset assembly shall be tested in latched condition as per IS 17518 (Part-1) 2022. <b>Frame:</b> The frame shall be of minimum size 90 x 60 mm with grooved profile to take appropriate fire rated smoke seal, having mitred cut joint (self tab/screwed assembled at site) and provided with appropriate reinforcement suitable for taking hardware and flush fixing as per IS 4351. The smoke seal material shall be of EPDM tested in accordance with ASTM E-84 of minimum size 10 x 4mm, fixed within the inbuilt groove or stuck with adhesive on the entire perimeter of the frame. The door frame shall be fixed to the three sides to masonry wall opening with CSK/Hex headed fastener of minimum 8 mm dia size and minimum 80mm long hot dip galvanized with 8 mm dia Polyamide sleeves @ 5 number at each on vertical sides and 3 number on top side.				
	Door shutter: The double skinned double leaf partially insulated door shutters shall be consisting of minimum 50 mm thickness and having box like structure, slots cut and holes punched, for fixing of hardwares with stiffeners as per IS: 16074 including resin bonded mineral wool/ceramic wool infill material of minimum density 96 kg/cum. Each door leaf shall be provided with vision panel having maximum area of 0.06 sqm, of 120 minute fire rated minimum 6 mm thick clear borosilicate glass pane fixed with clip-on arrangement and fire rated ceramic tape having minimum size 13x2 mm to be				



	fixed all around the glass on both the sides. The intumescent seal of minimum size 15x1.5 mm or of size as per test evidence shall be fixed on all the three edges of the door leaves. Integral astragals to be provided for double leaf door on the meeting style each on active and inactive leaf. The door shutters shall be mounted on the frame with SS 304 grade ball bearing butt hinges as per EN 1935 2002 or butt hinges as per IS: 12817, of minimum size 100x75x3 mm @ 5 numbers hinges upto 2400 mm height or as per test evidence, whichever is more, fixed with M6 25 screws. All doors shall be factory prepared for receiving appropriate hardware and provided with necessary reinforcement for hardware accessories.				
	<p><b>Accessories Hardware :</b> Fire doorset assembly shall be provided with one number of single point panic push bar (cross bar) for active leaf and one number double point panic push bar (cross bar) with bottom strike of desired finish with verticle shoot bolts on top and bottom for inactvie leaf of double leaf door as per EN 1125, one number external trim with half cylinder 42 mm long with one side key as per EN 1125, two number heavy duty door closers of size EN 3-5 with standard arm with of desired finish (suitable for 1250 mm wide door leaf) conforming to IS: 3564/EN 1154, and one number surface mounted door coordinator for sequencing of closing.</p> <p><b>Finishing:</b> Both frame and door shutters shall be factory finished with polyester powder coating of minimum 50 microns thick and shall have passed salt spray test as per IS 13871 of approved colour and shade all complete as per manufacturer's specifications and as per direction of the Engineer-in-charge.</p> <p><b>Installation:</b> The hollow space in the door frame shall be filled/injected with fire rated self extinguishing type polyurethane foam (PUF) after installation at site of work. The rate shall be inclusive of complete fire rated door assembly, supply and installation by the approved manufacturer.</p>				
33.1	Double leaf partialy insulated metal Fire rated Door set of FD 120 PI Classification with 120 minutes integrity and 30 minutes insulation as per IS 3614: 2021 for staircase/Exit pathway/ Refuge area etc.	21.00	Sqm	20285.60	425998.00
34	Providing and fixing 15mm thick engineered wooden flooring of size 540x90x15 mm with Herringbone pattern or as given by architect of approved type and shade of approved make and as per manufacture's specification confirming to British Standards BS EN 13489. Top layer of plank shall be made of upto 3mm stain/natural lamella Oak Veneer (Solid wood), Oak/Walnut . Surface of Top layer shall be prefinished with 7 layers of UV hardened Acrylic lacquer, which shall be free from Formaldehyde (E1 standard) and solvents. Flooring plank shall be interlocked Plank LOC tech. using lock and fold system in a glue less floating manner.	88.00	Sqm	10355.60	911293.00

	Engineered wood planks shall be a composition of 3 layer of top solid, middle core Pine wood and bottom layer pine wood with direction of each layer oriented at right angle to the adjacent layer. Non-Beveled/ Beveled in length and width as specified. Rate shall be inclusive of 2mm thick Vprotect underlay sheet as sound barrier and/ or vapor barrier (combination of PE film 40 micron and extruded foam). Uniform gaps shall be left on all sides to allow expansion and contraction of material. The gaps are covered with the help of accessories etc. finished in all respects as per the manufacturer's specifications. The floor shall be laid in place with matching original profiles and accessories as approved and as per recommendations of approved manufacturer and Engineer-in-charge over base of existing flooring. Rate shall be exclusive of making any cut-out for services, floor matching cover over cut outs complete.				
35	Providing and fixing carbon steel galvanised ( minimum coating 5 micron) dash fastener of 10 mm dia double threaded 6.8 grade (yield strength 480 N/mm <sup>2</sup> ), counter sunk head, comprising of 10 mm dia polyamide PA 6 grade sleeve, including drilling of hole in frame , concrete/ masonry, etc. as per direction of Engineer-in-charge.				
35.1	10 x 160 mm	30.00	each	225.00	6750.00
36	Marble stone flooring with 18 mm thick marble stone, as per sample of marble approved by Engineer-in-charge, over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with grey cement slurry, including rubbing and polishing complete with :				
36.1	Makrana white second quality	63.00	sqm	3745.63	235975.00
37	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4 Coarse sand), Jointing with grey cement slurry @ 3.3 kg/sqm including pointing the joints with white cement and matching pigment etc., complete.	427.00	Sqm	1098.95	469252.00
38	Grouting the joints of flooring tiles having joints of 3 mm width, using epoxy grout mix of 0.70 kg of organic coated filler of desired shade (0.10 kg of hardener and 0.20 kg of resin per kg), including filling / grouting and finishing complete as per direction of Engineer-in-charge.				
38.1	Size of tile 1000*1000 mm	130.00	Sqm	174.89	22736.00

39	Providing and laying 12 mm thick AC-5, grade laminate wooden flooring of having 0.2 mm thick direct laminate on top of specially developed substrate core (high density fibre board) of plank size as per manufacturer's specification having smart lock, tongue and groove joint construction should be sealed with 4mm thick teak wood lipping. The under layer has to be a 0.2 mm thick alkali resistant polyethylene sheet of density 30-32 kg. per cum on top to secure the floor. The work shall be carried out as per manufacturer's installation procedure and as per direction of Engineer-in-charge.	190.00	Sqm	3038.50	577315.00
40	Providing and fixing of Nylon printed carpet floorin of approved make , shade and pattern by engineer in charge of 1500 GSM ( $\pm 3\%$ ) over 8mm thick foam. Floor carpet to be fixed with double stick installation with adhessive and as per manufacturer specification including all accessories, adhessice foam etc. all complete as per direction of Engineer in charge.	380.00	Sqm	1549.05	588639.00
41	Providing and fixing of solid wood trim/adaptation/door profile of any size, approved matching shade, pattern and design with existing wooden flooring including fiixing accessories etc all complete as per manufacturer specification and direction of Engineer in charge.	12.00	mtr	876.75	10521.00
42	Providing and fixing of solid wood skirting matching to flooring including fixing accessories i.e Nails, screw, adhessive etc all complete as per amnufacturer specification and direction of engineer in charge.	25.00	mtr	632.55	15814.00
43	Providing and laying Vitrified tiles in floor with different sizes (thickness to be specified by the manufacturer), with water absorption less than 0.08% and conforming to ISO:10545, of approved brand & manufacturer, in all colours and shade, laid with cement based high polymer modified quick set tile adhesive (water based) conforming to IS : 15477, in average 6 mm thickness, including grouting of joints (Payment for grouting of joints to be made separately).				
43.1	Size of Tile 600x1200 mm	104.00	Sqm	1,800.90	187294.00
44	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level				
44.1	1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	3.00	cum	7895.76	23687.00

45	<p>Providing and fixing false ceiling at all heights including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50 mm long with 6 mm dia bolts, other flange of cleat fixed to the angle hangers of 25x10x0.50 mm of required length with nuts &amp; bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the spacing of 1200 mm centre to centre, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm centre to centre, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I. wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25 mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3 layers covering upto 150 mm on both sides of joint and two coats of primer suitable for board, all as per manufacturer's specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer in Charge but excluding the cost of painting with :</p>				
45.1	12.5 mm thick tapered edge gypsum plain board conforming to IS: 2095- (Part 1) :2011 (Board with BIS certification marks)	43.00	sqm	1358.77	58427.00
46	<p>Providing and fixing GI Clip in Metal Ceiling System of 600x600 mm module which includes providing and fixing 'C' wall angle of size 20x30x20 mm made of 0.5 mm thick pre painted steel along the perimeter of the room with help of nylon leeves and wooden screws at 300 mm center to centre, suspending the main C carrier of size 10x38x10 mm made of G.I steel 0.7 mm thick from the soffit with help of soffit cleat 37x27x25x1.6 mm, rawl plugs of size 38x12 mm and C carrier suspension clip and main carrier bracket at 1000 mm c/c. Inverted triangle shaped Spring Tee having height of 24 mm and width of 34 mm made of GI steel 0.45 mm thick is then fixed to the main C carrier and in direction perpendicular to it at 600 mm centers with help of suspension brackets.</p>				

	Wherever the main C carrier and spring T have to join, C carrier and spring T connectors have to be used. All sections to be galvanized @ 120 gms/sqm (both side inclusive), fixing with clip in tiles into spring T with :				
46.1	GI Metal Ceiling Clip in plain Beveled edge global white colour tiles of size 600x600 and 0.5 mm thick with 25 mm height, made of G I sheet having galvanizing of 100 gms/ sqm (both sides inclusive) and 20% perforation area with 1.8 mm dia holes and having NRC of 0.5, electro statically polyester powder coated of thickness 60 microns (minimum), including factory painted after bending and perforation.	104.00	Sqm	2359.81	245420.00
47	Providing & fixing false ceiling at all height including providing & fixing of framework made of special section, power pressed from M.S. sheets and galvanised with zinc coating of 120 gms/ sqm (both side inclusive) as per IS : 277 and consisting of angle cleat of size 25mm wide x 1.6mm thick with flanges of 27mm and 37mm, at 1200mm c/c, one flange fixed to the ceiling with dash fastener 12.5mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25 x10 x0.50mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I chanel 45 x15 x 0.90mm running at the spacing of 1200 mm c/c, to which the ceiling section 0.5mm thick bottom wedge of 80mm with tapered flanges of 26 mm each having lips of 10.5mm, at 450mm c/c, shall be fixed in a direction perpendicular to G.I intermediate channel with connecting clip made out of 2.64mm dia x 230mm long G.I wire at every junction, including fixing perimeter channels 0.50mm thick 27mm high having flanges of 20mm and 30mm long, the perimeter of ceiling fixed to wall/ partitions with the help of Rawl plugs at 450mm centre, with 25 mm long dry wall screws @ 230mm interval, including fixing of Calcium Silicate Board to ceiling section and perimeter channels with the help of dry wall screws of size 3.5 x25mm at 230mm c/c, including jointing & finishing to a flush finish of tapered and square edges of the board with recommended jointing compounds, jointing tapes,finishing with jointing compounds in three layers covering up to 150mm on both sides of joints and two coats of primer suitable for boards, all as per manufacture's specification and also including the cost of making opening for light fittings, grills, diffusers, cut outs made with frame of perimeter channels suitably fixed, all complete as per drawings, specifcation and direction of the Engineer in charge but excluding the cost of painting with:				
47.1	12 mm thick Calcium Silicate Board made with Calcareous & Siliceous materials reinforced with cellulose fiber manufactured through autoclaving process.	710.00	Sqm	1957.71	1389974.00

48	<p>Providing &amp; fixing false ceiling at all height including providing &amp; fixing of framework made of special section, power pressed from M.S. sheets and galvanised with zinc coating of 120 gms/ sqm (both side inclusive) as per IS : 277 and consisting of angle cleat of size 25mm wide x 1.6mm thick with flanges of 27mm and 37mm, at 1200mm c/c, one flange fixed to the ceiling with dash fastener 12.5mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25 x10 x0.50mm of required length with nuts &amp; bolts of required size and other end of angle hanger fixed with intermediate G.I chanel 45 x15 x 0.90mm running at the spacing of 1200 mm c/c, to which the ceiling section 0.5mm thick bottom wedge of 80mm with tapered flanges of 26 mm each having lips of 10.5mm, at 450mm c/c, shall be fixed in a direction perpendicular to G.I intermediate channel with connecting clip made out of 2.64mm dia x 230mm long G.I wire at every junction, including fixing perimeter channels 0.50mm thick 27mm high having flanges of 20mm and 30mm long, the perimeter of ceiling fixed to wall/ partitions with the help of Rawl plugs at 450mm centre, with 25 mm long dry wall screws @ 230mm interval, including fixing of commercial ply (8/9 mm thick) to ceiling section and perimeter channels with the help of dry wall screws of size 3.5 x25mm at 230mm c/c, all as per manufacture's specification and also including the cost of making opening for light fittings, grills, diffusers, cut outs made with frame of perimeter channels suitably fixed, all complete as per drawings, specificaton and direction of the Engineer in charge but excluding the cost of painting with:</p>				
48.1	8/9mm thick commercial ply conforming to IS : 1328 BWR type	79.00	Sqm	1942.01	153419.00
49	<p>Providing &amp; fixing false ceiling at all height including providing &amp; fixing of framework made of special section, power pressed from M.S. sheets and galvanised with zinc coating of 120 gms/ sqm (both side inclusive) as per IS : 277 and consisting of angle cleat of size 25mm wide x 1.6mm thick with flanges of 27mm and 37mm, at 1200mm c/c, one flange fixed to the ceiling with dash fastener 12.5mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25 x10 x0.50mm of required length with nuts &amp; bolts of required size and other end of angle hanger fixed with intermediate G.I chanel 45 x15 x 0.90mm running at the spacing of 1200 mm c/c, to which the ceiling section 0.5mm thick bottom wedge of 80mm with tapered flanges of 26 mm each having lips of 10.5mm, at 450mm c/c, shall be fixed in a direction perpendicular to G.I intermediate channel with connecting clip made out of 2.64mm dia x 230mm long G.I wire at every junction, including fixing perimeter channels 0.50mm thick 27mm high having flanges of 20mm and 30mm long, the perimeter of ceiling fixed to</p>				

	wall/ partitions with the help of Rawl plugs at 450mm centre, with 25mm long dry wall screws @ 230mm interval, including fixing of Calcium Silicate Board to ceiling section and perimeter channels with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing & finishing to a flush finish of tapered and square edges of the board with recommended jointing compounds, jointing tapes, finishing with jointing compounds in three layers covering up to 150mm on both sides of joints and two coats of primer suitable for boards, all as per manufacture's specification and also including the cost of making opening for light fittings, grills, diffusers, cut outs made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer in charge but excluding the cost of painting with:				
49.1	12 mm thick Calcium Silicate perforated Board made with Calcareous & Siliceous materials reinforced with cellulose fiber manufactured through autoclaving process.	330.00	Sqm	2375.34	783862.00
50	Providing and fixing thermal insulation with Resin Bonded rock wool conforming to IS: 8183, having density 48 kg/cum 50 mm thick, wrapped in 200 G Virgin Polythene Bags fixed to wall with screw, rawl plug & washers and held in position by criss crossing GI wire etc. complete as per directions of Engineer-in-Charge.	494.00	Sqm	323.21	159666.00
51	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade :				
51.1	Two or more coats on new work	56.00	Sqm	156.24	8749.00
52	Polishing (PU clear matt finish) on veneers work with ready mixed wax polish of approved make and manufacture :				
52.1	New work	629.00	Sqm	229.45	144324.00
53	Providing and applying 12 mm thick (average) premixed formulated one coat gypsum lightweight plaster having additives and light weight aggregates as vermiculite/ perlite respectively conforming to IS: 2547 (Part - 1 & II) 1976, applied on hacked / uneven background such as bare brick/ block/ RCC work on walls & ceiling at all floors and locations, finished in smooth line and level etc. complete	100.00	Sqm	469.93	46993.00
54	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	827.00	Sqm	156.39	129335.00
55	Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound ) content less than 50 grams/ litre. of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.				



55.1	Two coats.	827.00	Sqm	143.11	118352.00
56	Applying priming coats with primer of approved brand and manufacture, having low VOC (Volatile Organic Compound ) content				
56.1	With water thinnable cement primer on wall surface having VOC content less than 50 grams/litre	827.00	Sqm	74.11	61289.00
57	Removing dry or oil bound distemper, water proofing cement paint and the like by scrapping, sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete.	100.00	Sqm	25.20	2520.00
58	Melamine polishing on wood work (one or more coat).	4.00	Sqm	138.40	554.00
59	Dismantling Auditorium Chair/Sofa/table of all sizes including disposal of dismantled materials i/c malba all complete as per directions of Engineer-in-Charge.	160.00	Each	142.45	22792.00
60	Dismantling Wash-basin/Urinal of all sizes including disposal of dismantled materials i/c malba, all complete as per directions of Engineer-in-Charge (Note: beyond 50 m initial lead, for all leads including all lifts involved).	47.00	Each	114.60	5386.00
61	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge.				
61.1	Nominal concrete 1:3:6 or richer mix (including equivalent design mix)	38.00	Cum	2439.58	92704.00
62	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge.	1.00	Cum	3559.03	3559.00
63	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.				
63.1	In cement mortar	2.00	Cum	2064.72	4129.00
64	Dismantling doors, windows and clerestory windows (steel or wood) shutter including chowkhats, architrave, holdfasts etc. complete and stacking within 50 metres lead:				
64.1	Of area 3 sq. metres and below	21.00	Each	368.01	7728.00
64.2	Of area beyond 3 sq. metres	16.00	Each	503.85	8062.00
65	Dismantling tile work in floors and roofs laid in cement mortar including stacking material within 50 metres lead.				
65.1	For thickness of tiles 10 mm to 25 mm	197.00	Sqm	73.56	14491.00
66	Dismantling stone slab flooring laid in cement mortar including stacking of serviceable material and disposal of unserviceable material within 50 metres lead.	63.00	sqm	267.03	16823.00



67	Dismantling of P.V.C/vinyl/wooden flooring laid in adhesive/glue including stacking material within 50 metres lead.	353.00	Sqm	52.35	18480.00
68	Dismantling wooden boardings in lining of walls and partitions, excluding supporting members but including stacking within 50 metres lead :				
68.1	Thickness above 10 mm up to 25 mm	736.00	Sqm	77.92	57349.00
69	Dismantling of flushing cistern of all types (C.I./PVC/Vitrious China) including stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead.	35.00	Each	112.29	3930.00
70	Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 metres lead.	382.00	Sqm	54.77	20922.00
71	Dismantling aluminium/ Gypsum partitions, doors, windows, fixed glazing and false ceiling including disposal of unserviceable material and stacking of serviceable material with in 50 meters lead as directed by Engineer-in-charge.	1173.00	Sqm	56.47	66239.00
72	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	280.00	Cum	264.53	74068.00
73	Providing and fixing looking mirror of approved quality and make kohler (Cat. No. K-26052-BGL) or equivalent model of Grohe, Jaguar, of required shape and size with frame and other required accessories as per manufacturer specification all complete as per direction of Engineer-in-charge.				
73.1	Rectangle mirror of size 560-570mm x 865-880mm	13.00	Each	9757.40	126846.00
74	Providing and fixing soil, waste and vent pipes :				
74.1	100mm dia				
74.1.1	Centrifugally cast (spun) iron socket & spigot (S&S) pipe as per IS: 3989	97.00	mtr	1183.33	114783.00
75	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
75.1	100 mm dia				
75.1.1	Sand cast iron S&S as per IS - 3989	24.00	Each	706.75	16962.00
76	Providing and fixing plain bend of required degree.				
76.1	100 mm dia				
76.1.1	Sand cast iron S&S as per IS - 3989	32.00	Each	571.30	18282.00
77	Providing and fixing double equal junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete :				
77.1	100x100x100x100 mm				
77.1.1	Sand cast iron S&S as per IS - 3989	16.00	Each	1105.51	17688.00

78	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
78.1	100x100x100 mm				
78.1.1	Sand cast iron S&S as per IS - 3989	10.00	Each	927.73	9277.00
79	Providing and fixing single equal plain junction of required degree :				
79.1	100x100x100 mm				
79.1.1	Sand cast iron S&S as per IS - 3989	5.00	Each	813.68	4068.00
80	Providing and fixing single equal plain invert branch of required degree :				
80.1	100x100x100 mm				
80.1.1	Sand cast iron S&S as per IS - 3989	5.00	Each	749.49	3747.00
81	Providing lead caulked joints to sand cast iron/centrifugally cast (spun) iron pipes and fittings of diameter :				
81.1	100 mm	96.00	Each	605.69	58146.00
82	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :				
82.1	100 mm inlet and 100 mm outlet				
82.1.1	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	8.00	Each	856.42	6851.00
83	Cutting chases in brick masonry walls for following diameter sand cast iron/ centrifugally cast (spun) iron pipes and making good the same with cement concrete 1:3:6 (1 cement : 3 coarse sand :6 graded stone aggregate 12.5 mm nominal size), including necessary plaster and pointing in cement mortar 1:4 (1 cement : 4 coarse sand) :				
83.1	100 mm dia	20.00	mtr	714.77	14295.00
84	Providing and fixing frosted film of 3 M Crystal or equivalent make having shading coefficient 0.93%, visible light reflection 12%, visible light transmittance 72%, solar heat reflectance 10%, solar heat transmittance 64% and solar heat absorbance 26% all complete in required pattern as per manufacturer's specification and as per direction of Engineer-in-charge.	132.00	Sqm	1429.90	188746.00
85	Providing and fixing pillar cock/basin faucet of approved quality and make Kohler (Cat. No. 24270IN-ND-CP) or equivalent model of Grohe, Jaguar and Grid drain with overflow hole in polished chrome make Kohler (Cat. No. 45432IN-CP) or equivalent model of Grohe, Jaguar including necessary accessories as per manufacturer specification all complete as per direction of Engineer-in-charge.	18.00	Each	12,887.50	231975.00

86	Providing and fixing 350mm bottle trap without drain in polished chrome of approved quality & make of Kohler (Cat. No. K-75823-CP) or equivalent model of Grohe, Jaguar and required other accessories as per manufacturer specification all complete as per direction of Engineer-in-charge.	30.00	Each	2289.15	68675.00
87	Providing and fixing C.P. brass complementary angle valve for basin mixer and geyser points of approved quality and make Kohler (cat. No. K-80158IN-9AV-CP) or equivalent model of Grohe, Jaguar all complete as per direction of Engineer-in-Charge.	35.00	Each	790.45	27666.00
88	Providing and fixing liquid soap Dispenser with holder of Make Kohler (cat. No. 10712D-CP) or equivalent model of Grohe, Jaguar including necessary accessories as per manufacturer specification all complete as per direction of Engineer-in-Charge.	10.00	Each	2,617.50	26175.00
89	Providing and fixing toilet paper holder of approved make of Kohler (cat. No. K-97503T-CP) or equivalent model of Grohe, Jaguar including necessary accessories as per manufacturer specification all complete as per direction of Engineer-in-Charge.	17.00	Each	4,093.70	69593.00
90	Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of size 332x335x642 mm of approved make of Kohler (cat. No. K-16321IN-SS-0) or equivalent model of Grohe, Jaguar including necessary accessories for fixing all complete as per direction of Engineer-in-Charge.	16.00	Each	21,870.75	349932.00
91	Providing and fixing white vitreous china wash basin of make Kohler ( Cat. NO. 2215IN-2-0) or equivalent model of Grohe, Jaguar, including making all connections but excluding the cost of fittings :				
91.1	581mm x 402mm undercounter basin in white	18.00	Each	3,892.55	70066.00
92	Providing and Placing 6L step can (Dust bin) in stainless steel of approved make of Kohler (cat. No. K-17531T-ST) or equivalent model of other reputed make all complete as per direction of Engineer-in-Charge.	9.00	Each	2,585.85	23273.00
93	Providing and fixing white vitreous china extended wall hung water closet of approved make Kohler ( Cat. no. 28922IN-S-0) and plastic outlet connector of make Kohler (cat no. K-1046327-S) including providing & fixing cistern(wall tank) with dual flush fitting, of flushing capacity 3 litre/ 6 litre with full frame of make Kohler (cat. No.33931IN-P-NA) & face plate for cistern (wall tank) of make Kohler (75890IN-P-CP) or equivalent model of Grohe, Jaguar, including seat cover, and cistern fittings, nuts, bolts and gasket etc all complete as per direction of Engineer-in-charge.	17.00	Each	27,334.50	464687.00

94	Providing and fixing health faucet of make KOHLER (cat. no. 97258IN-CP) or equivalent model of Grohe, Jaguar, including providing and fixing hose pipe & bracket, and making connection, rawl plug, screw etc. all complete as per direction of Engineer - in - charge.	17.00	Each	2,075.25	35279.00
95	Providing and fixing Floor drain in polished chrome of make KOHLER or equivalent model of Grohe, Jaguar, including making connection & necessary accessories etc. all complete as per direction of Engineer - in - charge.	17.00	Each	857.70	14581.00
96	Providing and fixing C.P Brass bib cock of make KOHLER (cat. no. K-16093IN-4-CP) or equivalent model of Grohe, Jaguar, including making connection & necessary accessories etc. all complete as per direction of Engineer - in - charge.	25.00	Each	1,687.75	42194.00
97	Providing & fixing divider panel (Touchless-1 model) of Greenlam, Mikasa, Fundermax, Trepsa made up of 12 mm thick compact laminates with anti-bacterial, Anti-Viral & anti-Fungal agents during manufacturing. Compact board should be resistance to water immersion through permissible increase on thickness and mass <0.60% and board density >1.35kg/cm <sup>3</sup> and fulfilled the criteria of green guard gold certification and manufactured under EN438-2&3:2005 standard. Urinal partition panel should consist of one undivided piece, chamfered edges with no joint in between. Dimension of Urinal partition should be 1190 mm in height and 450 mm in depth. Finish and colour of Urinal partition should be approved by engineer-in-charge.	12.00	Each	8,271.05	99253.00
98	Providing & fixing Greenlam Sturdo Magna Collection - Maxim Restroom Cubicle or equivalent make (of following standard dimension which includes 700mm door size width) self-supporting 18mm thick compact laminates made out of, urea free, thermosetting phenolic resins treated Kraft papers as core material and Amino plastic resin treated decor papers on the finish surface, conforming to latest and applicable IS: 2046-1995, EN 438:2016 and NEMA LD3-2005 quality standards with Antivirus, Antibacterial and Antifungal properties (conforming to ISO 21702:2019, JIS Z2801:2010 and ASTM G21-2015 standards respectively) to fulfil the applicable requirements of indoor air quality certifications for Greenguard-Gold standards. This also includes providing and fixing in position necessary hardware made out of Stainless steel (Grade 316), Aluminium 6063 -T6 and Anodised Zinc Diecasted hardwares as per manufacturer's specifications, all complete as per direction of engineer-in-charge.				
98.1	Toilet Cubicle with standard dimension of 2425mm Height x 1100mm Width x 1500mm Depth, which includes 700mm door size width). "L"- Shape	13.00	Each	54,678.90	710826.00

99	Providing & fixing Greenlam Sturdo Magna Collection - Maxim Restroom Cubicle or equivalent make (of following standard dimension which includes 700mm door size width) self-supporting 18mm thick compact laminates made out of, urea free, thermosetting phenolic resins treated Kraft papers as core material and Amino plastic resin treated decor papers on the finish surface, conforming to latest and applicable IS: 2046-1995, EN 438:2016 and NEMA LD3-2005 quality standards with Antivirus, Antibacterial and Antifungal properties (conforming to ISO 21702:2019, JIS Z2801:2010 and ASTM G21-2015 standards respectively) to fulfil the applicable requirements of indoor air quality certifications for Greenguard-Gold standards. This also includes providing and fixing in position necessary hardware made out of Stainless steel (Grade 316), Aluminium 6063 -T6 and Anodised Zinc Diecasted hardwares as per manufacturer's specifications, all complete as per direction by Engineer-in-charge.				
99.1	Toilet Cubicle I-Shape (Front Partition) with standard dimension of 2425mm Height x 1100mm Width which includes 700mm door size width). - "I" Shape	3.00	Each	37,962.40	113887.00
100	Providing and fixing Touchless hand dryer in white of make kohler (cat. No. K-5486T-0P) or equivalent model of Grohe, Jaguar, including rawl plug, screw etc. all complete as per direction of Engineer-in-charge.	9.00	Each	24,171.30	217542.00
101	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply and all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.				
	Internal work - Exposed on wall				
101.1	25 mm nominal dia Pipes	80.00	mtr	402.43	32194.00
102	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings and fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. Concealed work, including cutting chases and making good the walls etc.				
102.1	20 mm nominal dia Pipes	30.00	mtr	538.78	16163.00
102.2	25 mm nominal dia Pipes	60.00	mtr	628.63	37718.00
103	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :				

103.1	40 mm dia nominal bore	8.00	Each	827.91	6623.00
104	Providing and fixing uplasticised PVC connection pipe with brass unions :				
104.1	30 cm length				
104.1.1	15 mm nominal bore	43.00	Each	85.19	3663.00
105	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / panelling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :				
105.1	For fixed portion				
105.1.1	Powder coated aluminium thickness of powder coating 50 micron)	40.00	Kg	532.07	21283.00
106	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)				
106.1	Powder coated aluminium (minimum thickness of powder coating 50 micron)	24.00	Kg	635.84	15260.00
107	Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying : (a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/ sqm. This layer will be allowed to air cure for 4 hours. b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.	104.00	Sqm	618.40	64314.00

108	Providing and fixing false ceiling at all heights with integral densified calcium silicate reinforced with fibre and natural filler false ceiling tiles of Size 595x595 mm of approved texture, design and patterns having NRC (Noise Reduction coefficient) of 0.50 (minimum) as per IS 8225:1987, Light reflectance of 85% (minimum). Non combustible as per BS:476 (part-4), fire performance as per BS:476 (part 6 &7), humidity resistance of 100%, thermal conductivity < 0.043 W/m K as per ASTM 518:1991, in true horizontal level suspended on inter-locking metal powder coated T-Grid of hot dipped galvanised iron section of 0.40 mm thick on Silhouette profile rotary stitched double webbed white with 6 mm reveal profile (white/black),comprising of main-T runners of size 15x42 mm of length 3000\ mm, cross - T of size 15x42 mm of length 1200 mm and secondary intermediate cross-T of size 15x42 mm of length 600 mm to form gridmodule of size 600 x 600 mm, suspended from ceiling using galvanised mild steel items (galvanizing @ 80 grams per sqm) i.e. 50 mm long, 8 mm outer diameter M-6 dash fasteners, 6 mm dia fully threaded hangerrod upto 1000 mm length and L-shape level adjuster of size 85x25x2 mm. Galvanised iron perimeter wall angle of size 22x19x0.40 mm of length 3000 mm to be fixed on periphery wall / partition with the help of plastic rawl plugs at 450 mm centerto center and 40 mm long dry wall S.8 screws. The work shall be carried out as per specifications, drawing and as per directions of the Engineer-in-Charge.				
108.1	With 15 mm thick integral densified micro edge weight calcium silicate false ceiling tiles	204.00	Sqm	2636.16	537777.00
109	Providing and fixing 15 mm thick false ceiling tiles at all heights with integral densified calcium silicate reinforced with fibre and natural filler false ceiling tiles of Size 595x595 mm of approved texture, design and patterns having NRC (Noise Reduction coefficient) of 0.50 (minimum) as per IS 8225:1987, Light reflectance of 85% (minimum). Non combustible as per BS:476 (part-4), fire performance as per BS:476 (part 6 &7), humidity resistance of 100%, thermal conductivity < 0.043 W/m K as per ASTM 518:1991,in true horizontal level on the existing frame work consisting of T-sections and Lsections suitably fixed according to tile size as per direction of Engineer-in-charge.	43.00	sqm	1785.10	76759.00
110	Providing and fixing in wall lining with commercial ply conforming to IS : 1328 BWR type including a coat of approved primer on one face,and screws etc. complete as per direction of Engineer-in- charge.				
110.1	12 mm thick	36.00	sqm	1385.50	49878.00



111	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with proding and fixing of wooden beading both side around glass including nesessary screw all complete as per the architectural drawings and the directions of engineer-in-charge .				
111.1	With Toughened glass 12 mm thickness	5.00	Sqm	3590.10	17950.00
112	Providing and fixing plain lining with necessary screws/nuts & bolts/ nails, and fixed on wooden /Aluminium/steel frame work, complete as per direction of Engineer-in- charge (Frame work shall be paid for separately).				
112.1	6 mm thick commercial ply conforming to IS : 1328 BWR type	5.00	sqm	1010.34	5052.00
113	Supply & Installation of slats wall paneling - made out of pinewood fibre boards, perforated wooden grooved slats L8-2/L16-2- (2mm sltas @ 16mm pitchL64-2(2mm grooves@64 mm centers) blacklined with acoustical fleece, tougue-groove edge for a seamless look, lineal dimension size 128mm x 2440mm x 16mm thick having density 700kg/m3, weight 10kgs/m2, installed by using wall Paneling system Almunium core cross channel (CC18) having 0.5mm thick 15& 27mm width height 18 mm, flanges of 7 mm and length 2500 mm of size 128 mm x2430 mm x 16 mm thick in then fixed perpendicular to CC18 with suitable edge & centre bracket Core-Fiberboard Acoustics-NRC up to 0.50 Climate (OC RH) - 50, 70 Light reflectance - 75% Green (RC%) - 25 Hygiene (VoC, Clean room) - Low Class 1strength load capacity (kg)- antisag, ball impact of approved sample including all accesories for fixing of slats, all complete as per direction of Engineer-in-charge.	30.00	sqm	5278.54	158356.00
114	Providing and fixing up to 1mm thick, 16 to 22 mm wide PVC edge binding tape of approved quality and shade fixed to cupboard/wardrobe shutters/edge of slats with adhessive including necessary adhessive/synthetic resin pressed to edges on binding machine/manualy etc. complete as per directions of Engineer- in-charge.	45.00	mtr	37.28	1678.00
115	Providing and fixing Fancy Handle handles (Brass finish) of approved quality & make with necessary screws etc for Flush door shutter all complete.				
115.1	Handle H Type 300mm long CTC ( Overall length 400 mm) and 25 mm Diameter (OD)	12.00	each	2919.20	35030.00
115	Providing, supplying and placing of Q-Manager post made of Stainless Steel (SS -304 grade),with over all post height 1070 to 1100 mm, outer diameter of post pipe 45 to 50 mm, mounted on a weighted base of 340 to 350 mm diameter with or without base height including anti-skid rubber ring. The overall weight of Q-manager post will be 9.40 to 9.50 kg and providing rectangle nylon/polyester belt of 50 mm width and 0.8 mm thickness, with a minimum extended length of 1.80 - 2.0 meters. Belt to be UV-resistant and available in approved color	5.00	Each	3459.31	17297.00



	and shade by engineer in charge, with 4-way connectivity mechanism complete in all respects including necessary accessories of manufacturer and as directed by Engineer-in-Charge.				
	<b>Furnitures Works</b>				
	<b>Auditorium</b>				
116	Supplying and installation of auditorium chair having overall sizes of 450-520 mm (W) x 450-600 mm (D), 700-900 mm (H) as per sample approved by engineer-in-charge. The sizes of seat shall conform to ergonomic criteria. The seat and back assembly shall be made of polyurethane foam (having density of 40-48 kg/m <sup>3</sup> ) moulded either with M.S. tubular frame insert made of 01.9 ± 0.02cm x 0.16 ± 0.013cm thick MS. E.R.W round tube with flexible support straps running across the length and width of the frame which is upholstered with fabric or made up of plywood cover of termite, fire resistant plywood and should be capable of bearing minimum height of 120 kgs. The insert is tubular frame. The seat shall have an auto-tip up feature making it stay in upright position when not in use enabling clear row passage. The back assembly shall have a flexi back mechanism. The chair shall have synchro slide mechanism Seat shall have buffering mechanism to enable soft closing of seat when it is folded and all hole on seat shelf should be noise absorbing. Armrest of chairs should be of fixed type made out of wood and should be provided with option of folding table to be used as writing pad. The chair shall rest on the ground either on two side panel frames (fabricated from 0.12 ± 0.020cm thick CR steel sheet which is clad with fabric upholstery) grouted to the floor using 2 nos. of anchors for each panel through 0.3 ± 0.05 cm thick HR steel base plate or on legs made with cold rolled cold annealed steel duly powder coated with 40-60-micron thickness to provide smooth and clean surface. Seat and back should be wrapped with Titch make O-Fabric of desire colour as per Engineer-In charge with zero formaldehyde glue. Product should be BIFMA gold rated SCS global certified for inhouse air quality and with 05 years warranty	164.00	Each	32627.90	5350976.00
117	Supplying and installation of one seater sofa having the overall dimension of 800-850 (W) mm x 800-850 (D) mm x 700-800 (H) mm. The seat should be made of PU foam with Density 32 ± 2 kg/cum having an additional top layer of PU foam with Density 28 ± 2 kg/cum. Seat should be upholstered with fabric or leatherette. The back should be made of PU foam with Density 28 ± 2 kg/cum with two additional top layers of supersoft foam of density 24±2 kg/cum, upholstered with fabric or leatherette. Under structure should be made up of 1.2±0.1 cm. thick hot-pressed plywood. Spring assembly should be mounted in under structure for support and additional cushioning purpose. Sofa	27.00	Each	17202.05	464455.00

	shall be fully upholstered using leatherette material of approved quality and shade, having cost not be less the Rs. 1000 per meter, duly embossed including providing & fixing of all other required materials and hardware etc. all complete as directed by the Engineer in charge. Product should be BIFMA gold rated and SCS global certified for inhouse air quality and with 05 years warranty.				
118	Supplying and installation of 3-seater sofa having the overall dimension of 1750-1850 (W) mm x 800-850 (D) mm x 750-850 (H) mm. The seat should be made of PU foam with Density $32 \pm 2$ kg/cum having an additional top layer of PU foam with Density $28 \pm 2$ kg/cum. Seat should be upholstered with fabric or leatherette. The back should be made of PU foam with Density $28 \pm 2$ kg/cum with two additional top layers of supersoft foam of density $24 \pm 2$ kg/cum, upholstered with fabric or leatherette. Under structure should be made up of $1.2 \pm 0.1$ cm. thick hot-pressed plywood. Spring assembly should be mounted in under structure for support and additional cushioning purpose. Sofa shall be fully upholstered using leatherette material of approved quality and shade, having cost not be less the Rs. 1000 per meter, duly embossed including providing & fixing of all other required materials and hardware etc. all complete as directed by the Engineer in charge. Product should be BIFMA gold rated and SCS global certified for inhouse air quality and with 05 years warranty.	4.00	Each	28172.45	112690.00
119	Supplying and installation of coffee/centre table having overall size of 1150-1250 mm (W) x 500-600 mm (D) X 400-500 mm (H). Under structure of the table which includes Legs, top wooden frame & bottom tie members shall be made up of first quality teak wood without knots & defects on all faces. Table top shall have 10-12 mm thick toughened glass on top of table. The product should be BIFMA Gold-rated and SCS Global certified for in-house air quality and with 5-year warranty.	8.00	Each	22146.00	177168.00
120	Supplying and installation of mid back chair having overall dimensions of 950-1000 mm (H) X 570-650 mm (W) X 570-650 mm (D) as per sample approved by engineer-in-charge. Seat and back size shall be 470-510 (W) x 480-500 (D) mm and 470-510 (W) x 500-600 (D) mm. Cushion Seat and back shall be made up of insert/injection moulded polyurethane foam seat having density $48 \pm 3$ kg/m <sup>3</sup> , upholstered with foam laminated mesh fabric or leatherette. The armrest height shall be adjustable up to $6.5 \pm 0.5$ cm in 5 steps. The adjustable tilting mechanism should be designed with the 3600 revolving type, front-pivot for tilt, tilt adjustment for back in 5 position locking with antishock feature, back adjustable lumbar support for achieving comfortable seating posture, pneumatic height adjustment of 8.5 cm spine bracket made of aluminium die cast piece connecting to back with	8.00	Each	28923.90	231391.00

	mechanism, seat depth adjustment integrated in the seat through a sliding mechanism with range of 6.0±0.5 cm, base pedestal diameter 65.0cm (approx.) and pitch centre dia. 71.0 ± 4 cm with castors, twin wheel castors injection moulded in Nylon etc. all complete as per manufacturers specification, approved sample and direction of Engineer-in-Charge. Product should be BIFMA gold rated and SCS global certified for inhouse air quality and with 05 years warranty and complete as per the approved sample and as per the direction of Engineer-In-Charge.				
121	Supplying and installation of dining chair having overall dimensions of 450-550 mm (W) X 500-600mm (D) x 850-950 (H) mm. The frame/under structure of chair may be metal or plywood or combination of metal and plywood. The seat and back of the chair shall be with or without cushion and having finish of leatherette/PVC/Fabric as approved by engineer-in charge. Leg of dining chair should be made of rubber wood. Product should be BIFMA gold rated and SCS global certified for inhouse air quality and with 05 years warranty and complete as per the approved sample and as per the direction of Engineer-In-Charge.	152.00	Each	13707.55	2083548.00
122	Supplying and placing of round dining table having overall size of 1100-1300 mm Dia. x 700-800(H) mm. Table top shall be made of 25 mm thick Prelaminated Particle Board (E-1 Grade), finish with matching 2 mm PVC edge-banding and Melamine finish. Grains of the table top to be unidirectional. Table shall have under structure of MS made up of 2mm thick sheet with appropriate section (40mm x 40mm or as required) having epoxy powder coating of thickness 40-60 micron. Product should be BIFMA gold rated and SCS global certified for inhouse air quality and with 05 years warranty and complete as per the approved sample and as per the direction of Engineer-In-Charge.	16.00	Each	27418.05	438689.00
123	Supplying and placing of rectangle dining table having overall size of 1500-1600 (W) mm x 800-1000 (L) mm x 700-800(H) mm. Table top shall be made of 25 mm thick Prelaminated Particle Board (E-1 Grade), finish with matching 2 mm PVC edge-banding and Melamine finish. Grains of the table top to be unidirectional. Table shall have under structure of MS made up of 2mm thick sheet with appropriate section (40mm x 40mm or as required) having epoxy powder coating of thickness 40-60 micron. Product should be BIFMA gold rated and SCS global certified for inhouse air quality and with 05 years warranty and complete as per the approved sample and as per the direction of Engineer-In-Charge.	3.00	Each	55847.70	167543.00

124	Supplying and placing of square dining table having overall size of 1100-1200 (W) mm x 1100-1200 (L) mm x 700-800(H) mm. Table top shall be made of 25 mm thick Prelaminated Particle Board (E-1 Grade), finish with matching 2 mm PVC edge-banding and Melamine finish. Grains of the table top to be unidirectional. Table shall have under structure of MS made up of 2mm thick sheet with appropriate section (40mm x 40mm or as required) having epoxy powder coating of thickness 40-60 micron. Product should be BIFMA gold rated and SCS global certified for inhouse air quality and with 05 years warranty and complete as per the approved sample and as per the direction of Engineer-In-Charge.	2.00	Each	35300.05	70600.00
125	Providing, Assembling & Fixing Kitchen equipment/accessories of approved make & quality all complete as per the direction of Engineer-in-charge.				
a	Providing and fixing of cold bain marie counter with glass sneeze guard 3Nos. 1/1 cold GN Pan with SS (Grade 304) sheet tray slide having following specification - (a) Top & Tray Slide unit: Made of 16 Swg S.S. sheet 304 grade. (b) cold pan unit: Made of 20 Swg S.S. sheet 304 grade (c) Cooling type: Static Cooling (d) Cold pan: 3 Nos. SS Gastronome Pan 1/1, 150mm deep. (e) Insulation: 50mm Puff insulation. (f) Side Paneling: All sides 20 Swg S.S. sheet. Undershelf: 18 Swg SS Sheet. Sneeze Gurd: 10mm Thick transparent polycarbonate sheet. MS Angle Frame work 40x40x3mm painted with duly rust-free paint. (g) Static cooling $\frac{3}{4}$ HP Kirloskar/Tecumseh/Danfoss compressor. (h) Legs: 38mm Dia/Sq 16 Swg S.S. pipe with adjustable feet including providing all accessories as per functional requirement etc. all complete as per the direction and entire satisfaction level of Engineer in charge.	2.00	Each	82080.15	164160.00
	Size 1200x750+300x850+500mm				
b	Providing and fixing of bain marie counter with glass sneeze gurd 5Nos. 1/1 Hot GN Pan with SS (Grade 304) sheet tray slide having following specification - (a) Top & Tray Slide unit: Made of 16 Swg S.S. sheet 304 grade (b) Frame: MS Angle Frame work 40x40x3mm duly rust free painted. (c) Tank: Made of SS. sheet 304 grade. (d) Undershelf: 18 Swg SS Sheet. (e) Outer cover: 20 swg. SS Sheet. (f) Drain: 1.5" dia. drain valve & Water Inlet: $\frac{1}{2}$ " dia. water inlet valve. (g) Elements: 3 KW element for Bain Marie and Electrical panel: On & off switch with light indicator and thermostat control (h) Legs: Unit will be mounted on 1.5" dia/Sq. SS. with adjustable feet Insulation: Entire unit will be insulated with 2" thick Glass wool including providing all accessories as per functional requirement etc. all complete as per the direction and entire satisfaction level of Engineer in charge.				
	Size 1850x750+300x850+500mm	2.00	Each	95318.85	190638.00

c	Providing and fixing rectangle/square (as per approved shape by engineer in charge) plate counter with door made of stainless steel (Grade 304 ) having under self-made of 20SWG thick SS sheet, Frame: MS Angle Frame work 40x40x3mm duly rust free painted and legs will be 38 mm dia/sq SS pipe with nylon adjustable feet including providing all accessories as per functional requirement etc. all complete as per the direction and entire satisfaction level of Engineer in charge.				
	Size 900x750x850mm	1.00	Each	27536.55	27537.00
d	Providing and fixing of Soil dish Landing Table with Garbage Chute of following specification -(a) Top & Back Splash: Made of 16 swg S.S. sheet 304 grade (b) Garbage Chute: 6" dia, 4" deep made of 16 swg sheet 304 grades (c) Frame:38x38x3mm thick MS angle framework Upright: 38mm dia/Sq SS pipe with adjustable feet +/- 30 mm. Cross Bracing: 25mm dia/ Sq. Three sides bracing front open including providing all accessories as per functional requirement etc. all complete as per the direction and entire satisfaction level of Engineer in charge.				
	Size 1250x600x850+150mm	1.00	Each	20255.25	20255.00
e	Providing and fixing of two Sink loading table of following specification - (a) Top & Back Splash: Made of 16 Swg 304 grade S.S. sheet. (b) Rack Slide/Dishwasher Attachement to be made according to dishwasher machine.(c) Sink: 16 Swg S.S. 304 grade S.S. sheet with all inside corners covered to 25 mm radius. (d) Front side covered/appron with 20 swg SS Sheet. (e) Frame:38x38x3mm thick ms angle framework (f) Leg: Legs will be made of 1.5" S.S. Dia/Sq pipe with adjustable bullet feet. Upright:38mm dia/Sq s.s. pipe with adjustable feet +/- 30 mm including providing all accessories as per functional requirement etc. all complete as per the direction and entire satisfaction level of Engineer in charge.				
	of Size 1200x750x850+150mm	1.00	Each	34685.45	34685.00
f	Providing and fixing of pre rinse unit (as per approved sample of engineer in charge) of following specification - (a) Body Mount: Deck type (b) Cartridge-Spindle: Single Lever Ceramic (c) Feature: 6 inch Wall Bracket (152.4 mm), Check Valve, EPAct 2005 (Non-Compliant ) having finish of polished Chrome (d) Inlet: 1/2 in NPSM Female (G1/2 Compatible), 15 mm Copper Tubing or 1/2 in NPSM Male and G1/2 Female (1/2 BSPP) of Brass Construction material (d) Spray Valve: Equip Hi-Flow Spray Valve including providing all accessories as per functional	1.00	Each	26212.70	26213.00

	requirement etc. all complete as per the direction and entire satisfaction level of Engineer in charge.				
g	Providing and fixing of Hood type dish washer made of S.S Sheet (grade of S.S Sheet 304) of following specification-(a) Dimensions (W x D x H - cm) - 64 x 74 x 151 (b) Rack Size (cm) - 50 x 50 (c) Door Opening (W x H - mm) - 40 (d) Water Consumption (Leter per Cycle) - 2.2 (e) Electrical Connection (V/Hz/ph) - 400/50/3, (f) Cycles (secs) - 3 (60 - 120 - 150 ) (g) Required Electric Power (Kw/Amp) - 8.5/16 (h) Required Water Pressure (Bar) - 2 - 4 and Water TDS: 40 to 100ppm, (i) Conductivity lower than 300 Micro Siemens (j) Rinse Temperature - 80 (°C) (k) Wash Temperature (°C) - 60 including providing all accessories as per functional requirement etc. all complete as per the direction and entire satisfaction level of Engineer in charge.	1.00	Each	344206.95	344207.00
h	Providing and fixing of Unloading table with rack slide made of S.S Sheet 304 grade of following specification- (a) Top & Back Splash Made of 16 Swg 304 grade S.S. sheet (b) Rack Slide/Dishwasher Attachement to be made according to dishwasher machine. (c) Rack Holding Space Storage Underneath. (d) Frame:38x38x3mm thick M.S angle framework and Legs will be made of 1.5” S.S. Dia/Sq pipe with adjustable bullet feet.(e) Upright:38mm dia/Sq s.s. pipe with adjustable feet +/- 30 mm. including providing all accessories as per functional requirement etc. all complete as per the direction and entire satisfaction level of Engineer in charge.				
	of size 900x750x850+150mm	1.00	Each	26212.70	26213.00
i	Providing and fixing of SS Storage Rack (S.S Sheet 304 garde) of following specification- (a) The heavy duty 5 tier shelf are made of 18 swg ss sheet on 4 nos. uprights on adjustable bullet feet for uneven floor.The Structure of the rack will be made of 1.5” S.S. Square Pipe, Provided adjustable bullet feet. including providing all accessories as per functional requirement etc. all complete as per the direction and entire satisfaction level of Engineer in charge.				
	of size 900x450x1800 MM	1.00	Each	20520.05	20520.00
i	Providing and fixing of Vapour Hood of following specification-(a) Complete frame work made of 20 swg stainless steel (304 grade) and all joints will be air tight insulated, weather proof mechanically painted on the Upper surface. including providing all accessories as per functional requirement etc. all				

	complete as per the direction and entire satisfaction level of Engineer in charge.				
	of size 900x900x500 MM	1.00	Each	20520.05	20520.00
126	<p>Supplying, installation, fixing in position factory made U Type 18-Seater Conference Table with Decorative Particle Board with Veneer as approved of required size 7500 (L) mm x 2400 (W) mm x 750 (H) mm with two-seater module of size – 1500(L) x 750(D) x 750(H) mm. The conference table top shall be having depth and height for each seating 750 mm; table top shall be made out of 36 mm thick particle board with veneer on both side of approved colour. For additional strength wooden framing should be provided between both the particle board of table top. The side panel / vertical support shall be made out of 36 mm thick Particle Board with Veneer of MR grade shall be supporting below the working table top and front modesty shall be made out of 18mm thick Particle Board with Veneer of MR grade having height of minimum 650 mm shall be fixed at front side of table top. Vertical support shall be given after two seating of minimum of 1500mm intervals. Table top surface, both sides of vertical support/ side panel and both sides of modesty shall be pasted with minimum 3.50 mm thick veneer with hot pressed glue/ adhesive of approved quality. Balancing Laminate pasted below the table top shall be of thickness of 0.60 mm in gloss / matt finish with high density protective surface layer pasted with hot pressed glue including cost of glue/ adhesive of approved quality. There shall be provision of Openable raceways for operating with double end lock attached below the table top for all data and electric wiring flow should be made out of 18mm thick Particle Board with Veneer of MR grade including with 0.60mm thick laminate matching with tabletop colour. Raceway having cut outs of required sizes for installing electric switch boards (switch samples provided by engineer in charge). Separate slots shall be there for passage of data and electrical wires. The frames designed to easily handle CAT6 wire at entry points. Two numbers of powder coated MS tube size 50 x 50 x 1.2mm thick should be provided for electrical &amp; data cable flow. The working or non-working edges shall be provided with veneer edge binding using with special hot melt glue at hot temperature. All necessary hardware/fitting/hinges etc. shall be of approved make and quality. All veneered portion shall be polished with minimum four layered PU coating with sprayed finish in desired shade using base material. For installation of table wooden dowels and minifix shall be used for additional support. The product shall be BIFMA Gold-rated and SCS Global certified for in-house air quality, with 5-year warranty.</p>	1.00	each	463912.65	463913.00



127	<p>Providing, supplying and placing High Back Revolving chairs with Headrest having overall size of 570-650(W) mm x 570-650 (D) mm x 1150-1220 (H) mm. Seat and back size shall be 470-510 (W) x 480-500 (D) mm and 470-510 (W) x 500-600 (H) mm. Cushion Seat and back shall be made up of insert/injection moulded polyurethane foam seat having density <math>48 \pm 3</math> kg/m<sup>3</sup>, upholstered with foam laminated mesh fabric or leatherette. The armrest height shall be adjustable up to <math>6.5 \pm 0.5</math> cm in 5 steps., armrest top injection moulded in polyurethane and mounted on the injection moulded height adjustable type armrest, armrest height adjustable up to 4.5 cm (approx.) in 3 steps &amp; width movement adjustable, 360-degree revolving type. mechanism, single point control for seat and back adjustment, front pivot for tilt, tilt adjustment for back in 3 position locking with antishock feature, pneumatic height adjustment of 8.5 cm spine bracket made of aluminium die cast piece connecting to back with mechanism, The pedestal shall be made of nylon base.it shall be fitted with 5 nos twin wheel castor. The size of the pedestal shall be 670mm pitch-centre-dia 700-720mm with castors). The twin wheel castors shall be made of Nylon injection moulded in black colour. The product is BIFMA Gold-rated and SCS Global certified for in-house air quality, ensuring compliance with industry standards. It comes with a 5-year warranty, reflecting its quality and durability. All specifications are completed as per the manufacturer's guidelines, approved samples, and the direction of the Engineer-in-Charge.</p>	2.00	each	26342.80	52686.00
128	<p>Supplying and installation of mid back chair having overall dimensions of 950-1000 mm (H) X 570-650 mm (W) X 570-650 mm (D) as per sample approved by engineer-in-charge. Seat and back size shall be 470-510 (W) x 480-500 (D) mm and 470-510 (W) x 500-600 (H) mm. Cushion Seat and back shall be made up of insert/injection moulded polyurethane foam seat having density <math>48 \pm 3</math> kg/m<sup>3</sup>, upholstered with foam laminated mesh fabric or leatherette. The armrest height shall be adjustable up to <math>4.5 \pm 0.5</math> cm in 3 steps. The adjustable tilting mechanism should be designed with the 3600 revolving type, front-pivot for tilt, tilt adjustment for back in 3 position locking with antishock feature, back adjustable lumbar support for achieving comfortable seating posture, pneumatic height adjustment of 8.5 cm spine bracket made of aluminium die cast piece connecting to back with mechanism, seat depth adjustment integrated in the seat through a sliding mechanism with range of <math>6.0 \pm 0.5</math> cm, base pedestal diameter 65.0cm (approx.) and pitch centre dia. <math>71.0 \pm 4</math> cm with castors, twin wheel castors injection moulded in Nylon etc. all complete as per manufacturers specification, approved sample and direction of</p>	16.00	each	24169.25	386708.00



	Engineer-in-Charge. Product should be BIFMA gold rated and SCS global certified for inhouse air quality and with 05 years warranty and complete as per the approved sample and as per the direction of Engineer-In-Charge.				
129	Supplying and installation of medium back Non-Revolving Chair having overall size of 450-550 (W) mm x 450-550 (D) mm x 900-950 (H) mm. The outer frame of the backrest shall be made of injection moulded in black 20% Glass Filled Polypropylene and inner frame made up of injection moulded in black polypropylene. The back has fix lumber support for achieving comfortable seating posture. The seat shall be made up of 12 mm thick (7 layers) hot pressed plywood and moulded seat foam upholstered with fabric. Seat foam shall be made out of moulded polyurethane foam. The armrest (adjustable up to 70 mm) shall be made up of thermo Polyurethane with 40 - 55 Shore Hardness and reinforced with 4 mm thick nylon insert. Size of arm pad shall be 200-250 mm (L) x 75-90 mm (W). The handle is fitted to the seat with seat/handle connecting strip assembly made of 35% Glass filled nylon 20 mm thick. Adjustable arm rest with height adjustment up to 70 mm. Minimum and Maximum height of armrest shall be of 200 mm / 350 mm respectively. The product is BIFMA Gold- rated and SCS Global certified for in-house air quality, ensuring with 5-year warranty.	20.00	each	15449.00	308980.00
130	Supplying and installation of 3-seater sofa having the overall dimension of 1950-2200 (W) mm x 800-1000 (D) mm x 800-1000 (H) mm, Seat Size: 1700-1900 (W) mm x 500-600 (D) mm x 500-600 (H) mm, with wooden structure fabricated using hardwood of approved quality, duly seasoned and anti-termite treated with approved chemical and methodology. The wooden base frame of the sofa shall be provided with M.S. helical spring along with high quality elastic belt 70-80mm, sides & back with 40-60mm elastic belt, seat & back covered with jute & foam covered with Polyfilla & finished with thick marking cloth before doing final finish with leatherette material. The component specification shall be as follows: i) Seat - 100mm thick with 40-48 Kg/cum density PU Foam, back – 50 mm thick with 32 - 40Kg/cum density PU foam, Sides (inside) - 11mm thick with 32-40 Kg/cum density PU Foam, Sides (outside) & back (back side) - 13mm thick with 32-40 Kg cum density PU foam, Seat shall rest on wooden legs supported on solid wooden section of height 50-180mm. All Wooden work should be in white Ash / Teak wood polish with melamine & PU coating. Base of sofa should be infilled with suitable wooden sections so as to give proper support to the seat height of the base of sofa. Finished width of arm shall be 100 - 180mm	4.00	each	123477.40	493910.00

	(Approx.) after upholstery work. Sofa shall be fully upholstered using leatherette material of approved quality and shade, having cost not be less the Rs. 1000 per meter, duly embossed including providing & fixing of all other required materials and hardware etc. all complete as directed by the Engineer in charge. Product should be BIFMA gold rated and SCS global certified for inhouse air quality and with 05 years warranty.				
131	Supplying and installation of one seater sofa having the overall dimension of 800-1000 (W) mm x 800-900 (D) mm x 800-900 (H) mm, Seat Size: 600-800 (W) mm x 500-600 (D) mm x 500-600 (H) mm, with wooden structure fabricated using hardwood of approved quality, duly seasoned and anti-termite treated with approved chemical and methodology. The wooden base frame of the sofa shall be provided with M.S. helical spring along with high quality elastic belt 70-80mm, sides & back with 40-60mm elastic belt, seat & back covered with jute & foam covered with Polyfilla & finished with thick marking cloth before doing final finish with leatherette material. The component specification shall be as follows: i) Seat - 100mm thick with 40-48 Kg/cum density PU Foam, back – 50 mm thick with 32 - 40Kg/cum density PU foam, Sides (inside) - 11mm thick with 32-40 Kg/cum density PU Foam, Sides (outside) & back (back side) - 13mm thick with 32-40 Kg cum density PU foam, Seat shall rest on wooden legs supported on solid wooden section of height 50-180mm. All Wooden work should be in white Ash / Teak wood polish with melamine & PU coating. Base of sofa should be infilled with suitable wooden sections so as to give proper support to the seat height of the base of sofa. Finished width of arm shall be 100 - 180mm (Approx.) after upholstery work. Sofa shall be fully upholstered using leatherette material of approved quality and shade, having cost not be less the Rs. 1000 per meter, duly embossed including providing & fixing of all other required materials and hardware etc. all complete as directed by the Engineer in charge. Product should be BIFMA gold rated and SCS global certified for inhouse air quality and with 05 years warranty.	4.00	each	62917.55	251670.00
132	Providing & Placing of Medium Back Visitors chairs having overall size of 600-650 (W) mm x 500-600 (D) mm x 900-1000 (H) mm as measured till base of pedestal. The seat shall be made up of 12mm thick hot-pressed plywood & upholstered with Leatherette and moulded medium density foam. The back shall be designed with contoured lumber support for extra comfort. Size of back shall be 500-600 (W) mm x 500-600 (H) mm & size of seat shall be 500-550 (W) mm x 450-500 (D) mm. medium density foam should be used in making	18.00	each	43646.00	785628.00

	seat & back which shall be moulded with density 48kg/m <sup>3</sup> and hardness load 16kgf. The seat and back should be arrested together with spine made of 8mm thick HR steel and should be powder coated in black with 40-60 micron. The fixed armrest shall be made of aluminium with PU padded. The base should be cantilever type steel base of round tube. Base along with nylon anti slip buffers. Product should be BIFMA gold rated and SCS global certified for inhouse air quality and with 05 years warranty and complete as per the approved sample and as per the direction of Engineer-In-Charge.				
133	Supplying & fixing of office Table of Size 2700-3000 mm (L1) x 2100 mm (L2) x 1000-1100 mm (D1) x 600 mm (D2) x 740-760mm (H1) with side unit. The top shall be made of 60-70mm thick E1 grade MDF (Environmental Friendly) with 0.4mm thick Veneer Finish , Edge banding (PVC) 2mm. The Closed wiring tray shall be made of steel sheet thickness 1.2mm with epoxy powder coated spray applied colour, baked at temperature 200 C°. Below the access flap, top shall be supported on one side suspended side combo storage & one side on three drawer unit made of 19mm thick E1 grade MDF Board (Environmental Friendly) with 0.4mm thick Veneer Finish. Drawer unit & side combo storage connecting with 19mm thick MDF modesty panel with matching finish cover Edge banding (PVC). Side Combo Storage shall be made out of 19 mm thick (E1 Grade) MDF board with 0.4 mm veneer with PVC edge-banding. Side Combo Storage is combination of 2 nos. swing shutter & Open space. The storage should have extruded aluminium handle, as per requirement. Storages should be provided with adjustable levellers. Door lock should be of three-way lock mechanism, the hinged doors. The product is BIFMA Gold-rated and SCS Global certified for in-house air quality, with 5-year warranty.	1.00	each	567553.05	567553.00
134	Supplying & Fixing of Modular Back Storage of size 1000 (W) mm x 400-500 (D) mm x 2000-2100 (H) mm. Body of storages shall be made out 19 mm thick (E-1 Grade) MDF board with 0.4 mm veneer with PVC edge-banding. Back Storage shall be combination of Wooden shutter & open shelf in two height 750mm + 1250mm. The wooden shutter shall be made out of E1 grade MDF. All shelf shall be adjustable. The storage should have extruded aluminium handle/ recess handle, as per requirement. Storages should be provided with adjustable levellers. Door Lock should be of three-way lock mechanism, the hinged doors can be locked at once. Door should be provided with Hinge-damping mechanism to enable soft closing of doors. The product is BIFMA Gold-rated and	1.00	each	94358.95	94359.00

	SCS Global certified for in-house air quality, with 5-year warranty.				
135	Supplying & fixing of High Back chairs for Office Cabin having the overall size of overall size of 570-650(W) mm x 570-650 (D) mm x 1150-1250 (H) mm as measured till base of pedestal. The seat shall be made up of 12mm thick hot-pressed plywood & upholstered with leatherette and moulded with medium density foam. The back shall be designed with contoured lumber support for extra comfort. Seat and back size shall be 500-550 (W) x 450-500 (D) mm and 500-550 (W) x 650-750 (H) mm. Cushion Seat and back shall be made up of insert/injection moulded polyurethane foam seat having density 48±3 kg/m <sup>3</sup> , and hardness load 16kgf. The seat and back should be arrested together with spine made of 8mm thick HR steel and should be powder coated in black with 40-60 micron. The fixed armrest are made of aluminium with PU padded. The mechanism of the chair shall have following features: 360-degree swivel type, Knee Tilt mechanism, Seat & back tilting ration of 1: 1.5, Front pivot for tilt, multiple locking position. Gas lift shall allow 10mm of height adjustment. The pedestal shall be made of die-cast aluminium base. It shall be fitted with 5 nos. twin wheel castor. The size of the pedestal shall be 670mm pitch-centre-dia 700-720mm with castors). The twin wheel castors shall be made of Nylon injection moulded in black color. The product is BIFMA Gold-rated and SCS Global certified for in-house air quality with a 5-year warranty.	1.00	each	61264.25	61264.00
136	Providing & fixing round discussion table of size 1500 mm diameter and 700-750 mm height. Top of the table shall be made of 25 mm thick Prelaminated Particle Board (E-1 Grade), finished with matching 2 mm PVC edge-banding and Melamine or PU polish. Grains of the table top to be unidirectional. The under structure of the table shall be made out of steel and have round base based with epoxy powder coating of 40–60-micron thickness. The product has a knock-down construction. Cutout for standard Anchor Roma 6 Module is provided for electrical fittings. An additional cutout with a plate is provided for mounting Audio-Visual Cables (e.g. HDMI,VGA-A, etc.). The 3D removable panels are provided for ease of serviceability. The product is BIFMA Gold-rated and SCS Global certified for in-house air quality with 5-year warranty.	1.00	each	54084.60	54085.00

137	Providing and placing in position single bed of overall size 2000-2100 (L) mm x 1050-1150 (W) mm X 800-900 (H) mm. The under structure shall be made of 'C' type frame & Cross members are made up of 25X25X1.2mm thick MS Square pipe conforming to IS 4923 and the frame finished with powder coating of 40-60 micron. Horizontal plinths and bottom plinth are made of 25mm thick prelaminated particle board (E-1 Grade), melamine finishes with matched 2 mm thick PVC edge-banding. Head Board/Tail Board/ Side rail board shall be made of 18mm thick prelaminated particle board (E 1 Grade), melamine finishes with matched 2 mm thick PVC edge-banding. Mattress panels of Bed are made of 18 mm thick Prelaminated Particle Board (E-1 Grade), melamine finishes with matched 2 mm thick PVC edge-banding. Construction shall be of Knock Down Construction. The product is BIFMA Gold-rated and SCS Global certified for in-house air quality, with 5-year warranty.	1.00	each	46373.25	46373.00
138	Supplying and fixing cafeteria table of size shall be 800-900 (W) mm x 800-900 (D) mm x 700-800 (H) mm. The top shall be made of 25 mm thick Prelaminated Particle Board (E-1 Grade), finish with matching 2 mm PVC edge-banding and Melamine finish. Grains of the table top to be unidirectional. The under structure shall be made up of metal with powder coating of 40-60 micron. The product is BIFMA Gold-rated and SCS Global certified for in-house air quality, with 5-year warranty.	1.00	each	33268.15	33268.00
139	Supplying and fixing corner table of overall dimensions of 650-650 mm (D) X 550-650 mm (W) X 450-550 mm (H). Table top should be toughened glass of 08 mm thickness. The under structure shall be made of first quality teak wood without knots & defects on all faces. Top of frame should be provided of size 80mm x 25mm thick first quality teak wood. The product is BIFMA Gold-rated and SCS Global certified for in-house air quality, with 5-year warranty.	6.00	each	21378.60	128272.00
<b>Total</b>					<b>359,69,671</b>

# **PART-C**

## **ADDITIONAL CONDITIONS, SPECIFICATIONS AND SCHEDULE OF QUANTITIES APPLICABLE TO ELECTRICAL AND MECHANICAL COMPONENT OF THE WORK**

### **ADDITIONAL CONDITIONS**

1. The scope includes Planning, Designing & preparation of shop Drawings for E&M services, obtaining approvals from the department, supplying, Installation, testing and commissioning of Internal Electrical Installations, Point Wiring, Power wiring, LT Cabling Work, LED light Fittings, Ceiling fans, Switch boards, MCB/MCCBDBs, Audio Visual equipment's, Network switches, PTZ cameras, etc. as per CPWD specifications and relevant BIS standards, as amended upto last date of submission of bid including extensions if any, good engineering practice.
2. The work shall be carried out strictly in accordance with CPWD specification for electrical works CPWD general specification Part-I (Internal) 2023, Part- II (External) 2023, Part -IV (Substation) 2013, Part-VI Fire detection and alarm System-2018, Part-V (Wet riser & Sprinkler System) 2020, and amended up to date and in accordance with Indian Electricity Rules, 1956, India Electricity Act, 2003, ECBC 2017 as amended up to date and NBC 2016 as amended up to date and as per instructions of the Engineer-in-Charge i/c as below and nothing extra will be paid.
3. The scope of works & specification is given in general but they are not exhaustive i.e. does not mention all the incidental works required to be carried out for complete execution of the item of work. The work shall be carried out, all in accordance with true intent and meaning of the specifications and the drawings taken together, regardless of whether the same may or may not be particularly shown on the drawings and/ or described in the specifications, provided that the same can be reasonably inferred there from. There may be several incidental works, which are not mentioned in the contract document/specifications but will be necessary to complete the item in all respect.
4. All these incidental works/ costs which are not mentioned, but are necessary to complete the work shall be deemed to have been included in the overall amount quoted by the contractor for various components of work. No adjustment of rates shall be made for any variation in quantum of incidental works due to variation/change in actual working drawings.
5. Adjustment of rates shall not be made due to any change in incidental works or any other deviation in such element of work (which is incidental to the items of work and are necessary to complete such items in all respects) on account of the directions of Engineer-in-charge. Nothing extra shall be payable on this account.
6. Agency will get the scheme approved from the local bodies wherever required before start of the work and if required after completion of the work also.
7. The contractor shall obtain all applicable mandatory approval for the work and No Objection Certificate / Consent for Establishment from local body authorities like local Fire department, local town planning authority, local ground water authority, local electricity supply authority, local pollution control board, Forest department, Environment clearance, Lift inspectorate, Central Electricity Authority etc.

8. The contractor has to prepare all the documents as required and submit directly to the local Statutory bodies. the contractor shall at his own cost collect field samples and carry out all Necessary tests required for submission of necessary applications. The contractor has to comply and, if necessary, resubmit applications which are required by the local bodies. If required the contractor has to appoint at his own cost consultants for obtaining local body approval. The statutory payments or fees shall be paid by the department.
9. Three final copies of the documents prepared shall be submitted to Engineer-in-charge for record. All the documents created out of the assignment will become the sole property of the Department. The contractor shall obtain completion certificate after completion of the project from statutory local bodies, if applicable, before handing over.
10. Stage Payment for E&M packages: The following percentage of contract rates shall be payable against the stages of work shown herein:

S.No.	Stage of Work	Payment terms in %
1	On initial inspection of materials and delivery at site in good condition on basis	50%
2	On completion of installation	25%
3	On completion of testing and commissioning	20%
4	On Handing Over	5%
	<b>Total</b>	<b>100%</b>

11. **ELIGIBILITY CRITERIA FOR ASSOCIATE AGENCY:** The Composite category contractor is also eligible to carry out electrical and mechanical services works himself/herself without associating any specialized agency provided he fulfils the prescribed eligibility criteria respectively for these work(s) as mentioned below:

a) **Eligibility Criteria for Audio, visual system:**

Agency should have satisfactorily completed the similar works as mentioned below during the last 7 years ending last date of month previous to the one in which tender is invited.

Three similar works each costing not less than 40% of the estimated cost put to tender.

OR

Two similar works each costing not less than 60% of the estimated cost put to tender.

OR

One similar works each costing not less than 80% of the estimated cost put to tender.



Similar work shall mean **“SITC of Audio, visual system”**. **Estimated cost shall mean total amount of all the items in schedule of quantity related to similar work.**

b) **Eligibility Criteria for HAVC:**

Agency should have satisfactorily completed the similar works as mentioned below during the last 7 years ending last date of month previous to the one in which tender is invited.

Three similar works each costing not less than 40% of the estimated cost put to tender.

OR

Two similar works each costing not less than 60% of the estimated cost put to tender.

OR

One similar works each costing not less than 80% of the estimated cost put to tender.

Similar work shall mean **“SITC of HVAC”**.

**Estimated cost shall mean total amount of all the items in schedule of quantity related to respective specialised work.** The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to the previous day of last date of submission of bids. Copy of completion certificate(s) issued by the officer of the client department, not below the rank of Executive Engineer of equivalent. The completion certificate must clearly indicate: -

- (a) Name of Work
- (b) Stipulated date of start and actual date of completion.
- (c) Tendered amount, Gross value of work done.
- (d) Copy of TDS certificate in case of works are executed for private sector.
- (e) That the work has been completed satisfactorily.
- (f) Full address of the client, officer issuing certificate and location where work is executed.
- (g) Schedule of work/Agreement copy.

12. The contractor has to submit MOU with associated contractor (in case electrical contractor is associated), engineers name, credential, email address & mobile no. before start of work. The main agency should possess a valid electrical contractor licence for executing EI works otherwise he has to associates contractor having valid electrical contractor licence.
13. All the material to be used by the contractor on this work and their Technical Data Sheet shall be got approved from the Engineer-in-Charge in advance before installation at the site.
14. The work shall be carried out according to instructions of the Engineer-in-Charge.

15. All damages done to the building during the execution of electrical work shall be the responsibility of the contractor and the same will be made good immediately at his own cost to the satisfaction of the Engineer-in-Charge. In case, the repair is not satisfactory, the department will get it rectified & any expenditure incurred by the department in this connection shall be recovered from the contractor and decision of the Engineer-in-charge about recovery shall be final & binding on the contractor.
16. The bad workmanship will not be accepted and defects shall be rectified at contractor's cost to the satisfaction of the Engineer-in-Charge. The program of electrical works is to be coordinated in accordance with the civil work.
17. All the debris of the electrical works should be removed and the site should be cleared by the contractor immediately after the accruing of debris daily. Similarly rejected material if any should be immediately cleared off from the site by the contractor.
18. Cement for work is to be arranged and used by the contractor himself and nothing extra will be paid on this account.
19. The contractor or his engineer is bound to sign the site order book as and when required by the Engineer-in-Charge and to comply with the remarks therein.
20. The size of conduit and wiring layout shall be got approved from the Engineer-in-Charge before the execution of work.
21. The contractor shall make his own arrangement at his own cost for Electrical/ General tools and plants required for the work. In case, proper tools are not available, the department will purchase the tools for bonafide use of work at the risk & cost of the contractor.
22. Main board and main distribution board: The work shall be carried out according to the drawing/details as approved by the Engineer-in-Charge. The contractor shall have to get the sample approved before the whole lot is brought to site. The main board, distribution board shall be properly labelled.
23. No tax shall be separately paid by the department. The rates tendered should be inclusive all taxes and duties. Statutory deductions at source shall be made while releasing payment through running/final bills as applicable. A certificate specifying the rate and amount of deduction shall however be issued by the department. The entire installation shall be at the risk and responsibility of the contractor until these are tested and handed over to the department. The watch & ward is the responsibility of the contractor till handing over.
24. Notwithstanding the schedule of quantities, all items of interrelated works considered necessary to make the installation complete and operative are deemed to be included, shall be provided by the contractor at no extra cost.
25. The connection inter connection, earthing and inter earthing shall be done by the contractor wherever required and nothing extra shall be paid on this account.

26. Nothing extra shall be paid for inter connections with thimbles/Wires/Tapes strips etc. used on the work.
27. The contractor has to make his own arrangements for stores and watch and ward and no extra claim for this will be entertained.
28. The contractor shall make his own arrangements for electrical power supply for the construction activities. No extra payments for the same will be made.
29. Make of MCB/MCCB shall be the same as the make of MCB DB.
30. The contractor shall furnish the proof to the satisfaction of Engineer-in-charge regarding purchase of Wires, Modular switches & accessories, MCBs MCBDB fan & fixture and accessories and other items, from the manufactures authorized outlets.
31. All PVC/MS conduits accessories shall be ISI marked. The conduits shall be terminated as switch boxes/metallic junction boxes with suitable glands/check nuts.
32. Cutting of brick walls shall be done with due care. All repairs and patch works shall be neatly carried out to match the original finish and to the entire satisfaction of the Engineer in Charge.
33. All the sub main and circuits wiring includes loose wire for connections inside switch boxes and MCB DBs. No payment for these loose wires shall be made.
34. To facilitate drawing of wires, 18 SWG GI fish wire shall be provided along with laying of recessed conduit for which no extra payment shall be made. Conduits laid for other services, like TV, Telephone etc., where wiring is not done along with IEI work, fish wire shall be invariably drawn.
35. The connection between incoming switch/isolator and bus bar shall be made with suitable size of thimble and cable at no extra cost.
36. Copper conductor of insulated cables of size 1.5 Sq.mm and above shall be stranded and terminals provided with crimped lugs.
37. All hardware items such as screws, thimbles, GI wire etc. which are essentially required for completing an item as per specification will be deemed to be included in the item even when the same have not been specifically mentioned.
38. All hardware items such as nuts/bolts/screws/washers etc. to be used in work shall be of zinc/cadmium plated iron.
39. While laying conduit, suitable size junction boxes shall be provided for pulling the wire as per the decision of the Engineer-in-charge.
40. Materials to be used in work are to be ISI marked. The make of the materials has been indicated in the list of preferred makes. No other makes will be acceptable. The materials to be used in the work shall be got approved by the Engineer in Charge before its use at

site. The Engineer-in-charge shall reserve the right to instruct the contractor to remove the material which, in his opinion, is not acceptable.

41. Where switches / sockets / regulator / telephone / TV / internet outlets are to be provided, the same shall be of only one make. Modular accessories for UPS outlets shall be of distinguishable colour.
42. The materials used in the work shall be of approved make as per list of preferred makes. The decision of Engineer-in-charge shall be final.
43. The defect liability period of whole E & M including Audio visual works shall be 5 years from the date of record of completion of work from the competent authority.
44. The contractor shall have to work as per the convenience of the concerned Department.
45. Any conduit which is not to be wired by the contractor shall be provided with GI fish wire for wiring for some other agency subsequently. Nothing extra shall be paid for the same.
46. The tenderer should either himself meet the eligibility conditions for the respective E&M components or otherwise he will have to associate with agencies, fulfilling the eligibility requirements and hence consent letter from eligible Associate Agency of the respective components of E&M work shall also be submitted as per attached **Proforma in Form “A”**.
47. In case the main contractor is himself eligible (as per eligibility criteria) for executing any specific minor component and intends doing the job himself, he may not be required to associate with another agency for that minor component of work. In such cases the main contractor also has to submit the documents as per eligibility criteria mentioned for associated agency of individual E&M component.
48. In support of the eligibility conditions of the proposed Associated Contractor, copy of their registration documents, Electrical License, GST Documents, PAN no., Work experience certificate duly attested by the applicants (Main Contractor) shall be submitted to the **Executive Engineer, CED-I, CCU** for approval. Each such Associated Contractor will certify that they are not debarred as on the day of application for tender participation. Proposal for associating agency for minor components of work shall be submitted in **Form ‘B’** of this tender document from each associate independently for all electrical and mechanical components.
49. The main contractor should submit an affidavit of MoU signed with eligible associated contractor. The MoU in the enclosed **Form ‘C’** shall be signed by both the parties, main contractor as 1<sup>st</sup> party and associated contractor as 2<sup>nd</sup> party independently for all electrical and mechanical components.
50. In the event of the concerned E&M agency not performing satisfactorily or failure of associate contractor to complete the E&M work, the main contractor on written directions of the department, shall remove the Associate contractor deployed on the work and shall submit name of new associate agency who fulfil the conditions mentioned in the NIT to

execute the leftover work without any loss of time or variation in cost to the department. **Such associates shall also give an undertaking along with the main tenderer but both of them together will stand guarantee for the equipment's already supplied for which payment has been released by the department in part.** If any equipment supplied for the work, during the currency of the earlier Associate contractor and paid partly by the Department, becomes redundant / not in a position to be installed and commissioned and put to beneficial use due to change in agency for execution of E&M work, the main contractor shall be liable for replacement of the equipment(s) at no cost to Department. No change of Associated Contractor will be allowed without prior approval of the Engineer-in-charge of the work.

51. In respect of all works i.e., Electrical installation., the materials shall be procured only from the original equipment manufacturers / authorized dealers of OEM. The contractor shall submit all documentary details in fulfilment of these conditions regarding procurement of materials including relevant test certificates.
52. The defect liability period of whole E & M work shall be 5 years. Additional security deposit of 5% of the E & M works total work done amount shall be deducted from the running/final bills of the work. Same shall be refunded @ 1% per year after satisfactory performance of E & M Installations. The 5% security deposit deducted from bills shall be released against submission of FDR/ Bank guarantee valid for 5 years to Engineer in charge and the same shall be released after successful completion of defect liability period.
53. The contractor shall execute the whole work in the most substantial and workman like manner in strict accordance with the specifications, approved design, drawings, particular specifications, special conditions, additional conditions and instructions of the Engineer-in-Charge.
54. The contractor shall at his own expense and risk arrange land for accommodation of labour, setting up of office, storage of materials, erection of temporary workshops, construction of approach roads to the site of work, including land required for carrying out of all jobs connected with the completion of the work. The contractor shall have to abide by the regulations of the authorities concerned and the directions of the Engineer-in-Charge for use of land available at the site of work. If it becomes necessary during construction to remove or shift the stored materials, shed, workshop, access roads, etc, to facilitate execution of the work included in this agreement or any other work by any other agency, the contractor shall remove or shift these facilities as directed by the Engineer-in-Charge and no claim whatsoever shall be entertained on this account.
55. The contractor shall at his own cost submit samples of all materials sufficiently in advance and obtain approval of Engineer-in-Charge. The materials to be used in actual execution of the work shall strictly conform to the quality of samples approved by the Engineer-in-Charge and nothing extra shall be paid on this account. The acceptance of any sample or material on inspection shall not be a bar to its subsequent rejection, if found defective.
56. The contractor shall at his cost, make all arrangements and shall provide necessary facilities as the Engineer-in-Charge may require for collecting, preparing, packing,

forwarding and transportation of the required number of samples for tests and for analysis at such time and to such places as directed by the Engineer-in-Charge. Nothing extra shall be paid for the above operations including the cost of materials required for tests and analysis. All expenditure to be incurred for testing of samples e.g. Packaging, sealing, transportation, loading, unloading etc including testing charges shall be borne by the contractor.

57. The necessary tests shall be conducted in the laboratory approved by the Engineer-in-Charge. The samples for carrying out all or any of the tests shall be collected by the Engineer-in-charge or on his behalf by any other officer of CCU. The contractor or his authorized representative shall associate himself in collection, preparation, packing and forwarding of such samples for the prescribed tests and analysis. In case the contractor or his authorized representative is not present or does not associate himself in the aforesaid operation the results of such tests and consequences thereon shall be binding on the contractor. All charges shall be borne by the contractor.
58. Materials used on work without prior inspection and testing (where testing is necessary) and without approval of the Engineer-in-Charge are liable to be considered unauthorized, defective and not acceptable. The Engineer-in-Charge shall have full powers to require the removal of any or all of the materials brought to site by contractor which are not in accordance with the contract specifications or do not conform, in character or quality to the samples approved by the Engineer-in-Charge. In case of default on the part of the contractor in removing rejected materials, the Engineer-in-Charge shall be at liberty to have them removed at the risk and cost of the contractor.
59. The contractor shall make his own arrangement of water required for execution of work and get the water tested at his own cost with regard to its suitability for use in the works and get written approval from the Engineer-in-Charge before he proceeds with the use of same for execution of work.
60. The work shall be carried out in such a manner so as not to interfere or adversely affect or disturb other works being executed by other agencies, if any.
61. Any damage done by the contractor to any existing works or work being executed by other agencies shall be made good by him at his own cost.
62. The work shall be carried out in the manner complying in all respects with the requirement of relevant rules and regulations of the local bodies under the jurisdiction of which the work is to be executed and nothing extra shall be paid on this account.
63. For completing the work in time, the contractor may have to work in two or more shifts and no claims whatsoever shall be entertained on this account, notwithstanding the fact that the contractor will have to pay to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour regulations and the agreement entered upon and/or extra amount for any other reasons.

64. The contractor shall take all precautions to avoid all accidents by exhibiting necessary caution boards and by providing red flags, red lights and barriers. The contractor shall be responsible for any accident at the site of work and consequences thereof.

**65. Quality Assurance Manual (Quality Assurance Plan & Checklist for E &M Service).**

- (a) Main contractor/Associate shall submit the required quantity of materials as sample for Testing from Govt. / approved private Laboratory.
  - (b) The decision on testing shall be as per E&M quality checklist of CPWD vide OM No. 51(4)/CE(E)/CSQ/2016/293 (H) dated 31.03.2016 as applicable or as per direction of Engineer in charge and shall be binding on contractor. Contractor shall submit the required size and quantity of samples for the testing.
  - (c) Department shall send the samples to the testing laboratory & the test results shall directly come to department.
66. All the equipment shall be delivered with (i) Manufacturer's test certificate, (ii) Manufacturer's technical catalogues and Installation/ Instruction(O&M) manuals. For LED luminaries, the contractor shall also submit the LM-79 test report of LED luminaries from NABL accredited laboratory.
67. Models of the fittings other than that mentioned in list of preferred make may be accepted provided the performance parameters are at par or higher than the model mentioned therein. Nothing extra shall be paid on this account.
68. Scaffoldings & any other T & P required for execution, testing and commissioning of work shall be arranged by the contractor and is included in the cost of work tendered by the contractor.
69. **Inspection before Dispatch:** All routine tests shall be conducted before dispatch of equipment. No equipment shall be dispatched out from the manufactures premises before such tests are conducted and test result recorded. These test certificates shall be given along the supply of equipment. The Engineer-In-charge shall, if he so desires inspect and witness the pre-delivery tests. For this purpose, the agency shall give 15 days advance notice. Agency shall arrange for inspection of the department. Department shall bear expenses of its officials for inspection as far as travelling, boarding and / lodging is concerned. However, the inspection shall be done at the discretion of the department without any cost implication but **ROUTINE TEST & TYPE TEST Certificates** shall have to be submitted for all the equipment.
70. Prior to dispatch, all equipment shall be adequately protected & insured for the whole period of transit, storage and erection against corrosion and incidental damages etc. from the effect of vermin, sunlight, rain, heat, humid climate and accidents etc.
71. **APPROVAL OF MATERIALS, SHOP FLOOR DRAWINGS AND COMMENCEMENT OFWORK:** The contract or shall submit list of makes & Model numbers of all items of equipment and accessories for each Sub Head of work. Catalogues of the equipment to be supplied. Shop floor drawings of each packages/ Sub work shall be submitted separately



for approval. It is the responsibility of the tenderer to get the makes, models and shop floor drawings approved by the department before placing of order.

- 72. Insurance:** The agency shall include storage cum erection insurance including third party insurance right from the storage to commissioning and handing over of various equipment. Ininsurance, the beneficiary shall be Engineer-In-charge at the cost of the agency. All insurance which the agency is required to enter into under the contract shall be affected any authorized general insurance company and the agency shall produce the policies of insurance. In case of any delay in handing over, the insurance cover will be suitably extended by the contract or at his own cost.
- 73. Remedy of failure to insure:** If the agency fails to effect and keep in force the insurance referred to in the preceding sub-clause and in case of unforeseen eventuality of theft/damage etc. to any material, the contractor only shall be held responsible and necessary rectification/replacement has to be done by contractor himself.
- 74. Quality of material and workmanship:** All parts of the equipment shall be of such design, size and material so as to function satisfactorily under all rated conditions of operation. All components of the equipment shall have adequate factor of safety. The work of fabrication and assembly shall conform to sound engineering practice and on the basis of "Fail Safe Design". The mechanical parts subject to wear and tear shall be easily replaceable type. The construction of the equipment shall be such as to facilitate easy operation, inspection, maintenance and repairs. All connections and contacts shall be designed to minimize risk of accidental short circuits caused by animals, birds and vermin etc. All identical items and their component parts should be completely interchangeable including spare parts.
- 75. Inspection and testing at Factory and site:** The department reserves the right to inspect the equipment and get it tested at factory itself for which the Contractor has to give 15 day's notice for inspection. The travelling cost of Officers will be borne by the Department. The installation shall be subject to necessary inspection during every stage of erection, by the Engineer In-charge or his authorized representative. The successful bidder shall provide all facilities and assistance for the purpose. The completed installation shall be inspected and tested by the Engineer-in charge in the manner as will be laid down by department. All instruments and facilities necessary for the tests shall be provided by the agency.
- 76.** All electrical & mechanical fittings / fixture / appliances, to be provided for the work, where BEE certification is available should have **5-starrating (of BEE)**.
- 77. QUALITY ASSURANCE:** The Contractor shall make available, on request from the Department, for record, copies of challans, cash memos, receipts and other certificates, if any, vouchers towards the quantity and quality of various materials procured and the same shall be kept in record. These shall also provide information on the name of the manufacturer, manufacturer's product identification, manufacturer's instructions, warning, date of manufacturing and test certificates from manufacturers for the product for each consignment delivered at site, shelf life, if any, for the department to ensure that the



material have been procured from the approved source and of the approved quality, as directed by the Engineer-in-Charge.

**78.** Storage and safe custody of all materials shall be the sole responsibility of the Contractor. Nothing extra shall be payable on this account. This shall include cost of painting of the entire installation. The major equipment's shall be factory final finish painted. The agency shall be required to do only touch up to the damages caused to the painting during transportation, handling & installation at site, if there is no major damage to the painting. However, hangers, supports etc. of bus trunking & cable tray etc. shall be painted with required shade including painting with two coats of anticorrosive primer paint or pressurized paint for touch up of powder coated equipment at site.

**79.** The scope of work includes the on job technical training of two persons of the client department at site for 15 days. Nothing extra shall be payable on this account.

**80. Interpreting Specifications:** In interpreting the specifications, the following order of decreasing importance shall be followed in case of contradictions:

- i) Nomenclature of items as per Schedule of Quantities
- ii) Special/Additional Conditions
- iii) Particular Specifications
- iv) Architectural/Structural drawings
- v) CPWD Specifications including upto date correction slips.
- vi) CPWD General Conditions of Contract (2023) for Construction works including correction slips issued up to last date of submission of bid including extensions if any.
- vii) Indian Standards Specifications of B.I.S.
- viii) ASTM, BS, or other foreign origin code mentioned in tender document.
- ix) Manufacturer's specifications and as decided by the Engineer-in-Charge.
- x) Sound Engineering practices or well-established local construction practices

**CONSENT LETTER FROM ELIGIBLE ASSOCIATE AGENCY OF MINOR  
COMPONENT OF WORK**

**Name of work:** .

I / We hereby give my consent to associate with M/s.....,  
for Executing the minor component of work of  
.....  
(Mention category).

I / We will execute the work as per specifications and conditions of the agreement and as per directions of the Engineer –in-Charge for the corresponding minor work till the completion of the work.

I / We will be responsible for necessary action to handover the installations and for rectification of defects and repair during the maintenance / warranty period.

Also, I / We will employ full time technically qualified Engineer / supervisor for the minor component of the work as required for the work. I / We will attend inspection of officers of the department as and when required.

Date:

Signature with date of Major component  
Contractor  
Address

Signature with date of Associate/Minor Component  
Contractor  
Address

Witness with address  
(From major component contractor side)

Witness with address  
(From minor component contractor side)

**PROPOSAL FOR ELIGIBLE ASSOCIATING AGENCIES FOR MINOR  
COMPONENTS OF WORK**

I/we hereby propose the following agencies as mentioned against each for executing corresponding minor components of work. Their consent letters are also attached.

<b>Sl. No</b>	<b>Name of Associated Contractor</b>	<b>Category and class of registration</b>	<b>Enlistment copy / Completion Certificates attached</b>	<b>Monetary Limit of work</b>	<b>Validity of registration</b>	<b>Consent Letter Attached (Yes/No)</b>
1)						

**Note:** Self-Attested photocopies of enlistment order, valid electrical contractor license, work experience certificates of each agency for each component of E&M work shall be submitted.

Signature of contractor

**AFFIDAVIT OF MEMORANDUM OF UNDERSTANDING (MOU)**

(to be submitted for each and every E&M component)

M/s. (Name of the firm with full address) .....Enlistment Status (Valid Upto)  
.....(Henceforth called the main Contractor)

M/s. (Name of the firm with full address)..... Enlistment Status (Valid  
Upto).....(Henceforth called Associated Contractor)

For the execution of E &M component Works

**Name of work:** .....

We state that M.O.U between us will be treated as an agreement and has legality as per Indian Contract Act (amended up to date) and the department (CCU) can enforce all the terms and conditions of the agreement for execution of the above work. Both of us shall be responsible for the execution of work as per the agreement to the extent this MOU allows. Both the parties shall be paid consequent to the execution as per agreement to the extent this MOU permits. In case of any dispute, either of us will go for mediation by the Engineer In charge. Any of us may appeal against the mediation to the Chief Engineer, CCU. His decision shall be final and binding on both of us.

We have agreed as under:

The Associated Contractor will execute all E & M works in the wholesome manner as per terms and conditions of the agreement.

The Associated Contractor shall be liable for disciplinary action if he fails to discharge the action(s) and other legal action as per agreement.

All the machinery and equipments, tools and tackles required for execution of the E & M works, as per agreement, shall be the responsibility of the Associated Contractor.

The site staff required for the E & M work shall be arranged by the Associated Contractor as per terms and conditions of the agreement.

SIGNATURE OF MAIN CONTRACTOR

Date:

Place:

SIGNATURE OF ASSOCIATED CONTRACTOR

Date :

Place:

Witness with address  
(From major component contractor side)

Witness with address  
(From minor component contractor side)

**UNDERTAKING LETTER FROM MANUFACTIRERES OF LED FITTINGS  
(ON THEIR LETTER HEAD)**

We hereby agree that:

1. All the LED fittings supplied by us are guaranteed for five years including drivers from the date of handing over.
2. In case of discontinuation of model and non-availability of spares, we will replace the fittings with equivalent/ high end model in case of manufacturing defect during the warranty period of 5 years.

For M/S .....,

.....

(Authorized signatory of manufacturer of LED luminaries)

Counter Signature,

Major contractor

### **LIST OF PREFERRED MAKES OF MATERIALS**

Acceptable makes of materials to be used in the work are enclosed. In case of non-availability of these makes, the Superintending Engineer, CCU may allow use of alternative makes on the recommendations of Engineer-in-charge. Only BIS marked materials in the list shall be used in the work. Non-BIS marked materials may be permitted by the Engineer-in-charge only when BIS marked materials are not manufactured. If approved make/brand of any material is not given in the list, the same will be approved by the Superintending Engineer, CCU on the recommendations of Engineer-in-charge.

SL.NO.	ITEMS	MAKES
	<b>ELECTRICAL INSTALLATIONS &amp; GENERAL</b>	
1	<b>WIRES AND CABLES</b> PVC INSULATED FRLS COPPER CONDUCTOR SINGLE CORE CABLE 1.1 KV GRADE XLPE POWER CABLE AND CONTROL CABLE FIRE SURVIVAL CABLE 11 KV GRADE XLPE POWER CABLE COMMUNICATION/ TELEPHONE CABLE	POLYCAB/ KEI/ HAVELLS/ RR KABEL/ FINOLEX
2	MS CONDUIT/ PVC CONDUIT AND ITS ACCESSORIES GI PERFORATED CABLE TRAY GI RACEWAY	AKG / BEC / NIC/ MEM
3	MODULAR SWITCH & SOCKET/ GI BOX	MK -ORNA/ HAVELLS (CRABTREE MURANO) / SCHNEIDER (UNICA PURE)
4	ANCHOR FASTENER	HILTI/ 3M/ FISCHER
5	CABLE LUGS AND BRASS GLAND	GRIPWEL / DOWELL/ COMET
6	CAT-6 UTP CAT-6A, UTP UTP PATCH CORD FIBRE OPTICS CABLE	PANDUIT/ BELDEN / 3C3 / DERWISER
8	UPVC / HDPE PIPE/DWC	DURALINE/ REX/ TIRUPATI
9	RACK FOR ALL (EPABX / AUDIO VIDEO / CCTV etc.)	PANDUIT/ APC INDIA / 3C3 / IMPULSE / NEXXUX / BELDEN/ APW PRESIDENT / VALRACK/RITTAL
10	PAINT, PRIMER	ASIAN PAINT/ NEROLAC / BERGER/ ICICI

11	MS PIPE, GI PIPE	SAIL/ TATA/ JINDAL (HISSAR)/JINDAL STAR
12	SERVER / DESKTOP	DELL / HP/ IBM / LENOVO / PANASONIC
13	WI- FI SYSTEM & NETWORK SWITCHES	CISCO/ JUNIPER/ NEXXUUS / IMPLUSE / BELDEN
14	STRUCTURAL STEEL	TATA/ SAIL/ JINDAL HISSAR / APL-APOLLO
15	WATER SUPPLY, STP, DRAINAGE, SUBMERSIBLE PUMPS	KIRLOSKAR/KSB/ GRUNDFOSS/ WILO/ XYLEM/ ARMSTRONG/LUVI
16	DLP TRUNKING	LEGRAND/ HONEYWELL/ PRECISION
	<b>DG SET</b>	
1	DIESEL ENGINE	CUMMINS/ CATERPILLER/ PERKINS/ KIRLOSKAR OIL ENGINE LTD.
2	ALTERNATOR	STAMFORD/ KIRLOSKAR ELECTRIC
3	PROTECTION RELAYS & CT'S	L&T/ SIEMENS/ SCHNEIDER ELECTRIC
4	BATTERY	EXIDE / AMARON/ AMARAJA
5	DG SET- ACOUSTIC ENCLOSURE& ASSEMBLER	KIRLOSKAR(JACKSON)/ SUDHIR/CUMMINS INDIA
6	AMF CONTROLLER	AS PER OEM
7	POWER/ AUXILLARY CONTACTOR/ CAPACITOR DUTY CONTACTOR / METERS INCLUDING DIGITAL METERS / INDICATING LAMP (LED TYPE) / PUSH BUTTON / STARTERS /OVERLOAD RELAY / TIMER	L&T/ SIEMENS/ SCHNIEDER ELECTRIC/ ABB
	<b>SUB-STATION</b>	
1	11 KV VCB PANEL	ABB / SCHNEIDER ELECTRIC/ SIEMENS/TRICOLITE
2	a) DRY TYPE (11KV/433 VOLT)	KIRLOSKAR/ VOLTAMP/ ABB/CROMPTON GREEVES
	b) OIL TYPE TRANSFORMER (11KV/433VOLT)	KIRLOSKAR/ VOLTAMP/ ABB/CROMPTON GREEVES
3	ACB	SCHNEIDER ELECTRIC – MASTERPACT NW (6.0A)/ L&T - U POWER OMEGA (MTX3.5)/ SIEMENS 3WL (ETU



		45B)/ ABB EMAX (PR122)
4	MCCB	SCHNEIDER – COMPACT NSX/ L&T DU/ ABBTMAX
5	MCB/ RCCB/ ISOLATOR	SCHNEIDER - ACTI9/ HAGER-H3/ SIEMENS BETA GUARD 10KA/ ABB SB200M
6	MCB DB	HAGER (H3) / SIEMENS (BETAGARD) /SCHNEIDER (ACTI-9)/ABB (ITUS)
7	MAIN LT PANEL/ SUB LT PANELS/ CAPACITOR PANEL/ SYNCHRONIZING PANEL WITH ACCESSORIES/ STARTER PANEL	NEPTUNE/ ADVANCE PANELS & SWITCHGEAR (P) LTD / ADLEC / TRICOLITE/ASPL
8	BUS DUCT, AIR INSULATED COMPACT RISING MAINS, END FEED UNIT, TAP-OFF BOX (PLUG- IN TYPE)	SCHNEIDER ELECTRIC/ LEGRAND / L&T/RR
9	HT, LT JOINTING KIT & TERMINATION KIT	REYCHEM / 3M / ABB
10	SOFT STARTERS	SIEMENS/ SCHNEIDER/ ABB / L&T
11	CT, PT	ADVANCE / KAPPA / AE
	<b>UPS</b>	
1	UPS	SCHNEIDER (APC)/EATON/ EMERSON (VERTIV)/ PEGASUS/ ABB / NUMERIC
	<b>LIGHTING, FIXTURES &amp; FANS</b>	
1	CEILING FAN / EXHAUST FAN / KITCHEN FRESH AIR/ WALL FAN	HAVELLS/ CROMPTON/ USHA /BAJAJ/ ORIENT
2	LED EXIT SIGNAGE	MR. LITE/ PROLITE
3	LED INDOOR LUMINAIRES LED DECORATIVE LIGHT LUMINAIRES LED STREET LIGHT BOLLARDS & OUTDOOR FITTINGS	PHILIPS/ REGENT/ LIGHTING TECHNOLOGY
4	BULK HEAD, MIRROR LIGHT	HAVELLS/ PHILLIPS/ BAJAJ
4	MS DECORATIVE POLE	PHILIPS/ BAJAJ / HILITE/ TWINKLE LUXMAX/ HAVELLS/ LUSTER
5	POLYCARBONATE JUNCTION BOX WITH CONNECTOR	HENSEL / RITTAL/ SCHNIEDER

6	SENSORS & TIMER FOR LIGHT CONTROL	PHILIPS/ HONEYWELL/ SCHNEIDER ELECTRIC / HAVELLS
	<b>EPABX</b>	
1	IP-PBX SYSTEM / IP PHONE	CISCO / CORAL / TADIRAN
2	PATCH PANEL	D-LINK/ PANDUIT/ RAPINK/ MX
	<b>FIRE ALARM SYSTEM</b>	
1	ADDRESSABLE FIRE ALARM CONTROL PANEL ADDRESSABLE DETECTORS GRAPHIC USER INTERFACE SOFTWARE MONITOR & CONTROL MODULE RESPONSE INDICATORS MANUAL CALL BOXES & HOOTERS INPUT /OUTPUT DEVICES	EDWARDS / NOTIFIER (HONEYWELL) / SIEMENS / BOSCH
	<b>PUBLIC ADDRESS SYSTEM</b>	
1	PUBLIC ADDRESS SYSTEM CONSOLE AND ALL ACCESSORIES P.A. SPEAKERS AMPLIFIERS	BOSCH/ BIAMP/ HONEYWELL
	<b>FIRE FIGHTING SYSTEM</b>	
1	2-WAY/4-WAY FIRE BRIGADE CONNECTION AIR RELEASE VALVE LANDING VALVE BRANCH PIPE FIRST AID HOSE REEL AND DRUM RRL HOSE PIPE FIRE MAN AXE	SAFEX/ NEWAGE/ LIFE GUARD / EXFLAME
2	DIESEL ENGINE (FIRE-FIGHTING)	CUMMINS/ KIRLOSKAR / CATER PILLER
3	FIRE EXTINGUISHERS	CEASEFIRE/ MINIMAX/ NEWAGE / SAFEX / KANEX / EXFLAME
4	FLEXIBLE DROP & FLEXIBLE COUPLINGS	LIFE GUARDS / VICTAULIC/ TYCO
5	INSTALLATION CONTROL VALVE DELUGE VALVE SPRINKLER HEADS	TYCO / VICTAULIC / HD / HONEYWELL
6	SPRINKLER PANEL, CURTAIN SYSTEM PANEL PRESSURE	TYCO / HONEYWELL / HD

	RELEASE VALVE ZONE CONTROL VALVE (ZCV)	
7	ALL FIRE FIGHTING PUMPS	GRUNDFOSS / WILO / MATHER PLATT /KIRLOSKAR
8	ELECTRICAL MOTOR	ABB/ KIRLOSKAR ELECTRIC CO./ SIEMENS INDIA LTD
9	THERMAL INSULATION FOR EXHAUST PIPE	UPTWIGA/ LLOYD INSULATION/ OWENS CORNING/ KIMMCO
10	M.S. FITTINGS	VS / DRP / VICTAULIC / UNIK
11	WELDING RODS	ADORE / ESAB/ MARGLAM
12	BUTTERFLY (MANUAL, GEAR OPERATED) VALVES, NON- RETURN VALVES, SLUICE VALVES Y-TYPE STRAINER, FOOT VALVE WITH STRAINER AIR RELEASE VALVE BALL VALVES	AUDCO/ ZOLOTO/ SANT/ HONEYWELL
13	TAMPER SWITCH FOR BUTTERFLY VALVE	HONEYWELL/ POTTER/ RAPID CONTROL/ SYSTEM SENSOR/ PACIFIC FIRE
14	PRESSURE SWITCH FLOW TEST METER	DANFOSS/ INDFOS/ VIKING/ DELTA CONTROL
15	PRESSURE GAUGE LIQUID FILLED	FEIBIG/ H. GURU/ EMERALD/ WAAREE
	<b>HVAC</b>	
1	SPLIT TYPE AC	HITACHI/ MITUSBISHI/ O- GENERAL
2	REFRIGERANT PIPING	MANDEV / MEXFLOW / RR SHRAMIK
3	CLOSED CELL NITRILE RUBBER INSULATION/ EPDM INSULATION	ARMAFLEX /AEROCCELL / ALP
4	INLINE FANS	SYSTEMAIR/ KRUGER/ GREENHECK/ HUMIDIN/ NICOTRAAIR
5	CHILLER	TRAIN/ TROX/ YORK/DAIKEN
6	CHILLER PUMP	ARMSTRONG/ GROUND FOSS/XYLEM
7	AIR HANDLING UNITS/ TREATED FRESH AIR UNITS/ FCU	SYSTEMAIR/ EDGETECH/ TRANE/ VTS/BALANCE AIR/ ZECO / WAVES
8	AIR WASHER	SYSTEMAIR/ EDGETECH / TRANE/ VTS/BALANCE AIR/ ZECOW/ WAVES

9	AIR SEPARATOR	XYLEM/ EMERALD/ ANERGY/ KD AGENCIES
10	COOLING TOWERS (CTI/ CERTIFIED)	ADVANCE/ MARLEY/ PAHARPUR/ BELL
11	GI SHEETS DUCTING ETC	SAIL/ TATA/ JINDAL
12	CO2 SENSOR	SCHNEIDER/ HONEYWELL/ SIEMENS
13	PPR PIPE	JINDAL HISSAR / ASTRAL / FUSION
14	CENTRIFUGAL & AXIAL FANS VANE AXIAL IN-LINE FANS AND THEIR MOTORS	KRUGER/ GREENHECK/ NICOTRA/ WITH MOTOR FROM THEIR APPROVED OEM
15	VIBRATION ISOLATOR RUBBED PAD DUCT SUPPORT ARRANGEMENT	DUNLOP/ RESISTOFLEX/ GERB
16	GRILL DIFFUSER FIRE DAMPERS LOUVERS VOLUME CONTROL DAMPER	SYSTEM AIR/ CARRYAIRE/ COSMOS/ TRISTER / GREENHECK/ BALANCE
17	FLEXIBLE GROOVED FITTINGS COUPLINGS	VICTAULIC/ TYCOGRINNEL/ VIKING
18	PRE FABRICATED DUCT DUCT FLANGE (WITH GI SHEETS OF MAKES)	ZECO/ ROLLASTAR/ DUCTOFAB/ WAVES
19	VARIABLE FREQUENCY DRIVE	DANFOSS/ ABB / HONEYWELL/ SIEMENS / SCHNEIDER
20	ALUMINUM TAPE	JOHNSON/ BIRLA-3M/ NIPPON INDUSTRIES
	<b>LIFT</b>	
1	LIFT	KONE ELEVATORS INDIA PVT. LTD./MITSUBISHI / SCHINDLER/ OTIS ELEVATOR/ JHONSON / THYSSENKRUPP
	<b>SOLAR POWER</b>	
1	POWER CONDITIONING UNIT (PCU)	SMA(GERMANY)/DELTA/SCHNEIDER/ELECTRIC/ABB/PANASONIC
2	SOLAR PV PANEL	TATA SOLAR/ WAAREE ENERGY/ADANI SOLAR
3	SOLAR INVERTERS	DELTA / ABB / SMA
	<b>STP</b>	
1	PLANT MANUFACTURER	GRANNUS WATER AND ENVIRONMENTAL SOLUTIONS PVT. LTD./ CIMERA ENGINEERS/

		SPECTRUM ENGINEERING TECH PVT. LTD. / ION EXCHANGE / ZETA4/ WATERNEER
2	AIR BLOWER	EVEREST / BETA / ROBUSCHI
3	AIR DIFFUSERS	REHAU / SSI AERATION / MM AQUA
4	RAW SEWERAGE TRANSFER PUMP / SLUDGE RECYCLE PUMP / FILTER FEED PUMP / NON CLOG HORIZONTAL CENTRIFUGAL PUMP/ DE WATERING PUMP / DOSING PUMP/ SBR FEED PUMP/ FILTER FEED PUMP/ SLUDGE PUMP/ CHLORINE DOSING PUMP	ARMSTRONG / XYLEM/ GRUNDFOS/ / WILO
5	FILTER PRESS	SACHINFILTECH / PHARMATECH / HITECH
6	TUBE SETTLER MEDIA /MBBR MEDIA	WELBRICK / PHARMATECH / MM AQUA
7	M.S. FILTER	WELBRICK / ION EXCHANGE / ASTHA / THERMAX / ZETA4
8	OZONATOR	CREATIVE/ OZONICS/ ORAPL/ CHEMTRONICS / FARADAY
9	NON CLOGGHORIZONTAL SCREW TYPE FILTER PRESS PUMP	ROTO/ POSITIVE/ ROTAMAC/ TUSHACO
10	CENTRIFUGE	APOLLO/ WELBRICK/ GWSPL/ PHARMATECH / GEA
11	PRESSURE GAUGE	H GURU / FEIBIG / GLUCK / BAUMER
12	BUTTERFLY / DUAL PLATE CHECK VALVES	AUDCO / ZOLOTO / ADVANCE / CASTLE / SANT
13	PLC	DELTA/ SIEMENS/ SCHNEIDER
	<b>AUDIO-VIDEO</b>	
1	LED VIDEO WALL	SAMSUNG/LG/PANASONIC/CHIRS TIE/ BARCO
2	VIDEO WALL PROCESSOR	ANALOGWAY/tV-ONE/RGB- SPECTRUM
3	LEDDISPLAY	SAMSUNG/LG/PANASONIC/SONY
4	SPEAKERS/WOOFERS/LOUD SPEAKERS	QSC/BOSE/QUEST/ MARTIN AUDIO
5	AMPLIFIER	QSC/QUEST/BOSE/ POWERSOFT

		OCTA CANALI
6	DIGITALSIGNALPROCESSOR	QSC/ SYMETRIX/ ALLEN&HEATH/ BOSE/QUEST/ BIAMP
7	AUDIO MIXER	QSC/DIGICO/ALLEN & HEATH
8	MICROPHONE/RECEIVER/ ANTENNA/ ANTENNA SPLITTER/ANI/CHARGING STATION,BATTERIES)	BOSCH/SHURE/ SENNHEISER/QSC
9	TRANSMITTER/RECEIVER	QSC/LIGHTWARE/CRESTRON
10	CAPTURE CARD	CRESTRON/INOGENIE/CYPRESS
11	PODIUM	UNI/AHA/VAC
12	IPAD	APPLE/QSC/CRESTRON
13	TABLEMOUNTENCLOSURE	CRESTRON/LEGRAND/ LOGIC/LIGHTWARE
14	WIRELESS PRESENTATION SYSTEM	CRESTRON/BARCO/ ZOAPI/ PANASONIC
15	ENCODER/DECODER	QSC/CRESTRON/ LIGHTWARE
16	PTZCAMERAS	SONY/LUMENS/VADDIO/ QSC
17	JOYSTIC	SONY/LUMENS/VADDIO/QSC
18	VIDEOCONFERENCESYSTEM	CISCO/AVAYA/ POLYCOM
19	RECORDER & STREAMING SYSEM	LUMENS/REACH/AREC/VADDIO
20	CONTROLTOUCHPANELAND CONTROLSYSTEM	CRESTRON/ QSC/ SYMETRIX
21	NETWORKSWITCH	HPE/CISCO/NETGEAR/JUNIPER/ QSC
22	ROOMSCHEDULAR	CRESTRON/PANASONIC/ZOAPI/ ELHITECH
23	SPEAKER & MICROPHONE CABLE	KLOTZ/BELDEN/ KRAMER/LOGIC/ LIGHTWARE
24	HDMICABLE/VGACABLE, PATCH CABLES, CONTROL CABLE	KLOTZ/BELDEN/KRAMER/LOGIC/ LIGHTWARE
	<b>CCTV</b>	
1	PTZ, BULLET, DOOM CCTV CAMERA NVR	AXIS / HONEYWELL ENTERPRISES/ MOBOTIX IMPULS
	<b>BOOM BARRIER</b>	

1	BOOM BARRIER	DESIGNA / NEPTUNE / GODREJ
	<b>FIRE SUPPRESSION SYSTEM</b>	
1	FIRE SUPPRESSION SYSTEM	SVS BUILDWELL/ SAFEX / LIFEGUARD
	<b>WTP</b>	
1	WTP	ZETA4 / WATERNEER/ ION EXCHANGE

# **SCHEDULE OF QUANTITY FOR ELECTRICAL WORK**



## Schedule of Work (E&M)

Name of Work : Renovation of Ganga Auditorium, Godavari Conference Hall, Dining Hall, office of Secretary, EF&CC and washrooms adjoining the Conference Halls and Dining Hall of MoEF&CC at Indira Paryavaran Bhawan, Jorbagh Road, New Delhi.

Sno.	Description of Item	Qty	Unit	Rate	Amount
	<b>Sub Head : I (Audio Video)</b>				
	<b>DISPLAY</b>				
1	Supply, Installation, Testing & Commissioning of Indoor LED wall with 1.5 mm - 1.6 mm Pixel pitch, size of 6720 x 2700 mm (+-5% deviation)., Brightness: 800 or better, Pixel Configuration: 3 in1 SMD or better, Contrast Ratio: 5000:1 or better, ~281 Trillion Colours or better, LED lifespan:100,000 hrs or better, 14/16-bit processing or better, Brightness Uniformity 97% or better, Viewing angle 150° both horizontal and vertical or better, Refresh rate 3840Hz or better, IP 20 rating, 100% front serviceable, Average Power consumption <225 W/m <sup>2</sup> (Certification : CE/UL/BIS). Video Wall Controller/Processor Should be from same OEM and supplied with LED wall .Should be certified/complied with provided LED wall. The LED Video wall should be supplied with minimum 6% spares at site. Should be supplied with suitable mounts and interconnecting cables and with complete accessories as required for installation. (With 5 year on site warranty for complete item).	1	Nos	₹ 1,23,54,661	12354661.00
2	Supply, Installation, Testing & Commissioning of Video Wall processor with minimum of Four (4) or more 4K @ 60Hz, 4:4:4 HDMI 2.0 Input and Two (2) or more 4K @ 60Hz, 4:4:4 HDMI 2.0 Output. The system shall be capable of processing, scaling, switching, and managing multiple FHD and 4K60 video sources and display devices with uncompromised quality. The processor should be fixed chassis or modular, adhering to the minimum number of inputs and outputs as per desired applications. System must be capable to handle Displays, video wall panels, Active LEDs & Projectors and must have built in feature to do edge blending of projectors. All the HDMI2.0 Inputs must support end to end 18 gbps data rate delivery with HDCP 2.2 or better. the processor should be able to handle color space conversion, and support for both	1	Nos	₹ 23,45,292	2345292.00

	<p>HDR10 and HLG standards. The system must be capable of all video wall processing functions as - Window cropping, scaling, and repositioning, Custom window borders and dynamic text labels, Picture-in-picture (PiP), keying, and transitions. Must support minimum of 4 or better fully customizable display canvases, each capable of, Symmetric or asymmetric display configurations, Handling of LED walls with custom pixel counts (within the 4K limits), Portrait and landscape screen orientations. Outputs must support 4K60 4:4:4 resolutions and 18 Gbps data rate, with output cloning, rotation, custom resolutions, and EDID management. System must allow to manage wide active LED having custom output resolutions within limit to 4K pixel count with a single 4K60 basic Active LED controller. The system should support output cloning, rotation, custom resolutions, and EDID management, as per the application requirements. Processor shall support embedded HDMI audio switching. Shall support Level control, mute, balance, delay, and test tones. Supports preset switching without image glitch and reliable 24/7 operation. The system must support for Front-panel control with color LCD, Web-based Remote Control Software, transparent API for 3rd party control integration (HTTP, REST, JSON,TCP or better), Support for control devices, Ethernet connectivity, The system shall support multi-level password protection, configuration import/export via USB, and firmware upgrade via USB host port, etc all complete. (with 5 years onsite warranty)</p>				
3	<p>Supply, Installation, Testing &amp; Commissioning of 55" or Higher, LED Back Lit Panel, Panel Technology -(IPS/ VA/ ADS), Native Resolution- 3840 x 2160 (UHD),Brightness -500cd/m2 or better,Contrast Ratio- 1000 : 1 or better, Haze: 25% or better,, Dynamic CR- 400,000 : 1 or better, Operating System- WebOS/ Tizen/ Android, Orientation -Portrait &amp; Landscape,Viewing Angle(H x V) -178 x 178,Response Time- 8 ms or better,Operation Hours- 24 Hrs , Connectivity - Input Ports - Digital HDMI(2 or more)/Display Port(1), External Control RS232C(1), RJ45(1), IR(1, Internal), USB -1, Output Ports- Audio Out-1, AUDIO -Audio Power 20W(10W x 2), Additional feature Inbuilt : Internal Memory 8 GB or better, Wi-Fi, Screen Sharing feature with all devices, Media Player, Local Key</p>	4	Nos	₹ 64,531	258124.00

	Operation, Picture in Picture (Optional), Environment Conditions ,Operation Temperature- 0 °C to 40 °C or better, Operation Humidity - 10 % to 80 % or better, POWER - Power Supply 100-240V~, 50/60Hz,Power Type- Built-In Power, Speakers - 20W(10W x 2) , Power Supply 100 – 240 V, 50/60 Hz, Certifications UL/BIS, Warranty - 5 years,Wall/ Floor mount/Trolley (design and material as per decision of Engineer-in-charge) along with all accessories as per site requirement, Remote control, Standard cable etc complete as required.				
4	Supply, Installation, Testing & Commissioning of of MS Portable Digital Kiosk with inbuilt PC, UPS along with 43" or Higher, LED Back Lit Panel, Panel Technology -(IPS/ VA/ ADS), Native Resolution- 3840 x 2160 (UHD),Brightness - 500cd/m2 or better,Contrast Ratio- 1000 : 1 or better, Haze: 25% or better, Dynamic CR-400,000 : 1 or better, Operating System-WebOS/ Tizen/ Android, Orientation -Portrait & Landscape,Viewing Angle(H x V) -178 x 178, Response Time- 8 ms or better,Operation Hours- 24 Hrs , Connectivity - Input Ports -Digital HDMI(2 or more)/Display Port(1), External Control RS232C(1), RJ45(1), IR(1, Internal), USB -1, Output Ports- Audio Out-1, AUDIO -Audio Power 20W(10W x 2), Additional feature Inbuilt : Internal Memory 8 GB or better, Wi-Fi, Screen Sharing feature with all devices, Media Player, Local Key Operation, Picture in Picture (Optional), Environment Conditions ,Operation Temperature- 0 °C to 40 °C or better, Operation Humidity - 10 % to 80 % or better, POWER - Power Supply 100-240V~, 50/60Hz,Power Type- Built-In Power, Speakers - 20W(10W x 2) , Power Supply 100 – 240 V, 50/60 Hz, Certifications UL/BIS, Warranty - 5 years, and other accessories as per site requirement, Remote control, Standard cable etc complete as required.	1	Nos	₹ 84,387	84387.00

5	Supply, Installation, Testing & Commissioning of 43" or Higher, LED Back Lit Panel, Panel Technology - (IPS/ VA/ ADS), Native Resolution- 3840 x 2160 (UHD), Brightness -500cd/m2 or better, Contrast Ratio- 1000 : 1 or better, Haze: 25% or better, Dynamic CR- 400,000 : 1 or better, Operating System- WebOS/ Tizen/ Android, Orientation -Portrait & Landscape, Viewing Angle(H x V) -178 x 178, Response Time- 8 ms or better, Operation Hours- 24 Hrs , Connectivity - Input Ports -Digital HDMI(2 or more)/Display Port(1), External Control RS232C(1), RJ45(1), IR(1, Internal), USB -1, Output Ports- Audio Out-1, AUDIO -Audio Power 20W(10W x 2), Additional feature Inbuilt : Internal Memory 8 GB or better, Wi-Fi, Screen Sharing feature with all devices, Media Player, Local Key Operation, Picture in Picture (Optional), Environment Conditions ,Operation Temperature- 0 °C to 40 °C or better, Operation Humidity - 10 % to 80 % or better, POWER - Power Supply 100-240V~, 50/60Hz, Power Type- Built-In Power, Speakers - 20W(10W x 2) , Power Supply 100 – 240 V, 50/60 Hz, Certifications UL/BIS, Warranty - 5 years, Wall/ Floor mount (design and material as per decision of Engineer-in-charge) and other accessories as per site requirement, Remote control, Standard cable etc complete as required.	2	Nos	₹ 44,675	89350.00
6	Supply, Installation, Testing & Commissioning of of Display Monitor of Minimum 21.5" HD LED Monitor for preview in the control room with Backlit VA Panel. Maximum Refresh Rate, 60 Hz (Analog), 60 Hz (Digital), Resolution. 1366x768 pixels, Response Time: 8 ms, Brightness 300 nits or more, Connectivity: Audio Jacks, Audio Out: Yes. Inbuilt Speakers: Yes, Number of Speakers: 2, Connectivity: 2 HDMI, USB: 1, 24/7 Operation Hour , Other Connectivity Features: AV PORT, Certifications UL/BIS, Mounting Features: Other Mounting Features: WALL MOUNT, Color: Black with all complete accessories. (with 5 years onsite warranty)	3	Nos	₹ 37,692	113076.00

7	Supply, Installation, Testing & Commissioning of 98" or Higher, LED Back Lit Panel, Panel Technology - (IPS/ VA/ ADS), Native Resolution- 3840 x 2160 (UHD), Brightness -500cd/m2 or better, Contrast Ratio- 1200 : 1 or better, Haze: 25% or better, Dynamic CR- 500,000 : 1 or better, Operating System- WebOS/ Tizen/ Android, Orientation -Portrait & Landscape, Viewing Angle(H x V) -178 x 178, Response Time- 8 ms or better, Operation Hours- 24 Hrs , Connectivity - Input Ports -Digital HDMI(2 or more)/Display Port(1), External Control RS232C(1), RJ45(1), IR(1, Internal), USB -1, Output Ports- Audio Out-1, AUDIO -Audio Power 20W(10W x 2), Additional feature Inbuilt : Internal Memory 8 GB or better, Wi-Fi, Screen Sharing feature with all devices, Media Player, Local Key Operation, Picture in Picture (Optional), Environment Conditions ,Operation Temperature- 0 °C to 40 °C or better, Operation Humidity - 10 % to 80 % or better, POWER - Power Supply 100-240V~, 50/60Hz, Power Type- Built-In Power, Speakers - 20W(10W x 2) , Power Supply 100 – 240 V, 50/60 Hz, Certifications UL/BIS, Warranty - 5 years, with Wall mount accessories as per site requirement, Remote control, Standard cable etc complete as required.	1	Nos	₹ 6,45,310	645310.00
8	Supply, Installation, Testing & Commissioning of 85/ 86" or Higher, LED Back Lit Panel, Panel Technology -(IPS/ VA/ ADS), Native Resolution- 3840 x 2160 (UHD), Brightness -500cd/m2 or better, Contrast Ratio- 1100 : 1 or better, Haze: 25% or better, Dynamic CR- 400,000 : 1 or better, Operating System- WebOS/ Tizen/ Android, Orientation -Portrait & Landscape, Viewing Angle(H x V) -178 x 178, Response Time- 8 ms or better, Operation Hours- 24 Hrs , Connectivity - Input Ports -Digital HDMI(2 or more)/Display Port(1), External Control RS232C(1), RJ45(1), IR(1, Internal), USB -1, Output Ports- Audio Out-1, AUDIO -Audio Power 20W(10W x 2), Additional feature Inbuilt : Internal Memory 8 GB or better, Wi-Fi, Screen Sharing feature with all devices, Media Player, Local Key Operation, Picture in Picture (Optional), Environment Conditions ,Operation Temperature- 0 °C to 40 °C or better, Operation Humidity - 10 % to 80 % or better, POWER - Power Supply 100-240V~, 50/60Hz, Power Type- Built-In Power, Speakers - 20W(10W x 2) , Power	2	Nos	₹ 2,38,268	476536.00

	Supply 100 – 240 V, 50/60 Hz, Certifications UL/BIS, Warranty - 5 years, Wall mount accessories as per site requirement, Remote control, Standard cable etc complete as required.				
9	Supply, Installation, Testing & Commissioning of 75" or Higher, LED Back Lit Panel, Panel Technology -(IPS/ VA/ ADS), Native Resolution- 3840 x 2160 (UHD), Brightness -500cd/m2 or better, Contrast Ratio- 1000 : 1 or better, Haze: 25% or better, Dynamic CR- 400,000 : 1 or better, Operating System- WebOS/ Tizen/ Android, Orientation -Portrait & Landscape, Viewing Angle(H x V) -178 x 178, Response Time- 8 ms or better, Operation Hours- 24 Hrs , Connectivity - Input Ports - Digital HDMI(2 or more)/Display Port(1), External Control RS232C(1), RJ45(1), IR(1, Internal), USB -1, Output Ports- Audio Out-1, AUDIO -Audio Power 20W(10W x 2), Additional feature Inbuilt : Internal Memory 8 GB or better, Wi-Fi, Screen Sharing feature with all devices, Media Player, Local Key Operation, Picture in Picture (Optional), Environment Conditions , Operation Temperature- 0 °C to 40 °C or better, Operation Humidity - 10 % to 80 % or better, POWER - Power Supply 100-240V~, 50/60Hz, Power Type- Built-In Power, Speakers - 20W(10W x 2) , Power Supply 100 – 240 V, 50/60 Hz, Certifications UL/BIS, Warranty - 5 years, Wall mount accessories as per site requirement, Remote control, Standard cable etc complete as required.	2	Nos	₹ 1,73,737	347474.00
	<b>AUDIO</b>				

10	Supply, Installation, Testing & Commissioning of Low profile, Zero bezel / No Bezel, two-way Ceiling-mount loudspeaker. Frequency Range - 67 Hz to 19 kHz or better, Rated RMS power -60 watts or better, Sensitivity-86 dB SPL or better, Coverage- 140°conical or lesser, Maximum continuous/Peak SPL-104 dB/110 dB or better, LF Transducer - 6-inch woofer or better, HF Transducer-0.70-inch or better, Nominal impedance- 16Ω/8Ω, Transformer Taps- 70V and 100V: 60W, 30W, 15W or similar. Ingress Protection - IP-34 or better, Grille Material - Powder coated metal or similar, Enclosure - ABS baffle on powder coated metal back can or similar. Loudspeaker depth/height should not be more than four inches to fit the site condition. Ceiling Mounting accessories should be included. Certificates - UL, CE, RoHS or better. Quoted Speakers, Subwoofer, Amplifier should from the same OEM for interoperability and smooth integration. (with 5 years warranty)	20	Nos	₹ 31,829	636580.00
11	Supply, Installation, Testing & Commissioning of Ceiling-mount loudspeaker. Frequency range - 80 Hz to 16 kHz or better, Rated RMS Power - 15 Watts or better, Sensitivity-86 dB SPL or better, Coverage Angle-135° x 135° or better, Maximum SPL Continuous/Peak-100dB/106dB or better, Rated Impedance - 8 / 16 Ohms. Transformer Tapping - 70V &100V - 16, 8, 4 watts or better. Transducer - 3.5-4 inches or better, Material - Painted ABS polymer Baffle and Power coated steel grille or better. Safety rating - UL1480, UL2043 or better. Mounting rails and Ceiling installation Rings should be included. Quoted Speakers, Amplifier should from the same OEM for interoperability and smooth integration. (with 5 years warranty)	8	Nos	₹ 15,077	120616.00
12	Supply, Installation, Testing & Commissioning of Zero Bezel / No-bezel Ceiling Subwoofer. Transducer - 8-inch with 2-inch ferrite voice coil or better. Type - Bass Reflex, Frequency range - 53 Hz - 195 Hz or better, Sensitivity - 90dB or better, Max Peak SPL - 125dB or better, Continuous (RMS) Power - 250Watts or better, Impedance - 8Ω / 16Ω , Transformer Taps (70V & 100V) - 200, 100, 50W or similar, Enclosure - ABS baffle on powder coated steel backcan. Should be supplied with Tile rails and rings for mounting. Compliance - UL, RoHS, CE, DoC. Quoted Speakers, Subwoofer,	4	Nos	₹ 57,795	231180.00

	Amplifier should from the same OEM for interoperability and smooth integration. (with 5 years warranty)				
13	Supply, Installation, Testing & Commissioning of two-way, wall-mount loudspeaker. Transducers : LF - 6-inch woofer with 0.75-inch voice coil or better, HF-1-inch tweeter with 0.75-inch voice coil or better. Rated impedance- 8 / 16Ω, Transformer Taps- 70V & 100V:30, 15, 7 Watts or similar, Frequency Response -65Hz – 19kHz or better, RMS power-25 watts or better, Sensitivity-84 dB SPL or better, Coverage- 125° x 125° or better, Maximum continuous/Peak SPL-100/106 dB or better, Grille Material- Powder coated steel or similar, Enclosure material - UV treated, ABS polymer or similar. Should include OEM Mounting bracket. Quoted Speakers, Subwoofer, Amplifier should from the same OEM for interoperability and smooth integration. Quoted Speakers, Subwoofer, Amplifier should from the same OEM for interoperability and smooth integration. (with 5 years warranty)	2	Nos	₹ 21,778	43556.00
14	Supply, Installation, Testing & Commissioning of Eight-Channel Class-D Network Amplifier. Network Protocols Supported - Dante / AES67 / Similar or better. Total Power - 4000W or better. Dynamic and asymmetric Power sharing between all channels as per the power requirements or similar. Amplifier should support Bridge and Parallel modes for combining multiple channels to get desired higher power output. Typical Distortion at 8Ω-0.05 - 0.8% or lesser, Frequency Response (8 Ω)- 22 Hz - 20 kHz or better, Noise - >100 dB better, Damping factor > 110 or better, Minimum Eight Routable Mic/Line Input Channels with phantom power for Network Audio transport to common DSP processor. Eight or more GPIO ports for external control, fire & PA integration or standby mode. Should have front panel LED display with Controls and indicators for power, per channel mute, per channel Input signal and CLIP Indicators, Channel Output and Limit LED meters and	1	Nos	₹ 7,31,228	731228.00



	Control knob or better. Should have Dual gigabit ethernet ports for Audio, Control transport and network redundancy. Amplifier should be compatible with the quoted DSP processor over Dante / Similar Network Protocol. (with 5 years warranty) Note: Required hardware / accessories / expanders / perpetual software license should be quoted to meet the minimum specification to fulfil the requirements.				
15	Supply, Installation, Testing & Commissioning of Quad Channel Class-D amplifier. Per Channel Power 60 - 75W @8Ω, 4Ω or better. 70V, 100V support or better. Power Sharing or Bridge/Parallel modes for better power distribution. Frequency Response- 22 Hz – 20 kHz or better. Signal to Noise ratio -> 100 dB or better. Cooling - fanless or noiseless fan operation, Gain - 22 dB or better, GPI port for external volume controller, Indicators for Power, signal, limit, mute or better. Better to have Remote standby and Power saving features - Auto-standby. Quoted Speakers, Amplifier should from the same OEM for interoperability and smooth integration. (with 5 years warranty)	1	Nos	₹ 1,22,290	122290.00
16	Supply, Installation, Testing & Commissioning of Open Architecture Digital Signal Processor. Fixed/Modular/Server based with minimum 12 Mic/Line inputs and 8 Line outputs. Shall support phantom power on each microphone input. AEC channels - 12 or more with 200ms tail length for Analog and Networked microphones. Minimum 16x16 Dante channels and support for up to 64x64 Network audio channels via Dante /AES67 or similar protocol. SIP Softphone integration for Audio conferencing. USB-B / USB-C port for AV USB Bridging for software or web-based conferencing applications emulating and providing USB Audio (Speakerphone) and USB Video (Camera) driver. 24 bit-A/D-D/A converters or better, 48 kHz Sample rate or better, Input	1	Nos	₹ 7,17,534	717534.00

	frequency response of 22 Hz to 20 kHz or better, Input dynamic range > 108 dB or better. Control Ports : RS232, Ethernet or better. (with 5 years warranty) Note: Required hardware / accessories / expanders / perpetual software license should be quoted to meet the minimum specification to fulfil the requirements				
17	Supply, Installation, Testing & Commissioning of Open Architecture Digital Signal Processor. Fixed/Modular/Server based with minimum 12 Mic/Line inputs and 8 or more Line outputs. Shall support phantom power on each microphone input. AEC channels - 12 or more with 200ms tail length for Analog and Networked Microphones . Minimum 16x16 Dante channels and support for up to 128x128 Network audio channels via Dante /AES67 or similar protocol. 12x GPIO Inputs and 12x GPIO Outputs for microphones. POTS and SIP Softphone integration for Audio conferencing. USB-B / USB-C port for AV USB Bridging for software or web-based conferencing applications emulating and providing USB Audio (Speakerphone) and USB Video (Camera) driver. 24 bit-A/D-D/A converters or better, 48 kHz Sample rate or better, Input frequency response of 22 Hz to 20 kHz or better, Input dynamic range > 108 dB or better. Control Ports : RS232, Ethernet. (with 5 years warranty) Note: Required hardware / accessories / expanders / perpetual software license should be quoted to meet the minimum specification to fulfil the requirements	1	Nos	₹ 8,29,228	829228.00

18	Supply, Installation, Testing & Commissioning of 48 Channel Digital Mixer or better. 6-inch Color TFT Screen or larger, Input ports - 24 Mic/Line Inputs or more, 6 Line Inputs or more, Stereo USB/MP3 Playback or more, Input Processing - 4 Band Parametric EQ, Gate & Compressor etc. Output Ports - Balanced Main LR Output on 2 x XLR (Line Level), 14 x Balanced Aux Outputs on XLR (Line Level), Stereo TRS Headphone Output, Stereo TRS Monitor L/R Output or better, Output Processing - 1/3 Octave Graphic EQ, 6 Band Parametric EQ, Variable High & Low Pass filters, 12-Band Anti-Feedback Filters, Limiter, Delay Output Processing etc., Stereo mp3 & 32 x 32 Multitrack Recording & Playback direct to hard drive & DAW or better, 8 DCA & Mute Groups or better, External Control using WiFi enabled iOS or Android devices, Selectable 44.1 kHz to 48 kHz Sampling Frequency. 48V Phantom Power Individually Switchable on all Mic Inputs. Should be supplied with a stage box supporting transmission of signals over cat 6. Should be provided with required accessories (with 5 years warranty)	1	Nos	₹ 11,30,766	1130766.00
19	Supply, Installation, Testing & Commissioning of 18" Gooseneck Mic with Pre Amp, Mute Switch with LED indicator and desktop base, Frequency Response - 50 to 17,000 Hz, Output Impedance (at 1,000 Hz) - Rated at 150 Ohm (180 Ohm actual), Open Circuit Sensitivity (At 1 kHz) - 33.5 dBV (21.1 mV), Maximum SPL (1kHz at 1% THD, 1 kOhm load) - 124.2 dB, Equivalent Output Noise (A-weighted) - 28.0 dB SPL, Dynamic Range with 1 kOhm load - 96.2 dB or better, Common Mode Rejection - 40.0 dB minimum, Mute Switch Attenuation - 50.0 dB minimum (with 5 years warranty)	2	Nos	₹ 49,544	99088.00
20	Supply, Installation, Testing and Commissioning of Digital Wireless Dual Channel Receiver with 2 Handheld Mic, Digital Dual Channel Receiver with Network connectivity, Type : Dynamic, Audio Frequency Range - 470- MHz, 24 bit Digital Audio, Dynamic Range - 118 dB or better, Frequency Response : 20 to 20,000 Hz, Polar Pattern : Cardioid, Support upto 96 compatible channels; Switching Bandwidth - 44 MHz or better, Frequency Auto Scan Functionality, Range - 300 ft or more, RF Transmitter Output : 1mW/10 mW, switchable, Frequency and Power Lock ; Shoud support external antenna system, THD - <0.02%, Latency - 3.2ms or	3	Pairs	₹ 2,17,015	651045.00

	Minnimum, Sensitivity - -97 dBm or better, Should include 2 rechargeable batteries and charger with 2 slots for Handheld transmitter, Battery Life : 8 hours or more. Should support remote antennae or receiver can be cascaded to increase the range. (with 5 years warranty)				
21	Supply, Installation, Testing and Comissioning of Wireless Lapel microphone kit. Digital Dual Channel Receiver with 2 Bodypack transmitters and lapel microphone, with Network connectivity; Type : Condenser; Audio Frequency Range – 470-937 MHz; 24 bit Digital Audio; Dual Channel Receiver; Dynamic Range - 118 dB or better; Frequency Response : 20 to 20,000 Hz; Polar Pattern : Cardioid; Support upto 96 compatible channels; Up to 10 compatible systems , Switching Bandwidth - 44 MHz or better; Frequency Auto Scan Functionality; Range – 300 ft or more; RF Transmitter Output : 1mW/10 mW, switchable; Frequency and Power Lock . THD – <0.02%; Should include 2 rechargeable batteries and charger with 2 slots for Bodypack transmitter; Battery Life : 8 hours or more. Should support remote antennae or receiver can be cascaded to increase the range. (with 5 years warranty)	1	Pairs	₹ 2,50,248	250248.00
22	Supply, Installation, Testing & Commissioning of premium grade wired handheld microphone; Type : Dynamic; Frequency Response : 50 to 15,000 Hz; Polar Pattern : Cardioid; Sensitivity (at 1,000 Hz Open Circuit Voltage) : –54.5 dBV/Pa (1.85 mV). Rated impedance is 150Ω (350Ω actual) or better for connection to microphone inputs rated low impedance; Polarity : Positive pressure on diaphragm produces positive voltage on pin 2 with respect to pin 3; Case : Dark gray, enamel-painted, die cast metal; matte-finished, silver colored, spherical steel mesh grille, Connector : Three-pin professional audio connector (male XLR type) (with 5 years warranty)	2	Nos	₹ 17,313	34626.00

23	Supply, Installation, Testing & Commissioning of Dual Channel Receiver with 2 Boundary layer Mic. The power levels for the RF output are adjustable at 1 mW, 10 mW, 20 mW or higher. The system is housed in a rugged 1RU metal chassis or wall mounted receiver with an internal power supply and dual-receiver configuration. It features individual gain controls, LED meters, and balanced XLR outputs for each channel. Additional functionalities include AES 256-bit encryption for secure wireless transmission, compatibility with Dante Domain Manager for seamless integration, and dual-port Ethernet (10/100 Mbps or 1 Gbps) for streamlined frequency coordination. The system supports both DHCP and manual IP address configuration. An audio summing function routes both channels to each XLR/Dante receiver output. The system should include 2 rechargeable batteries with a charger for extended usability. Battery should support atleast 9 hours backup. Should support remote antennae or receiver can be cascaded to increase the range. (with 5 years warranty)	3	Pairs	₹ 5,58,326	1674978.00
24	Supply, Installation, Testing & Commissioning of Antenna Splitter and Power Distribution System for receivers, 4-way active antenna splitter plus cascade port, different frequency versions available, external power supply. RF Frequency Range: 174 to 1805 MHz; Gain Input to any output port: -1 to +1 dB with all required cables and accessories as per site requirement (with 5 years warranty)	2	Nos	₹ 65,224	130448.00
25	Supply, Installation, Testing & Commissioning of Wall mounted Active Directional wideband antenna; Signal Gain : +12 dB, +6 dB, 0 dB and -6 dB; 70 degrees reception pattern; RF Frequency Range : 470 - 694 Mhz; Four Position Gain Selector Switch; LED indicators for gain settings. (with 5 years warranty) (1 pair = 2 nos.)	1	pair	₹ 87,546	87546.00
26	Supply, Installation, Testing & Commissioning of Boundary microphone with programmable mute button. The microphone shall be a Flush mounted, black, electret condenser microphone with a omnidirectional polar pattern. Microphone should include a programmable mute button with a touchsensitive for muting the microphone. The microphone shall include a logic controlled, bi-coloured status indicator ring. The visible diameter and height of the microphone above the mounting surface shall	9	Nos	₹ 1,36,644	1229796.00

	be 1 ¼“ (32mm) and 5/8” (24 mm) or lesser. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response range shall be 50 Hz to 17 kHz and the sensitivity 42 mV/Pa. Maximum SPL: 114 dB. Equivalent Output Noise: 21 dB SPL. Signal-to-Noise Ratio: 70 dB or More . Dynamic Range: 93 dB or better with 5 years warranty.				
27	Supply, Installation, Testing & Commissioning of Audio Network Interface which provides channel summing to combine 4 input signals and send them over Dante channel Audio network interface brings up to Four BLOCK inputs (balanced audio + logic connections) for easy audio routing and convenient browser-based remote control. Single Ethernet port carries Dante audio, power LEDs indicate device status and audio signal 4 Band C/S PEQ on every channel, Mute, Limiter, Gain Browser-based software control for all device parameters, per input channel like as Preamp gain, Mute Control, Phantom Power Control strings for third-party preset controllers including Crestron and AMX Frequency response : 20Hz - 20 kHz Power Consumption :10 W Maximum Latency : 0.35 ms Dynamic Range: 113 dB Dante Digital Output : 4 Channels THD @ 1 kHz : <0.05% Common Mode Rejection Ratio : >70 dB Impedance : 5000 Ohms Phantom Power : Selectable per channel +48 V Analog Gain Range: Adjustable in 3 dB steps 51 dB with 5 years warranty.	3	Nos	₹ 1,78,830	536490.00
	<b>SWITCHING</b>				

28	Supply, Installation, Testing & Commissioning of Network Video Endpoint configured as Encoder. Minimum Input configurations –1 x USB-C supporting audio, video, USB 2.0 or better for BYOD presentation, power and Video Conferencing. Should have 1 x HDMI with associated 1 x USB A/B/accessories for BYOD presentation and video conferencing. Should have Video encoding from both inputs and should support Software based Video Conferencing accessing room Camera, Microphones and Speakers from single USB-C connectivity and by connecting HDMI with associated USB-A/B/accessories. USB-C should also support 60 watt or better charging for connected laptop/device. Local Output – 1x HDMI with Scaling for preview, HDMI audio embedding and de-embedding by Network Audio supported via Dante/AES67 or similar protocol to stream the HDMI audio to connected Digital Signal Processor. Video Resolution – 4K60 4:4:4 or better. Power – PoE/PSU and AUX, Control Port – 1xRS232 or more, mounting hardware should be included. (with 5 years warranty) Noted: Required accessories / hardware with perpetual software should be quoted and supplied to meet the requirement and match the compliance.	19	Nos	₹ 2,79,760	5315440.00
29	Supply, Installation, Testing & Commissioning of Network Video Endpoint configured as Decoder. Outputs -1xHDMI with scaling or better. Local Inputs – 1xHDMI / 1xUSB-C for local switching. HDMI audio embedding, de-embedding via network audio protocol i.e., Dante/AES67 or similar, Video Resolution – 4K60 4:4:4 or better. Power – PoE / PSU and AUX, Control Port – RS232 or better, mounting hardware should be included. Note: Required hardware / accessories / expanders / perpetual software license should be quoted to meet the minimum specification to fulfil the requirements.	21	Nos	₹ 2,60,528	5471088.00
30	Supply, Installation, Testing & Commissioning of point to point transmitter & receiver kit to extend HDMI signal over CAT6 cable with a transmission distance of min. 40m for 4k signals. Should be 4K60 4:4:4 compatible and should support Dolby vision video formats. Compliance with HDCP 2.2, CEC pass through capability etc all complete. (with 5 years warranty)	1	Nos	₹ 65,333	65333.00

31	Table Mount Enclosure : - Supply, Installation, Testing & Commissioning of Table Mount enclosure with 1xHDMI, 1xUSB-C and 1xUSB-A passthrough cables and 2 nos. x 3 pin universal Power sockets. Manually open and close lid with Black and Clear anodize color options. (With 5 year on site warranty), Should be CE, FCC compliant. etc complete as required.	6	Nos	₹ 26,626	159756.00
32	Supply, Installation, Testing & Commissioning of Wireless Presentation System. Simultaneous display of up to four presentation sources in a quad/dual window, Supports multiple user connections simultaneously, 1 HDMI or better output; 1 or better USB Port; 1 or better. Resolution should be 3840 X 2160 or better output resolution along with ethernet port. It should support Windows, Mac, iOS, and Android.(With 5 year on site warranty) etc complete as required.	2	Nos	₹ 3,76,922	753844.00
33	Supply, Installation, Testing and Commissioning of Wooden smart Podium in Metallic Frame and Wooden Top with min 21 inch Full HD interactive display , with provision of Gooseneck Microphone with On/off switch, Keyboard Tray, and space to store AV equipment, Interactive display with full HD resolution of 1920x1080, Technology IPS LCD, Aspect ratio16:9, Brightness 250 cd/m2, Contrast ratio1000:1, Pen Type shall be Pressure-sensitive and cordless. Connectivity plate with HDMI, USB-C Video, 1 x USB and Power socket for BYOD and Room PC of i7 13th gen with 512 GB SSD and 16GB RAM and licensed windows application, Wi-Fi inbuilt with keyboard & mouse. The entire system shall have 5 years onsite warranty.	2	Nos	₹ 3,36,340	672680.00
	<b>CONTROL SYSTEM</b>				
34	Supply, Installation, Testing & Commissioning of Hardware or Software based control system with 8x Bidirectional RS232 Ports, 8x GPIO Ports, 1x RJ45 Ports to control the devices mentioned in BOQ with perpetual licenses to connect Wall/Table mount touch screen controllers and iOS and Windows devices as wireless touch controller. (With 5 years onsite warranty) etc complete as required.	2	Nos	₹ 1,21,333	242666.00



35	Supply, Installation, Testing & Commissioning of High Definition, Multi-touch Touch Screen Controller with 24-bit colour display. Viewable Screen Dimensions (diagonal) – 7-inch or better, Resolution - 1280 × 800 or better, Brightness - 350 Nits or better, Aspect ratio – 16:9 / 16:10 or better, Power – PoE, Mounting – Wall and Tabletop, Orientation options- Vertical / horizontal. Better to have configurable LEDs on both side or similar for status indication. Sensors - Ambient Light Sensor, Proximity Detection or better. (with 5 years warranty)	2	Nos	₹ 2,19,347	438694.00
36	Supply, Installation, Testing & Commissioning of High Definition 10" Touch Panel with Retina Display should have 512GB RAM. Should be supplied with tabletop docking station with inbuilt charging port for touch panel (with 5 years warranty)	1	Nos	₹ 91,299	91299.00
37	Supply, Installation, Testing & Commissioning of Room scheduler 10 inch Room Scheduler with inbuilt Calendaring (optional), and mounting accessories . Should be supplied with on-premise based central room booking software to integrate with room scheduler and able to add multiple touch scheduler in future, Should be supplied with necessary hardware and software to install room scheduling application.(With 5 year on site warranty) etc complete as required.	1	Nos	₹ 6,28,203	628203.00
<b>VIDEO CONFRENCING</b>					
38	Supply, Installation, Testing & Commissioning of Video Conferencing unit (Hybrid) comprising of following features and technical specifications etc. complete as reqd. 1080p Codec (1080p 30/60fps) Including Cables and connectors from the same OEM Compatibility of VC endpoint with NIC MCU system for hard and soft video conferencing.Features: Supports H.323 & SIP standards, G.711, G.722, G.722.1, audio standards Interoperability and bandwidth saving using video compression H.264, H.265, 1080p 30 fps, having both wired and wireless content sharing using standard -based H.239 and BFCP. The VC Unit should have ports for connecting minimum 3 cameras directly on the codec or via AV over IP functionality to connect 3 cameras and 1 x HDMI port to connect Laptop/PC for content sharing. It should have 2 x HDMI Video Outputs to connect to full HD/4k Displays. It should support 3 Mics and should connect directly to the codec or via AV over IP Switch. The Unit should support USB C Port to connect to a PC/Laptop for	2	Nos	₹ 12,20,509	2441018.00

	USB Passthrough Facility and should support Link Based Meetings such as Bharat VC, Zoom, MS Teams, Webex, Google Meet etc. as per specification. (With 5 years onsite warranty).				
39	Supply, Installation, Testing & Commissioning of HDMI to USB3.0 Capture Device. Should have 1x HDMI and 1x stereo Input and 1x HDMI and 1x USB 3.0 output, Device should be able to automatically scales 4K sources to 1080p for USB capture, should have compliance with the UVA and UVC, operating compatibility with Windows 10 or higher, MacOS 10.10 or higher, Google Chromebook, Linux. Should be a driver less connection. Industrial-grade metal chassis case material.	1	Nos	₹ 71,795	71795.00
40	Supply, Installation, Testing & Commissioning of AI based 4K @60fps Presenter PTZ Tracking Camera with Dual Camera, it shall consist of one PTZ Camera for Presenter Tracking and second fixed lens Panoramic Camera. PTZ Presenter Camera should be supplied with remote control and support min 20X Optical Zoom or better and 8X Digital Zoom with Panning range of +170 deg to - 170 deg and Tilt Range of -30 to +90 Degrees, Field of View for PTZ Camera should be minimum 58 Degree and for Panoramic Camera minimum 85 Degree, camera should support simultaneous outputs through HDMI, 3G-SDI, USB 3.0 and IP with 1x Audio In and can be controlled via RS232 and IP. Should support multiple video streams. Tracking Camera should support Everywhere Tracking, Partition Tracking, Auto Framing & Gesture Control. Should support PoE+ and Virtual USB Driver. Camera can be controlled and managed through centralized software on network. Quoted model should be BIS, CE, FCC , Clickshare & RoHS Certified with Test Lab Reports with all wall/ceiling mounting	2	Nos	₹ 5,02,562	1005124.00

	accessories. The camera shall have 5 years on-site warranty.				
41	Supply, Installation, Testing & Commissioning of 4K @60fps PTZ Camera with minimum 20X / 30X Optical Zoom and FoV of minimum 55-65 deg, min 100 Presets. Camera should support simultaneous outputs through Ethernet, HDMI, 3G-SDI & USB 3.0, Audio In and can be controlled via RS232 & 422 In & Out & IP. Panning angle - 170° ~ +170°, Tilting angle -30° ~ +90°. The tilting and panning speed of camera should be minimum 200° per second. Camera should support SRT, FreeD Protocol, PoE+ and Virtual USB Driver. Camera can be controlled and managed through centralized software on network. Quoted model should be BIS, CE, FCC & RoHS Certified with Test Lab Reports. with mounting accessories. The camera shall have 5 years on-site warranty.	2	Nos	₹ 4,81,024	962048.00
42	Supply, Installation, Testing & Commissioning of 4K Network PTZ Conference camera with minimum 20X optical zoom & 60 degree horizontal coverage. Low Noise CMOS 4K image sensor with User-configurable resolution and quality for IP streams (up to 1080p). HDMI resolutions up to 4K30 or better and SDI-3G resolution up to 1080p60 or better. Image rotation controls to allow for inverted mounting using ceiling bracket. Minimum Illumination - 0.5 Lux @ (F1.8, AGC ON) or better, Horizontal Rotation Range - ±170°, Vertical Rotation Range - -30° to +90° or better, White Balance controls- Auto, indoor, outdoor, one-push, manual, specified color temperature or better. Camera should be able to transmit video via network to USB endpoint connected for video conferencing. Power – PoE & AUX. Shall include wall mounting bracket included. (With 5 year on site warranty) etc complete as required	1	Nos	₹ 5,74,357	574357.00

43	Supply, Installation, Testing & Commissioning of Joystick with 3" LCD for Preview Monitoring, PAN/Tilt/Zoom Control, Communication via IP & RS232C/RS455 Interfaces, Auto Backlit Keys, Should be able to control minimum 200 Cameras on IP & 10 Cameras through RS232/422, Should support VISCA, VISCA Over IP protocols & PoE. Quoted model should be BIS, CE, FCC & RoHS Certified with Test Lab Reports, The device shall have 5 years on-site warranty.	1	Nos	₹ 3,23,076	323076.00
44	Supply, Installation, Testing & Commissioning of Recording, Streaming & Webcasting Hardware simultaneously, Built-in HDMI inputs 4 or more/SDI & IP Inputs with 4x Line Inputs, 2x HDMI or more outputs. The system should be capable to record upto any four inputs simultaneously in a single frame and as well as individual sources simultaneously. Should have minimum 1TB inbuilt storage and can be connected to local NAS storage. The system should be able to support minimum 3 unicast streams. The recorded files should have the option of time and date stamp. The device should be controlled and managed through centralized software on network. Quoted model should be CE, FCC & RoHS Certified with Test Lab Reports with all mounting accessories. The device shall have 5 years on-site warranty.	2	Nos	₹ 3,94,871	789742.00
45	Supply, Installation, Testing & Commissioning of 24/26 Port L2 / L3 Gigabit POE++ Network Switch. PoE Budget - 1440W or better. Multicast support with IGMP V1/V2 or better, QoS support, IPV4/IPV6 Support, Switching Capacity in Gigabits per Second, 1 Gbps Non-blocking ports with standard accessories. (With 5 year on site warranty) etc complete as required.	4	Nos	₹ 3,17,656	1270624.00
	<b>Rack &amp; Cabling</b>				
46	Supply, Installation, Testing & Commissioning of 18U / 19U Equipment Rack with standard accessories. (With 5 year on site warranty) etc complete as required.	1	Nos	₹ 26,658	26658.00
47	Supply, Installation, Testing & Commissioning of 24U / 25U Equipment Rack with standard accessories. (With 5 year on site warranty) etc complete as required.	1	Nos	₹ 36,655	36655.00

48	SITC of following cables for Auditorium, Dining, Secretary Room, Conference Hall and wherever required.(i) HDMI to HDMI (M) of various lengths.(ii) USB cable (A to C and A to B and A to A) of various lengths. (iii) 2 core shielded Audio microphones cables as per desire length. (iv) Speaker Cables ,UTP CAT6A , STP CAT6A cables (v) LAN patch cords of various sizes i/c all mounting accessories like connectors, brackets, sleeves etc. complete as required Note: The quotationer to quote the rate of the item considering the all cabling required for commissioning the system.	1	Lot	₹ 3,90,097	390097.00
	<b>Total SH:-I</b>				<b>47701650.00</b>
	<b>SH:- II (IEI &amp; Fans)</b>				
1	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 PVC conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable etc as required.				
a	Group C	215	Point	1703.00	366145.00
2	Wiring for group controlled (looped) light point/fan point/exhaust fan point/ call bell point (without independent switch etc.) with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed PVC conduit, and earthing the point with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable etc. as required.				
a	Group C	179	Point	946.00	169334.00
3	Wiring for twin control light point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, 2 way modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable etc as required.	1	Point	1793.00	1793.00
4	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit along with 1 No 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	1060	mtr	367.00	389020.00
5	Wiring for light/ power plug with 4X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit along with 2 Nos 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	1060	mtr	584.00	619040.00

6	Wiring for circuit/ submain wiring along with earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required				
a	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	490	mtr	251.00	122990.00
7	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required.				
a	3 x 1.5 sq. mm	400	mtr	101.00	40400.00
b	6 x 1.5 sq. mm	605	mtr	191.00	115555.00
c	3 x 4 sq. mm	940	mtr	229.00	215260.00
d	6 x 4 sq. mm	400	mtr	439.00	175600.00
e	9 x 4 sq. mm	40	mtr	640.00	25600.00
8	Supplying and drawing following pair 0.5 mm dia FRLS PVC insulated annealed copper conductor, unarmored telephone cable in the existing surface/ recessed steel/ PVC conduit as required.				
a	4 Pair	510	mtr	49.00	24990.00
9	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.				
a	20 mm	1795	mtr	138.00	247710.00
b	25 mm	2160	mtr	150.00	324000.00
10	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.				
a	5/6 amps switch	37	nos.	154.00	5698.00
b	15/ 16A Switch	102	nos.	219.00	22338.00
c	3 pin 5/6 amp socket outlet	53	nos.	185.00	9805.00
d	6 pin 15/16 A Socket outlet	105	nos.	270.00	28350.00
e	Telephone socket outlet	11	nos.	202.00	2222.00
f	Bell push	7	nos.	206.00	1442.00
g	RJ-45 Socket	50	nos.	437.00	21850.00
11	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	170	nos.	54.00	9180.00
12	Supplying and fixing following size/ modules, GI box along with modular base & cover plate for modular switches in recess etc as required.				
a	3 Module (100mmX75mm)	54	nos.	458.00	24732.00
b	6 Module (200mmX75mm)	52	nos.	627.00	32604.00
c	8 Module	11	nos.	687.00	7557.00

13	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 amps modular socket outlet and 15/16 amps modular switch, connection etc. as required.	44	nos.	826.00	36344.00
14	Supplying and fixing 3 pin, 5 amp ceiling rose on the existing junction box/ wooden block including connection etc as required.	16	nos.	104.00	1664.00
15	Supplying and fixing call bell/ buzzer suitable for single phase, 230 V, complete as required.	2	nos.	112.00	224.00
16	Supplying and drawing of UTP 4 pair CAT 6 LAN Cable in the existing surface/ recessed steel/ PVC conduit as required.				
a	1 run of cable	315	mtr	52.00	16380.00
b	2 run of cable	540	mtr	79.00	42660.00
c	3 run of cable	265	mtr	107.00	28355.00
17	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 2 Nos. 3 pin 5/6 A modular socket outlet and 2 Nos. 5/6 A modular switch, connections etc. as required. (For light plugs to be used in non residential buildings).	5	nos.	1085.00	5425.00
18	Supplying & fixing suitable size GI box with modular plate and cover in front on surface or in recess including providing and fixing 25 A modular socket outlet and 25 A modular SP MCB, "C" curve including connections, painting etc. as required.	13	nos.	880.00	11440.00
19	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 volts, 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)				
a	12 way, Double door	2	nos.	2543.00	5086.00
20	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)				
a	6 way (4 + 18), Double door	2	nos.	4770.00	9540.00
b	8 way (4 + 24), Double door	8	nos.	5621.00	44968.00
21	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.				
a	Single pole	248	nos.	319.00	79112.00
22	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	20	nos.	14.00	280.00
23	Supplying and fixing following rating, double pole, 240 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
a	40 amps	2	nos.	472.00	944.00
24	Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
a	40 A	2	nos.	1049.00	2098.00
b	63 A	6	nos.	1115.00	6690.00
c	100 amps	2	nos.	1317.00	2634.00
25	Supplying and fixing Cable End Box (Loose wire box)(IP 43) suitable for following triple pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with testing and commissioning etc. as required.				
a)	For 6 way, Double door TPN MCBDB	2	nos.	1439.00	2878.00
b)	For 8 way, Double door TPN MCBDB	8	nos.	1492.00	11936.00
26	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing along with existing surface/ recessed conduit/ submain wiring/ cable as required.	580	mtr	50.00	29000.00
27	Supplying of one number PVC insulated and PVC sheathed / XLPE armoured aluminium conductor power cable of 1.1 KV grade complete etc. as required.				
a	3.5 x 25 sqmm	90	mtr	345.00	31050.00
b	3.5 x 50 sqmm	200	mtr	569.00	113800.00
28	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing RCC/ HUME/ METAL pipe as required.				
a	Upto 35 sq. mm	30	mtr	47.00	1410.00
b	Above 35 sq. mm and upto 95 sq. mm	80	mtr	72.00	5760.00
29	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on wall surface as required.				
a	Upto 35 sq. mm (clamped with 1mm thick saddle)	60	mtr	64.00	3840.00
b	Above 35 sq. mm and upto 95 sq. mm (clamped with 25x3mm MS flat clamp)	120	mtr	151.00	18120.00



30	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.				
a	3½ X 25 sq. mm (28mm)	4	set	371.00	1484.00
b	3½ X 50 sq. mm (35mm)	12	set	484.00	5808.00
31	Supplying, installation, testing and commissioning of Passive Infrared (PIR) technology based occupancy sensor having high performance, non regulating programmable type, suitable for connected load upto 10Amp, for mounting height up to 2.8 mtr and for 5 m diameter coverage area along with necessary fixing arrangements i/c programming at site etc. complete as required.	9	nos.	4896.00	44064.00
32	Supplying & fixing of powder coated extruded aluminium Return Air Grills with louvers but without volume control dampers complete as required.	11	sqm	6285.00	69135.00
33	Providing and laying 1.6 mm thick pregalvanized GI factory fabricated raceways of the following sizes including GI covers, couplers , providing knock out holes and all required fixing accessories like brackets etc complete as required including floor /wall supports, bends, access boxes and tap off boxes as per specification and cross over as per site requirement. The item shall include the cost of chipping, cutting the floor for laying the raceway and making good the finish including chicken mesh complete as required as per site requirement.				
a	GI Raceway-300 x 38mm (3 compartments)	190	mtr	991.00	188290.00
34	Supplying, installation, testing & commissioning of 6 inches dia, 2 watts, 70/100 volts ceiling speaker complete as required.	47	nos.	1939.00	91133.00
35	Supplying and drawing of cable Fire Retardant PVC insulated copper conductor cable in the existing surface / recessed steel conduit of following pairs, cores and size including connections and interconnections etc. as required.				
a	Speaker cable Single pair, 2-core, 1.5 sqmm	1000	mtr	57.00	57000.00
36	Providing, fixing, testing & commissioning of 15mm dia quartzoid bulb type sprinklers of rating 68 degree centigrade with required accessories				
a	Pendent Sprinkler	189	nos.	599.00	113211.00

37	Dismantaling and reorientation of a existing fire fighting pipeline of 8-12 mtr of size, 25/32/40/65 mm dia installed for sprinkler system complete with dismantaling the complete pipe line, cutting with the help of welding the existing nipples, sprinkler drops etc and rewelding of 25mm socket in the existing line and clouser to close the opening etc complete with hanging in the hanger etc. complete with welding the same on the existing main header etc complete as required at site	40	job	1138.00	45520.00
38	Dismantaling, reorientation, uplifting & reinstallation of A.C GI duct of any size complete with installation on new GI threading rod & refixing the same after servicing & fixing on desired space etc.complete as required at site	210	mtr	365.00	76650.00
39	Supplying, installation, testing & commissioning of sprinkler flexible pipe (UL Listed) of stainless steel complete with 15 NPT on reducer thread with maximum working pressure of 175 PSI test pressure of 875 PSI (Burst) with branch line (Inlet) 25mm NPT male thread to sprinkler head (Outlet) 15mm NPT female thread with reducer, nipple, 2 side brackets, center bracket, stockbar of following sizes complete as required				
a)	1200mm	147	nos.	1800.00	264600.00
40	Supplying, installation, testing and commissioning of 400 mm sweep wall fan with silent operation and minimum 1350 rpm , complete with all respect, including connection and providing suitable clamp for hanging on wall as per site required etc. complete as required.	17	nos.	2933.00	49861.00
41	Supplying and fixing of following size of DLP Trunking along with i/c all accessories etc complete as required.				
a	105 mm x 38 mm	190	mtr	444.00	84360.00
42	Providing and fixing carbon-di-oxide type fire extinguishers consisting of pressure tested single cast cylinder with rotary discharge valve and high pressure discharge tube of minimum 1 m length, discharge horn, suspension bracket conforming to IS:15683 finished externally with red enamel paint and fixed to wall with brackets complete with internal charge (Halon Free Gas)				
a	Capacity 4.5 Kg.	10	Nos.	5183.00	51830.00

43	Providing and fixing ABC Powder type fire extinguishers consisting of welded M.S. cylindrical body, squeeze lever discharge valve fitted with pressure indicating guage internal discharge tube 30 cms long high pressure discharge hose, discharge nozzle, suspension bracket conforming to IS:15683 finished externally with red enamel paint and fixed to wall with brackets complete with internal charge. (Halon Free Gas)				
a	Capacity 6.0 Kg.	10	Nos.	2591.00	25910.00
	<b>LED FITTINGS</b>				
44	SITC of COB based LED recessed downlight, with HPE (High-Performance Efficiency), with system power: 22W to 25W, Luminous flux of luminaire $\geq 2500$ lm, Colour temperature of 3000K/4000K/5700K/6000K/6500 K (as decided by E-n-C), CRI > 80, 230V constant current driver, 70% of luminous flux after 50,000 operating hours; energy-efficient LEDs, direct light emission, Silver colour housing in die-cast aluminium, with powder white coloured coat applied body with white ceiling trim, Clear glass cover with aluminium reflector UGR <19 and a beam angle of 36 to 38 deg., i/c wiring with copper conductor cable, Dali Dimmable control gear, Protection class II, IP 40, THD-10%, PF>0.95, Macadam 3, $\varnothing = 138$ mm, DA( $\varnothing$ ) $\geq 127$ mm, H $\geq 91$ mm, with 5 years on site warranty.	62	nos.	12284.00	761608.00
45	SITC of LED Recessed with Trim Efficacy: 100lm Lumen: 800 CRI :>80 Color Temperature: 3000K/4000K/5700K/6000K/6500 K (as decided by E-n-C), SDCM 3 Life Time: L70 50'000hrs 230V Light Throw: Direct light emission Material: Aluminium Optics: With Reflector beam 36° Finish: UGR <19 White Control Gear: Electronic Protection Class: II IP 40, THD<10%, PF>0.9, Macadam 3, i/c wiring with copper conductor cable, Dia $\geq 85$ mm H $\geq 52$ mm IP 40, with 5 years on site warranty.	25	nos.	4956.00	123900.00
46	SITC of LED Recessed with Trim 12W Efficacy $\geq 105$ lm/W, Lumen: >1260 CRI :>80 Color Temperature: 3000K/4000K/5700K/6000K/6500 K (as decided by E-n-C), SDCM 3 Life Time: L70 50000Hrs 230V Light Throw: Direct light emission Material: Aluminium Optics: Prismatic Diffuser UGR<16 Finish: White Control Gear: Electronic Control Protection Class: II THD<10%, PF>0.9, Macadam 3, i/c	17	nos.	1872.00	31824.00

	wiring with copper conductor cable, Dia $\geq$ 171mm H $\geq$ 39mm, IP 40, with 5 years on site warranty.				
47	SITC of LED strip (flexible) with aluminum extrusion and diffuser, 2835 SMD package with a thermal tape with high thermal conductivity, system power: 10 to 12W/meter, luminous flux 1350 lm, colour temperature of 3000K/4000K/5700K/6000K/6500 K (as decided by E-n-C), anodised aluminium extrusion, opal diffuser, 12V DC, constant voltage driving circuit, electronic control gear, IP20, i/c wiring with copper conductor cable, H $\geq$ 16mm, B $\geq$ 16mm, with 5 years on site warranty.	150	mtr	1525.00	228750.00
48	SITC of LED Step Light Wall Recessed Mounted 5W to 6W Efficacy $\geq$ 35 lm Lumen $\geq$ 210 CRI >80 Color Temperature: 3000K/4000K/5700K/6000K/6500 K (as decided by E-n-C), SDCM 3 Life Time: L70 50'000hrs 230V Light Throw: Direct light emission Material: PDC Aluminium Optics: With Reflector Finish: Grey Control Gear: Electronic Control, IP 65, i/c wiring with copper conductor cable, L $\geq$ 100mm, H 70mm, with 5 years on site warranty.	32	nos.	4787.00	153184.00
49	SITC of Lighting Dali Controller having support 128 Nos Dali devices/ Drivers Along with 7/8 Btten Key pad and Digital Remote Controller Programming Dive on simple systems dali supply input 13V To 22 V SV IP 30 Protection, compatible with other existing router, universal supply input, Hand held remote control. with 5 years on site warranty	1	nos.	174485.00	174485.00
50	SITC of 20W LED Track Light with beam angle 15/ 24/ 36 degree, housing made of diecast aluminium with efficient thermal management with CCT 3000K/4000K/5700K (as decided by E-in-C),minimum 100 lm/w, IP 20 rating complete including connections with 1.5 Sqmm FRLS PVC insulated copper conductor single core cable, earthing etc. as required, with 5 years on site warranty.	14	nos.	16215.00	227010.00
51	SITC of single phase track for mounting of track lights i/c fixing on wall/ ceiling etc. complete as require.	12	Mtr.	2406.00	28872.00
52	Dismantalling of all existing electrical, Mechanical and AV system in auditorium, dining hall & toilets and handover them to the client department.	3	Job	14205.00	42615.00

53	Supplying & laying of 2x1.5 sqmm fire survival armoured cable, 600/1000V rated with annealed copper conductor having glass mica fire barrier tape covered by an extruded layer of Cross Linkable Ethylene Propylene Rubber (EPR) insulation and LSZH inner bedding, steel wire armouring & LSZH outer sheath complete as required.	600	Mtrs.	262.00	157200.00
54	Supplying, installation, Testing & Commissioning of LED Recessed/ surface Down lighter (Round/ square/ Rectangular) SMD type of following body material with PMMA and prismatic diffuser and construction as per IS : 10322 with driver as per the requirement with Driver efficiency >85%, Operating voltage AC 140-270 Volt, frequency 50/60 hz, Operating temp range - 15 deg to 40 deg centigrade, internal surge protection of 2.5 KV with Short & Open circuit protection ,THD < 10% , P. F.≥0.95, IP20, CRI >80 , UGR (Unified Glare Rating) < 19, Flicker free (flicker should be below 5%), life time (LED,Driver & electrical circuitary), of minimum 50000 Burning Hours with 70% of initial Lumen maintained till life ends , CCT 3000°K / 4000°K / 5700°K / 6000°K / 6500°K (As per ANSI Bin), SDCM (Standard Deviation Color Matching) <3, Maximum power consumption should not more than the specified rating and Fixture shall be confirming to relevant BIS standards and trade mark certificate (T.C.). Manufactures Word Mark/ Name Engraved/ Embossing/ Screen printing on housing Complete in all respect i/c connections with 1.5 sq mm FRLS, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy ≥105 and <120 lm/Watt output . LM79 & LM80 Test report from NABL lab for all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management: heat sink of aluminum housing such that LED junction temperature shall not rise above 90°C)(a) 12 -15 watt	68	nos.	666.00	45288.00

55	Supply, installation, testing and commissioning of surface mounting, 600 mm long LED mirror light luminaire with extruded aluminium housing, polycarbonate diffuser, integrated SMD mounted LEDs, Luminaire efficacy $\geq 100$ lm/watt, CCT-6000/6500K, PF $\geq 0.90$ , lumen output $\geq 1000$ lumens, ingress protection-IP20 or higher, with integral electronic driver etc., suitable for operation on 140-270V, 1 $\Phi$ , 50Hz AC supply system, complete including connections with 1.5 Sqmm FRLS PVC insulated copper conductor single core cable, earthing etc. as required, with 5 years on site warranty.	9	nos.	625.00	5625.00
56	SITC of recessed with trim luminaire with HPE (High Performance Efficiency) LED (Light Emitting Diode) system power: Minimum 11 W, Luminous flux of luminaire: minimum 1210 lm, Color temperature: 3000K/ 4000K/ 5700K/ 6000K/6500K (or as decided by Engineer-in-charge), CRI>80, 230V constant current driver, 70% of luminous flux, 50000 operating hrs., Energy efficient LEDs, Direct Light Emission, Luminaire profile in aluminium, corrosion resistant powder coat, snap fit satin diffuser for a homogenous light distribution, electronic control gear, protection class I, IP 40, MacAdam 3, T.H.D $\leq 10\%$ , driver efficiency $\geq 88\%$ , surge protection of 2.5 kV, with minimum B= 52mm, H=38mm, i/c wiring with 1.5 sq.mm copper conductor cable, with 5 years on site warranty.	64	Mtr.	7201.00	460864.00
57	SITC of LED recessed with Trim 10W efficacy: >85 lm, Lumens: > 850, CRI>80, Color Temperature : 3000/4000/5700/ 6000/ 6500 K (or as decided by E-n-C), SDCM 3 Life Time: L70 50'000h 230V Light Throw: Direct light emission Material: Aluminium Optics: With beam angle 38° - 40° Control Gear: Electronic Control, THD<10%, PF-0.95, UGR <16, dia $\geq 85$ mm, H $\geq 60$ mm i/c wiring with 1.5 sq.mm copper conductor cable, with 5 years on site warranty.	46	nos.	5295.00	243570.00
58	SITC of Decorative Pendant LED with systems power $\geq 15$ W, Lumen: $\geq 1200$ CRI $\geq 80$ , 230V constant current driver, Color Temperature: 3000/4000/5700/ 6000/ 6500 K (or as decided by E-n-C), SDCM 3 Life Time: L70 50000Hrs 230V Light Throw: Direct light emission Material: Aluminium /Metal Optics: Finish: White or as per site requirement Control Gear: Electronic Control Protection Class: I, THD<10%, PF>0.9, i/c wiring with 1.5 sq.mm copper conductor	16	nos.	27533.00	440528.00

	cable, with 5 years on site warranty. <b>Note:- The actual shape and design of the decorative fitting to be finalized by E-n-C.</b>				
59	SITC of LED strip (flexible) with aluminum extrusion and diffuser, 2835 SMD package with a thermal tape with high thermal conductivity, system power minimum 10W/Mtr, luminous flux minimum 1000 lm, colour temperature of 3000K/4000K/5700K/6000K/6500 K (as decided by E-n-C), 12V DC, constant voltage driving circuit, electronic control gear, IP20, H ≥ 14mm, B ≥ 10mm, i/c wiring with 1.5 sq.mm copper conductor cable, with 5 years on site warranty.	90	mtr	1525.00	137250.00
60	SITC of 12 to 15W Recessed downlight with LED , having system luminous efficacy of 105 lm/watt or better, Colour temperature of 3000K/4000K/ 5700K/6000K/6500K (as decided by E-n-C) , CRI > 80, 230 V constant current driver, Service life of 50,000 hrs @ L70, energy-efficient LEDs, direct light emission, pre-cast die aluminium housing with powder-white coloured coat applied, UGR < 19 for homogenous light distribution, i/c copper conductor cable, Electronic control gear, PF=>0.9, THD<10%, Surge Protection of 3 kV Protection class II, IP 20, Ø = >136 mm, with 5 years on site warranty	17	Nos.	2880.00	48960.00
61	SITC of 12 to 15W COB based recessed downlight luminaire with having system luminous efficacy of 100 lm/watt or better, Colour temperature of 4000K, CRI > 80, 230 V constant current driver, Service life of 50,000 hrs @ L70, Energy efficient LEDs, Direct light emission, Luminaire trim and aluminium housing with powder white coloured coat applied, UGR < 16 , Beam Angle >38 FRLS internal wiring, electronic control gear, PF>0.95, THD<10%, Surge Protection of 3 kV, Protection class II, IP 20 Ø Dia < 120 mm, with 5 years on site warranty	27	Nos.	5422.00	146394.00



62	SITC of Suspended / Surface mounted luminaire of with HE-High Efficiency LED , having system power 12W to 15W, system luminous efficacy of 110 lm/watt or better, colour temperature of 3000K/4000K/5700K/6000K/6500K (as decided by Engineer-in-charge), CRI>80, 230V constant current driver, Service life of 50,000 hrs @ L70, energy-efficient LEDs, direct light emission, luminaire profile powder coated in white, UGR<19 Prismatic diffuser for a homogenous light distribution, i/c wiring with copper conductor cable, High efficiency driver with necessary safety protections along with additional 6KV SPD. PF≥0.95, THD<10% class I, IP20, W≥52mm, H≥64mm, with 5 years on site warranty.	60	Mtrs.	8048.00	482880.00
63	SITC of 18W to 20W/Mtr Suspended/ pendent mounted luminaire Curve Shape of with HE-High Efficiency LED , having system luminous efficacy of 100 lm/watt or better, colour temperature of 3000K/4000K/5700K/6000K/6500K (as decided by E-n-C) , CRI>80, 230V constant current driver, Service life of 50,000 hrs @ L70, energy-efficient LEDs, direct light emission, luminaire profile powder coated in white, UGR<19 diffuser for a homogenous light distribution, i/c wiring with copper conductor cable, integral electronic control gear,PF>0.95, THD<10%, Surge Protection of 3 kV. Protection class I, IP20, B/W ≥ 55 mm (with suspension kit), with 5 years on site warranty.	8	Mtrs.	23721.00	189768.00
64	SITC of LED Deep Recessed downlighter with 15W to 20W Efficacy≥ 90lm/W, CRI :>80 Color Temperature: 3000K/4000K/5700K/6000K/6500K (as decided by E-n-C), SDCM 3 Life Time: L70 50'000Hrs 230V Light Throw: Direct light emission Optics: Lens beam 36° Finish: White Control Gear: Electronic Control Protection Class: II IP 40 i/c wiring with copper conductor cable, Dia<100mm, with 5 years on site warranty.	4	Nos.	5507.00	22028.00
65	Supplying & Installation of 15U wall mounted LAN/ Telephone Rack complete with all mounting arrangement, front toughened Glass door & Lock, option for mounting of fans with RAL-7035 colour i/c cooling fan, PDU complete etc as required at site.	2	nos.	11548.00	23096.00
66	Supplying & Installation of 24 Port full loaded patch panel for connecting of all required LAN/Telephone wire in the existing rack, complete with all connection etc as	2	nos.	4640.00	9280.00



	required at site.				
67	Supplying & Fixing of cable manager PVC 1U for the dressing of cables in wall mounted Rack complete with mounting arrangement etc as required.	4	nos.	468.00	1872.00
68	LED Panel light 2x2 ft. (System lumen efficacy $\geq 120$ <135 lm/Watt) Supplying, installation, Testing & Commissioning of Panel light 2x2 ft., of following body material and construction as per IS : 10322 with driver as per the requirement with Driver efficiency >85%, Operating voltage AC 140- 270 Volt, freq 50/60 hz, Operating temp range -15 deg to 40 deg centigrade, internal surge protection of 2.5 KV with Short & Open circuit protection ,THD < 10% , P. F. $\geq 0.95$ , IP20, CRI >80, UGR (Unified Glare Rating) < 19, Flicker free, (flicker should be below 5 %), life time (LED,Driver & electrical circuitry), of minimum 50000 Burning Hours with , 70% of initial Lumen maintained till life ends,CCT 3000°K / 4000°K / 5700°K /6000°K/6500°K (As per ANSI Bin), SDCM(Standard Deviation Color Matching) <3, Maximum power consumption should not more than the specified rating and Fixture shall be of relevant BIS standard and trade mark certificate ( T.C.). Manufactures Word Mark/ Name Engraved/ Embossing/ Screen printing on housing. complete in all respect i/c connections with 1.5 sq mm FRLS, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy $\geq 120$ <135 lm/Watt output . LM79 & LM80 Test report from NABL lab for all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C). Powder coated die cast / Extruded aluminium Body (Thickness $\geq 1.20$ mm) (a) 36 Watt	9	nos.	2955.00	26595.00
69	Supply, Installation, testing and commissioning including vaccumiazation and Nitrogen testing of following minimum nominal sizes of soft/ hard drawn copper refrigerant piping for VRV/ VRF system, complete with fittings, with suitable adjustable ring type hanger supports, jointing/ brazing including accessories,				

	insulated with XPLE Class-O tubular insulation/ with Class-O closed cell elastometric nitrile rubber tubular sleeves sections of specified thickness as given below for Suction and Liquid lines, all accessories as per specifications etc. as required :				
a)	6.4 mm dia (OD) (Softdrawn) with tube thickness 1.2 mm with 19mm thick insulation	10	mtr	256.00	2560.00
b)	12.7 mm dia (OD) (Softdrawn) with tube thickness 1.2 mm with 19mm thick insulation	10	mtr	487.00	4870.00
70	Supplying and fixing of rigid 25 mm dia cPVC drain water piping complete with fittings, support etc. as required.	10	mtr	184.00	1840.00
71	SITC of 10 watt LED bulkhead light IP 66, environmental friendly, ultra modern, energy saving, surface mounted, decorative hexagon bulk head Back-lit LED luminaire comprising of high brightness LEDs complete etc. as required, with 5 years on site warranty.	1	nos.	1406.00	1406.00
	<b>Total of SH:-II</b>				<b>8907831.00</b>
	<b>SH:-III (HVAC)</b>				
1	Supply, installation, testing and commissioning of Ceiling Concealed Fan Coil Unit comprising of 3 rows deep chilled water cooling coil, centrifugal blowers, fractional horse power (FHP) motor, synthetic fibre filters, insulated & extended condensate drain pan along with L-type auxiliary tray, casing, coil piping connections, condensate drain piping connections & wiring. Fan coil units shall be suitable for operation on 220 +/- 10% Volts, 50Hz, single phase power supply of following sizes & capacities. Complete as per CPWD specification and as directed by Engineer-in-charge.				
a)	FCU Unit 2.5TR, 1000 CFM & 3RD Coil & 25mm wg ESP	5	each	53555.00	267775.00
b)	FCU Unit 2.0TR, 800 CFM & 3RD Coil & 25mm wg ESP	5	each	49236.00	246180.00
	<b>INSULATED CHILLED WATER PIPING (resin bonded fiber glass glass insulation)</b>				

2	<p>Supplying, laying/ fixing, testing and commissioning of following nominal sizes of chilled water piping inside the building (with necessary clamps, vibration isolators and fittings but excluding valves, strainers, gauges etc.) duly insulated with 80 kg/cum density resin bonded fiber glass or 144 Kg/ cu m density mineral wool (non Combustible) pipe section insulation covered with a layer of 120 gm/sqm polythene sheet (vapour barrier) and finally applying 0.63mm aluminium sheet cladding complete with type3 , grade 1 roofing feltstrip (as per IS:1322 as amended up to date) at joints and repairing of damage to building etc. as per specifications and as required.</p> <p>Note: The Pipes of sizes 150mm &amp; below shall be M.S. 'C' class as per IS : 1239 and pipes size above 150mm shall be welded black steel pipe heavy class as per IS: 3589, from minimum 6.35mm thick M.S. Sheet for pipes upto 350 mm dia. and from minimum 7mm thick MS sheet for pipes of 400 mm dia and above.</p>				
a)	65 mm dia. (50 mm thick insulation)	36	mtr	2704.00	97344.00
b)	50 mm dia. (50 mm thick insulation)	216	mtr	2251.00	486216.00
c)	40 mm dia. (50 mm thick insulation)	50	mtr	1936.00	96800.00
d)	32 mm dia. (50 mm thick insulation)	50	mtr	1695.00	84750.00
e)	25 mm dia. (50 mm thick insulation)	80	mtr	1534.00	122720.00
	INSULATED VALVES				
3	Providing and fixing in position the industrial type pressure gauge complete as required	20	nos.	1491.00	29820.00
4	Providing & fixing in position the mercury in glass industrial type thermometer complete as required	20	nos.	1132.00	22640.00
5	SITC of Y - STRAINER of Ductile CI Body flanged ends with stainless steel strainer for chilled / hot water circulation including insulation as specified.				
a)	25 mm	10	nos.	3076.00	30760.00
6	Supplying, fixing, testing and commissioning of following sizes Motorized Butterfly Valve with CI Body, SS Disc, O - ring and minimum PN-16 pressure rating, conforming to BS 5155, IS 13095, with IP-55 actuator, capable of accepting upto 10V DC, and upto 20 mA electric signal and providing similar transduced feedback output to control system as required.				
a)	65 mm dia.	2	nos.	18460.00	36920.00
b)	50 mm dia.	8	nos.	18083.00	144664.00

7	Supply, Installation, Testing and Commissioning of following sizes electronic, self-balancing, pressure independent type dynamic balancing valve with integrated 2 way modulating control valve in a single body. The actuator shall be capable of accepting upto 10V DC and upto 20 mA electric signal and shall provide similar transduced feedback output to control system. Maximum close off pressure shall not be less than 6 Bar for upto 50 mm valves and 7 Bar for 65 mm & above. Valves should have pressure rating of 25 Bar minimum.				
a)	50 mm dia.	4	nos.	36431.00	145724.00
8	Supplying, fixing, testing and commissioning of following sizes Two way Valve complete with all accessories required for proper functioning of system i/c thermostat, actuator etc, the two way valve should be of CI Body, SS Disc, O - ring and minimum PN-16 pressure rating, conforming to BS 5155, IS 13095, complete as required.				
a)	25 mm dia	10	nos.	5389.00	53890.00
9	Supplying, fixing, testing and commissioning of following sizes Ball Valve with CI Body, SS Disc, O - ring and minimum PN-16 pressure rating, conforming to BS 5155, IS 13095, complete as required.				
a)	25 mm dia	20	nos.	2083.00	41660.00
10	Providing and fixing auto airvent purging valve complete as per specification andm drawings.				
a)	25 mm dia Air Purge/Vent Valve	10	nos.	903.00	9030.00
	DUCTING, GRILLS, DIFFUSER AND INSULATION				
11	Supply, installation, balancing and commissioning of site fabricated 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.				
a)	Thickness 0.63 mm sheet	75	sqm	1213.00	90975.00
b)	Thickness 0.80 mm sheet	75	sqm	1388.00	104100.00
12	Supplying & fixing of 25mm thick open cell Acoustic lining with suitable adhesive complete etc. as required.	15	sqm	932.00	13980.00
13	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.	2	sqm	758.00	1516.00

14	Supplying & fixing of powder coated extruded aluminium Supply Air Grills with aluminium volume control dampers as per specifications.	12	sqm	9623.00	115476.00
15	Supplying & fixing of powder coated extruded aluminium Return Air Grills without aluminium volume control dampers as per specifications.	12	sqm	6285.00	75420.00
16	Supplying & fixing of fire retardent Canvass Connection complete with GI frame, nut, bolts etc. complete as required.	10	nos.	2467.00	24670.00
17	Providing and fixing of uPVC drain pipe with suitable nitrile insulation of 6 Kg/cm <sup>2</sup> pressure rating complete, fittings, supports, valves as per specifications & drawings.				
a)	25 mm dia	40	Mtr.	184.00	7360.00
b)	32 mm dia	70	Mtr.	246.00	17220.00
18	Supplying and laying of one number PVC insulated and PVC sheathed / XLPE armoured copper conductor power cable of 1.1 KV grade in open masonry duct , complete etc. as required.				
a)	3C x 16 sqmm	50	Mtr.	1236.00	61800.00
b)	3C x 2.5 sqmm	250	Mtr.	147.00	36750.00
	<b>Total of SH:-III</b>				<b>2466160.00</b>
	<b>Total of SH:- (I+II+III)</b>				<b>59075641.00</b>

# FINANCIAL BID

<b>CIVIL CONSTRUCTION UNIT</b>					
<b>NIT NO. 1/2025-26/SE/CCU/CED-I/New Delhi</b>					
<b>Name of work : Renovation of Ganga Auditorium, Godavari Conference Hall, Dining Hall, office of Secretary, EF&amp;CC and washrooms adjoining the Conference Halls and Dining Hall of MoEF&amp;CC at Indira Paryavaran Bhawan, Jorbagh Road, New Delhi..</b>					
<b>SCHEDULE OF QUANTITY</b>					
<b>Name of the Contractor</b>					
<b>Sl. No.</b>	<b>Name of component</b>	<b>Estimated cost (Rs.)</b>	<b>Percentage above or below the estimated cost</b>	<b>% in Figures</b>	<b>Total Cost (Rs.)</b>
1	2	3	4	5	6
1	<b>Civil + Furniture work + Electrical &amp; Mechanical Works</b>	<b>Rs. 9,50,45,312/-</b>	*	*	*

:\*- To be filled online in bid document.

- 1) The Column Nos. 4 & 5 are mandatory to be filled by the bidders / tenderers. If these columns are left blank, the tender become invalid.
- 2) The amount in figures in column No.6 shall appear automatically corresponding to the percentage quoted in column No.4 & 5.
- 3) The tenderer is required to quote the percentage only above or below or at par with the estimated cost to cover all the rates of item covered under the respective packages.
- 4) The percentage shall be written in 2 (two) places of decimal.
- 5) If the percentage selection in column No 4 is "At Par", by default the percentage will be considered as "Zero" only. In other words, if "At par" is selected in column No.4, then no need to fill column No. 5