

**TENDER NO: 01/ 2021 Dated 13th Jan 2021
INVITATION OF TENDERS for**

PHASE -I

**WORKS OF INTERIORS (INCLUDING ELECTRICALS) FOR SETTING UP OF
VIDEO STUDIO AND PCR ROOM LABS IN THE**

**INDRAPRASTHA INSTITUTE OF INFORMATION TECHNOLOGY DELHI
CAMPUS**

AT OKHLA-III, DELHI



**INDRAPRASTHA INSTITUTE of
INFORMATION TECHNOLOGY DELHI**



**PROJECT AND OPERATIONS DEPT.
IIIT DELHI**

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Indraprastha Institute of Information Technology, New Delhi (IIIT-Delhi)

DATED- 13th Jan 2021

TENDER NOTICE

1. Last Date & Time of issue of tender documents from 25th Jan 2021
2. Last Date & Time of receipt of tender 25th Jan 2021 upto 3.00 p.m.

CE, IIIT-Delhi, Okhla, New Delhi-110020 on behalf of Registrar, IIIT-Delhi invites sealed item rate tenders from eligible contractors for similar works.

Name of work: **Works of interiors including Electrical works for Video Studio and PCR Room Labs at Indraprastha Institute of Information Technology (IIIT-Delhi) Campus, Okhla Phase III, New Delhi.**

Location: **A-104 at the 1st Floor R&D /Academic Block**
Estimated cost of work put to tender **Rs.12 Lacs**
Time of completion : **45 days**

Earnest Money Deposit: Exempted. Bid Security Declaration to be submitted as per **Annexure-X**

Tender documents can be downloaded from IIITD website (www.iiitd.ac.in) and submitted with non-refundable DD of (Rs. 500/-+ 18% = 590/-) in favour of "**IIIT Delhi Collection**" as cost of tender.

- 1) The tenders shall be placed in sealed envelopes with a name of work and due date written on the envelope and addressed to the CE, IIITD. Complete tender documents shall be submitted by the approved contractors in **two envelopes**. **1st envelope** shall contain eligibility criteria and cost of tender as stated above in case of the downloaded version.
- 2) The eligible contractors who have carried out similar works in IIIT-D/Govt Depts/PSU/Reputed Pvt. sector /MNCs are to submit the experience certificates for the works and registration certificates with Govt. Depts. if any. Enclose the said certificates along with the Bid Security Declaration & tender fee in **Envelope-1**.
- 3) Experience of having successfully completed similar works during last seven years ending on the last day of the month previous to the one in which the tenders are invited. The similar works are defined as works of interiors

Three similar works not less than 40% of est.cost	Rs 4.80 lacs each Or
Two similar works not less than 60% of est cost	Rs 7.20 lacs each Or
One similar work not less than 80% of est cost	Rs 9.60 lacs each

- 4) One completed works of any nature either part of 3) or separate one costing not less than 40% of estimated cost ie Rs 4.80 lacs with some Central/State/Autonomous/Central PSU/State PSU/local authority formed under any Act published in Central/State Gazette.

- 5) The applications not supported with requisite experience certificates, GST registration certificate, TIN no. and PAN No. in **Envelope-1** shall not be entertained
- 6) Average Annual Turnover Interior works should be at least Rs 15 lacs during immediate last three consecutive financial years ending 31st Mar 2020.
- 7) Should not have incurred any loss in the more than two years in the last five years ending 31st Mar 2020.
- 8) Should submit solvency certificate of 40% of estimate ie for 4.80 lacs from their bankers.
- 9) Performance certificates must be submitted by the vendors for the works.
- 10) A pre-bid conference would be held on **18th Jan 2021** at 11 AM at the Boardroom of the Old Academic Block.
- 11) The applications not supported with requisite experience certificates, GST certificate, TIN no. and ITCC in Envelope-1 shall not be entertained.
- 12) The 2nd **envelope** shall contain the financial bids including Priced Schedule of Quantities, Form of Tender, Conditions of Tender, Articles of Agreement, Brief Specifications, Condition of contract, Drawings all duly signed by the authorized signatory of the firms.

All these envelopes are to be put in a single envelope duly super-scribed the name of work, and addressed to CE, (IIITD) and with their address. In case the tenderer does not fulfill the laid down eligibility criteria or fails to deposit the earnest money in prescribed form, financial bid shall not be opened.

Tenderers shall seal the tender affix their initials and put stamp on each and every page of tender document before submission. The tender of the contractor, who submits in-complete tender document or submits more than one tender for one work, shall not be considered at all.

Tenders will be received by the CE up to 3.00 P.M on **25.01.2021** and will be opened by him or his authorized representative in the office of Registrar, IIITD on the same day at 3.30 P.M.

First the Technical Bids will be opened and screened. The bids shall be examined whether the EMD is in order and the bidder meets the minimum eligibility criteria specified above.. Those bidders whose EMD is in order, meets the minimum eligibility criteria, has submitted all the required documents and meet the technical requirements shall be considered for opening of financial bid. Conditional tenders would not be accepted. Financial bids in respect of contractors who do not fulfill above criterion shall not be opened.

- 13) No Xerox / certified copies of tenders shall be accepted, if submitted these tenders shall be rejected.

CE

CONDITIONS

1. The time allowed for carrying out the Interior work will be 45 days from the 3rd day after the date of written orders to commence the work.
2. The site for the work is available.
3. During execution of works, because of some unforeseen circumstances to enable him to complete the work as per terms of the contract, shall not relieve the contractor from any liability or obligations under the contract and he shall be responsible for the acts, defaults and neglects of any sub-contractor, his agents or workmen as fully as if they were the acts, defaults or neglects of the contractor, his agents or workmen.
4. The Contractor shall be required to deposit an amount equal to 3% of the tendered value of the work as performance guarantee in the form of an irrevocable bank guarantee bond of any scheduled bank or State Bank of India in accordance with the form prescribed or in the form of fixed deposit receipt etc. within 4 days of the issue of letter of acceptance. The performance guarantee shall have the validity up to **30th April 2021**.
5. Tenderers are advised to inspect and examine the site and its surrounding at their own cost and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risk, contingencies and other circumstances which may influence or affect their tender. A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed. The tenderer shall be responsible for arranging and maintaining at own cost all materials, tools and plants, water, electricity, access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a tender by a tenderer implies that he has read this notice and all other contract documents and has made himself aware of the scope and specification of the work to be done, local condition and other factors having a bearing on the execution of the work.
6. The Accepting Authority (IIITD) does not bind himself to accept the lowest or any other tender and reserves to him/herself the authority to reject in whole or part, any or all of the tenders received without the assignment of any reason. All tenders in which any of the prescribed conditions are not fulfilled or for any condition including that of conditional rebate is put forth by the tenderer shall be summarily rejected.
7. Canvassing, whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the contractor who resort to canvassing will be liable to rejection.

8. The Accepting Authority reserves to himself the right of accepting the whole or any part of the tender and the tender shall be bound to perform the same at the rates quoted.
9. Tenders shall remain open for acceptance for a period of 60 days from the date of opening of the tenders. If any tenderer withdraws his tender before the said period for issue of letter of acceptance, whichever is earlier or makes any modification in the terms and condition of the tender which are not acceptable to the IIITD, then IIITD shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money absolutely besides black listing of the tenderer.
10. The notice-inviting tender shall form a part of the contract document. The successful tenderer/contractor shall, sign the necessary contract documents consisting of the notice inviting tender, all the documents including additional conditions, specification and drawings, if any forming the tender as issued at the time of invitation of tender and acceptance thereof with any correspondence leading thereto within the time specified in the letter communicating the acceptance of the tender. In case of delay, the earnest money may be forfeited and the tender cancelled or the contract enforced as per the terms of the tender and the invitation to tender and the tenderer shall thus be bound by the condition of contract even though the formal agreement has not been executed and signed within the specified time by the tenderer.
11. The work shall be carried out as per general of conditions of contract for central PWD works 7/8 (Tender Contract) and form part of the agreement/document.
12. Contract is liable to be terminated by the IIITD without payment of any compensation, if subsequent to the acceptance of tender the contractor is black-listed by, or enters into partnership or employs any black listed contractor of the IIITD or any other department, or Govt. or its, undertakings.
13. Cost of Bidding
 - 13.1 The bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will in no case be responsible and liable for those costs.
14. Clarification of Bidding Documents
 - 14.1 A prospective bidder requiring any clarification of the bidding documents may notify the Employer in writing/mail at the Employer's address indicated in the invitation to bid not later than 3 days before the Date of Submission of Tenders.
Email- admin-project@iiitd.ac.in
15. Currencies of Bid and Payment
 - 15.1 The unit rates and the prices shall be quoted by the bidder entirely in Indian Rupees. All payments will be invariably made in Indian Currency (Indian Rupees.)
16. PROTECTION OF ENVIRONMENT AND OTHER LAWS:

The contractor shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation.

During continuance of the contract, the contractor and his sub-contractors shall abide at all times by all existing enactments on environmental protection and other local Acts/ Laws/ rules made there under, regulations, notifications and bye-laws of local authorities or any other law, bye-laws, regulations that may be passed or notification that may be issued in this respect in future by the State/ Local authority.

For and on behalf of the
REGISTRAR
Indraprastha Institute of Information Technology,
New Delhi

TENDER

I/We have read and examined and understood 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 IIITD within the time specified in Schedule ' F ', viz., schedule of quantities and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in Rule - 1 of General Rules and Directions and in Clause 11 of the Conditions of contract and with such materials as are provided for, by, and in respect in accordance with, such conditions so far as applicable.

We agree to keep the tender open for sixty (60) days from the due date of its opening and not to make any modifications in its terms and condition.

If I / we, fail to furnish the prescribed performance guarantee within prescribed period, I / we agree that the said Director, IIITD 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 Director, IIITD or his successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely, otherwise the said earnest money shall be retained by him towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered, up to maximum of the percentage mentioned in Schedule ' F ' and those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the tender form. Further, I / We agree that in case of forfeiture of earnest money or both Earnest Money & Performance Guarantee as aforesaid, I / We shall be debarred for participation in the re-tendering process of the work.

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 no communicate information / derived there from to any person other than a person to whom I / we am / are authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

Dated.

Witness:

Signatures of Contractor

Address:

Postal Address

Occupation:

LETTER OF SUBMISSION

The CE
Indraprastha Institute of Information Technology, Delhi
Okhla Phase-III
(Behind Govind Puri Metro Station)
New Delhi-110020.

I/We, the undersigned, have read and examined in detail, the specifications and all bidding documents and hereby declare that:

Price and Validity

1. All the rates quoted in our proposal are in accordance with the terms and conditions as specified in the bid document. All the prices and other terms and conditions of this proposal are valid for a period of 60 calendar days from the date of opening of bid.
2. We do hereby confirm that our bid prices include all taxes/levies/GST.
3. We hereby declare that if any tax law is altered, we shall pay the same.

Earnest Money:

Exempted Bid Security Declaration to be submitted as per **Annexure-X**

We declare that all the works shall be performed strictly in accordance with the technical specifications and other tender conditions with no deviations.

Qualifying Data

We confirm that all information/data have been submitted as required in tender document.

We hereby declare that our proposal is made in good faith, without collusion for fraud and the information contained in the proposal is true and correct to the best of our knowledge and belief. I/We agree that in case any information is found to be incorrect the tender is liable to be rejected at any point of tendering process.

Bid submitted by us is properly sealed and prepared so as to prevent any subsequent alteration and replacement.

We understand that you are not bound to accept the lowest or any bid you may receive.

Thanking you,
Yours faithfully,
(Signature and seal of Tenderer with name, designation and contact no.)

ACCEPTANCE

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

Rs. ----- (Rupees -----)

The documents referred to below shall form part of this Contract Agreement:-

- NIT
- Exempted Bid Security Declaration
- Performa for Agreement
- Additional conditions.
- Special conditions
- Schedule of Quantities &
- Drawings
- Latest General conditions of contract for CPWD Works with up to date correction slip

For & on behalf of
Registrar
IIIT

Signature.

Dated.....

Designation.....

SCHEDULES

SCHEDULE 'A'	
Schedule of quantities (Enclosed)	: Enclosed
SCHEDULE 'B'	
Schedule of materials to be issued to the contractor	NIL
SCHEDULE 'C'	
Tools and plants to be hired to the contractor	NIL
SCHEDULE 'D'	
Extra schedule for specific requirements/documents for the work, if any,	NIL
SCHEDULE 'E'	
Schedule of component of Cement, Steel, other materials, Labour etc. for price escalation.	NIL
CLAUSE 10 CC	
Component of Cement - expressed as percent of total value work,	N/A
Component of Steel-expressed as percent of total work.	N/A
Component of civil (except cement & steel) / Electrical construction Materials-expressed as percent of total value of work.	N/A
Component of labour-expressed as per cent of total value of work.	N/A
Component of P.O.L. - expressed as percent of total value work.	N/A
SCHEDULE 'F'	
Reference to General Conditions of contract.	

Name of Work: Works of interiors including Electrical works for Video Studio and PCR Room at Indraprastha Institute of Information Technology (IIIT-Delhi) Campus, Okhla Phase III, New Delhi.

Estimated cost of work:

Rs.12 lacs

Earnest money

Exempted Bid Security Declaration to be submitted as per **Annexure-X**

- i. **Performance Guarantee-** The contractor, for due and faithful performance of the Contract, shall obtain and submit to the Owner such security of **3%** of the Contract Value within 7 days after the receipt of the Letter of Acceptance, in the form of BG Performa as appendix to tender from a scheduled Bank /FD providing such security shall be subject to the approval of the Owner. The cost of complying with the requirement of this Clause shall be borne by the Contractor.

Period of Validity of performance Bond

The performance bond shall be valid as at Conditions Cl 4 and till the Contractor has executed and completed the Works in accordance with the Contract. This security shall be returned to the contractor within 14 days of the issue of the said Completion Certificate.

Claim under Performance Security

Prior to making a claim under the performance security the Owner shall, in every case, notify the Contractor stating the nature of the default in respect of which the claim is to be made.

- ii. **Security Deposit / Retention money** shall be Three percent (3%) of the value of executed works and will be deducted from each and every payment made to the contractor against running account bill submitted for the work done at site. 50% of retention money will be released along with the payments of final bill and balance 50% will remain with Employer until the Defects Liability period is successfully over.
- iii. Defect Liability period 12 months from date of completion.
- iv. Liquidated damages In case of delay on account of reasons attributable to the Contractor Liquidated Damages shall be levied. The amount of Liquidated Damages payable by the Contractor to the Employer would be 0.25% of the value of order for each calendar day of delay subject to a maximum of 5% of the value of order after which Employer reserves the right to terminate the contract without prejudice to the rights of the Employer.

General Rules & Direction:

Officer inviting tender:

Registrar (IIITD)

Definitions

2(v) Engineer-in-Charge	CE
2(viii) Accepting Authority	DIRECTOR, IIITD
2(x) Percentage on cost of materials and labour to cover all overheads and profits.	15%
2(xi) Standard Schedule of Rates	DSR (latest)
2(xii) Department	IIIT-D
9(ii) Standard CPWD contract Form	CPWD form 8 -2010 with up to date correction slips.

Clause 1

- | | |
|---|--------|
| (i) Time allowed for submission of Performance Guarantee From the date of issue of letter of acceptance | 4 days |
| (ii) Maximum allowable extension beyond the period (Provided in (I) above | 7days |

Clause 2

Authority for fixing compensation under clause 2.	Director, IIITD
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Clause 2A

Whether clause 2A shall applicable	No
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Clause 5

Number of days from the date of issue of letter Acceptance for reckoning date of start	3 days
Time allowed for construction	45 days

Clause 6, 6A

Clause applicable - (6 or 6A)	Clause 6A
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Clause 7

Gross work to be done together with net payment /adjustment or advance for material collected, if any since the last such payment for being eligible to interim payment.	Rs 6 Lakhs.
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Clause 10A

List of testing equipment to be provided by the contractor at site lab.	As required
Clause 10 B (ii)	
Whether Clauses 10B (ii) (iv) shall be applicable -----do-----10B(iii) -----	Yes No
Clause 10CA Escalation	Not Applicable
Clause 10CC Escalation	Not Applicable
Clause 11	
Specification to be followed for execution of work	CPWD Specifications Latest, Part I & II with Up-to-date correction slips
Clause 12	
Deviation limit beyond which clauses 12.2 & 12.3 shall Apply for building work	Any extent ,No limits set
Clause 16	
Competent Authority for deciding reduced rates.	Director, IIITD
Clause 17	
Contractor liable for Damages defects during maintenance period	Applicable
Clause 18	
List of mandatory machinery, tools & plants to be deployed by the contractor at site	As per the site requirement.
Clause 36(i)	
Requirement of Technical Representative (s)	As per requirement.
Clause 25	
Arbitration Clause	As per special conditions

SPECIAL CONDITIONS

1. In the event of the tender being submitted by a firm, it must be signed by a person duly authorized through a power of attorney issued by all the partners and a certified copy of the power of attorney should be enclosed with the forwarding letter or separately by each member thereof, or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power of attorney authorizing him to do so and such power of attorney shall be produced with the tender and it must disclose that the firm is registered under the Indian partnership Act.

Each and every signature given shall be separately witnessed. A Contractor or a contractor who himself / themselves has/have tendered or who may tender for the work shall not witness the tender of another person for the same work. Failure to observe this condition would render tenders of the contractors tendering as well as witnessing the tenders liable for summary rejection.

2. The conditions for item rate tender only will be applicable as given in general conditions of contract for central PWD works latest. As mentioned there in also, in event no rate has been quoted for any items leaving space bolts in figure (s), word(s) and amount blank, it will be presumed that the contractor has included the cost of this/these item(s) in other item(s) and rate for such items will be considered as zero and work will be required to be executed accordingly.
3. Rates quoted as percentage below/above in the tender will be summarily rejected.
4. It must be understood that the work has to be completed as per the time provided in the contract and as such time is the essence of the contract.
5. The quantities furnished in the bills of quantities are only probable quantities liable to alternation by omission, deduction or addition, and it would be clearly understood that the contract is **not a lump sum contract** and the IIITD do not, in any way, assure the tenderer or guarantee that the said probable quantities are correct or that the work would correspond thereto. Payments will be regulated on the actual quantities of work authorized done and measured at the accepted rates. No claims due to change in quantities (+ or -) will be entertained. The drawings, forming parts of complementary installations work specifications and the bills of quantities, of the contract, are explanatory of and are to one another, representing together the works / to be carried out. If neither the drawings nor the specifications nor the accepted bills of quantities include any part/parts the intention to include which is nevertheless clearly inferred and which are obviously necessary for the proper completion of the works/ installations, all such parts shall be supplied and executed by the contractor at no extra charge. Anything contained in one or another of (a) the drawings, (b) the specifications and (c) the accepted bills of quantities and not found in the others will be equally binding as if it were contained in each of them.
6. No alterations, which are made by the tenderer in the drawings, specifications, conditions or probable quantities accompanying this notice will be recognized and if any such alterations are made the tender, will be invalid. Conditional tenders will however be liable for rejection.

7. The tenderer must obtain for himself on his own responsibility and at his own expense all the information necessary, including risks, contingencies and other circumstances to enable him to make a proper tender and to enter into a contract with the IIITD. He must examine the drawings, specifications, conditions and so on and must inspect the site of work, examine the nature of the ground and the subsoil (so far as is practicable) and acquaint himself with local conditions, means of access to the work, storage facilities or areas for staff colony, the nature of the work, in fact all matters pertaining thereto before he submits his tender.
8. The tenderer shall also bear all expenses in connection with the preparation and submission of his tender and attendance for subsequent negotiations/clarifications.
 - (I) Omission, neglect or failure on the part of the tenderer to obtain requisite and reliable information on any matter affecting his tender, the contract and the construction, completion, maintenance, (dismantling and disposal) of the work shall not relieve the tenderer whose tender is accepted from any liability in respect of the contract.
 - (II) The tenderer whose tender is accepted shall not be entitled to make any claim for increase in the rates quoted and accepted excepting in pursuance of any specific provision in the contract.
9. The Contractor, upon award of work, shall furnish the following details for the approval of the Engineer in charge:
 - 9.1. The names of manufacturers of specialized items such as patented water proofing systems / materials, doors, flooring tiles, false ceilings, insulating materials, wind mill, cement, steel, glazing, and any other materials etc. which he proposes to use in the work.
 - 9.2. The makes and types of fittings, materials, subject to the makes and type stipulated in the specifications, which he proposes to use in the work.
 - 9.3. The details of licenses granted to him and/or to professional qualified and/or licensed technical personnel on his staff who will be engaged on the work (and submit, if called for, the licenses for inspection by the Officer in charge in consultation with Engineer in charge).
 - 9.4. Only approved agencies/ skilled workers shall be deployed to carry out requisite specialized items of work. The Officer/ Engineer in charge's decision in consultation with Architect's/ in this regard shall be binding to all the parties concerned.
10. The rates quoted in the bills of quantities shall unless specified otherwise will be for all heights, depths deemed to be for finished work in-situ/ item by item as provided for, and shall include cost for all necessary material and labours, all necessary tools and plants and machinery, sheds, marking out, clearing site, etc. and for all taxes, octroi, excise, VAT works contract and any other tax or duty levied by Government, Central or Local, or Local Authority,/as subsumed and GST, if any as applicable.

- 10.1. The rates shall be firm and not be subject to any variations in exchange rates, in taxes, duties etc. in railway freight and the like including labour conditions, etc. The rates are not subject to any escalation.
11. It will be the sole responsibility of the contractor to procure all the equipments/materials and other materials required for the work.
13. The IIITD further reserves the right to delete or reduce at any time, any section of the bills of quantities without assigning any reasons whatsoever there for and no claim will be entertained in this regard.
14. The tenderer whose tender is accepted is bound to execute formal agreement with the IIITD within one week of the date of intimation of award of work in accordance with the draft agreement which will include conditions of tender, form of tender (general conditions of contract for central PWD works 2010), Articles of Agreement, Bills of quantities, Conditions of contract, Special conditions if any, the drawings and specifications, but his liability under the contract shall commence from the date of written order to commence work whether the formal agreement is drawn or not.
- The Contractor shall bear all expenses in connection with the execution of the said agreement including fees for stamping and registration of documents as required.
15. The Security Deposit will bear no interest what so ever until the date of release.
16. a) The contractor, upon award of work, shall submit a memorandum of procedure giving the outline of his general scheme, programme and time table, in the form of a chart that shall be scrutinized and approved (with modifications as necessary), which shall become the approved programme for execution. The approved programme shall be the basis for assessment of comparative progress under the relevant conditions of contract.
(b). Over and above, the contractor has to supply programme chalked out showing important milestones to be achieved and the progress actually achieved compared with, the target of the same in the programme and shortfall, if any planned for being made up in the programme for next month.
17. (a) The work in general shall conform to the CPWD Specifications latest with up to date correction slips & any other latest civil specification published by CPWD, New Delhi and the "Specifications for works".
(b) In case items not covered by the general specifications referred above, reference shall be made to the appropriate I.S. Code.
(c) Should there be any difference in the particular specifications of individual item of work and the description of item as given in the Schedule of quantity, the latter shall prevail, which will be as per the relevant drawing.
(d), In case of any work for which there is no specification in I.S. specifications or in the specifications forming part of tender documents or in case there is any variation, such work shall be carried out in all respects in accordance with the instructions to be issued by the Engineer in charge.
18. On acceptance of the tender the Contractor shall in writing and at once inform the IIITD and the Architects/Officer In charge the name of his accredited representative(s) who will be responsible to take instructions from the Architects / Officer in Charge.

The work of any part of it shall not be transferred, assigned or sublet without the written consent of the IIITD.

19. The Contractor shall be required to co-operate and work in co-ordination with and afford reasonable facilities for such other agencies / specialists / interior designers / consultants as may be employed by the Architects / Project Management Consultant/ Officer in Charge on other works / sub-works in connection with the project/scheme of which this work forms a part.
20. The Contractor shall get the necessary insurance done for their personal employed/ company insurance, third party insurance, marine insurance, all risk insurance or any other insurance as required.
21. ***The Contractor shall make arrangements of carrying water and electricity beyond one point where same shall be provided and recovery @1% of the cost of works shall be effected accordingly.***
22. The Contractor is required to comply with all Acts of Government relating to labour, safety, environment and other Rules and Regulations made there under from time to time and to submit at the proper times all particulars and statements required to be furnished to the appropriate Authorities.

23. Delay and extension of time

If in the opinion of the Architect/PMC/Owner the Work is delayed:

- a. By force majeure, or
- b. By reason of any exceptionally inclement weather, or
- c. By reason of proceedings taken or threatened by or dispute with adjoining or neighboring owners or public authorities arising otherwise than through the Contractor's own default, or
- d. By the works or delays of other Contractor or tradesmen engaged or nominated by the Owner or the Architect and not referred to in the Schedule of Quantities and/or Specification, or
- e. By reason of Architect's/ Owner Instructions to delay work, or
- f. By reason of civil commotion, local combination of workmen or strike or lock-out affecting any of the building traders, or
- g. In consequence of the Contractor not having received in due time necessary Instructions from the Architect/Owner for which he shall have specifically applied in writing,

Then the Owner shall make a fair and reasonable extension of time for completion of the Contract Work; in case of such strike or lock-out the Contractor shall, as soon as may be, give written notice thereof to the Architect/Owner, but the Contractor shall nevertheless constantly use his endeavors to prevent delay and shall do all that may reasonably be required to the satisfaction of the Architect to proceed with the work.

24. **Failure by Contractor to comply with Architect's Instructions**
If the Contractor after receipt of written notice from the Architect requiring compliance fails within ten days to comply with such further drawings and/or Architect's Instructions the Owner with the consent of the Architect may employ

and pay other persons to execute any such work whatsoever that may be necessary to give effect thereto, and all costs incurred in connection therewith shall be recoverable from the Contractor.

25. Termination or Abridgment of Contract by the Owner

- a) If the Contractor being an individual or a Firm commit any 'Act or Insolvency' or shall be adjudged an Insolvent or being an Incorporated Company or Society shall have an order for compulsory winding up made against it or pass an effective resolution for winding up voluntarily or subject to the supervision of the Court and of the Official Assignee of the Liquidator in such acts of insolvency or winding up shall be unable within seven days after notice to him requiring him to do so, to show to the reasonable satisfaction of the Architect that he is able to carry out and fulfill the Contract, and to give security therefore, if so required by the Architect, or
- b) If the Contractor (whether an individual, Firm, Incorporated Company or Society) shall suffer execution to be issued, or
- c) Shall suffer any payment under this Contract to be attached by or on behalf of any or the creditors of the Contractor, or
- d) Shall assign or sublet this Contract without the consent in writing of the Architect/PMC first obtained, or
- e) Shall charge or encumber this Contract or any payments due or which may become due to the Contractor there under, or
- f) If the Architect/PMC shall certify in writing to the Owner that the Contractor:
 - i. Has abandoned the Contract, or
 - ii. Has failed to commence the works, or has without any lawful excuse under these Conditions suspended the progress of the works for 14 days after receiving from the Architect/PMC/Owner written notice to proceed, or
 - iii. Has failed to proceed with the works with such due diligence and failed to make such due progress as would enable the works to be completed within the time agreed upon, or
 - iv. Has failed to remove materials from the site or to pull down and replace work for seven days after receiving from the Architect written notice the said materials or work were condemned and rejected by the Architect under these conditions, or
 - v. Has neglected or failed persistently to observe and perform all or any of the acts, matters or things by this Contract to be observed and performed by the Contractor for seven days after written notice shall have been given to the Contractor requiring the Contractor to observe or perform the same, or
 - vi. Has to the detriment of good workmanship or in defiance of the Architect's Instructions to the contrary sub-let any part of the Contract,

26. Then and in any of the said cases the Owner with the written consent of the Architect/PMC may, notwithstanding any previous waiver, after giving seven days' notice in writing to the Contractor, determine the Contract, but without hereby affecting the powers of the Architect or the obligations and liabilities of the Contract the whole of which shall continue in force as fully as if the Contract had not been so determined and as if the works subsequently executed had been executed by or on behalf of the Contractor. The costs of these works are therefore recoverable from the Contractor. And further, the Owner under instructions of the Architect, by his Agents or servants may enter upon and take possession of the works and all plants, tools, scaffolding, sheds, machinery,

- steam and other power utensils and materials lying upon the premises or the adjoining lands or roads, and use the same as his own property or may employ the same by means of his own servants and workmen in carrying on and completing the works or by employing any other Contractor or other person or persons to complete the Work, and the Contractor shall not in any way interrupt or do any act, matter or thing to prevent or hinder such other Contractor or other person or persons employed for completing and finishing or using the materials and plant for the Work. When the Work shall be completed or as soon thereafter as convenient the Architect shall give a notice in writing to the Contractor to remove his surplus materials and plant, and should the Contractor fail to do so within a period of 14 days after receipt thereof by him, Owner shall sell the same, and shall give credit to the Contractor for the amount realized. The Architect shall thereafter ascertain and certify in writing what (if anything) shall be due or payable to or by the Owner for the value of the said plant and materials so taken possession of by the Owner and the expense or loss which the Owner shall have been put to in procuring the works to be completed, and the amount, if any, owing to the Contractor and the amount which shall be so certified shall thereupon be paid by the Owner to the Contractor or by the Contractor to the Owner, as the case may be, and the certificate of the Architect shall be final and conclusive between the parties.
27. If at any time after the commencement of the work the Owner shall for any reason whatsoever not require the whole thereof, as specified in the tender, to be carried out, but need to abridge the Contract, the Owner shall give notice in writing of the fact to the Contractor who shall have no claim to any payment or compensation which he might have derived from the execution of the work in full, but which he did not derive in consequence of the whole amount of the work not having been carried out. The Contractor shall in this case, however, be entitled to payment for the work already executed by him in accordance with the agreed rates. The Owner shall also take over all building materials as might have been ordered for the work, but orders for which cannot be canceled, if delivered within a reasonable time, and shall pay for them at cost price. The Contractor shall also be allowed to remove his tools and plants from the site.
28. Termination of Contract by Contractor
- a. If payment of the amount payable by the Owner under Certificate of the Architect /PMC for beyond two months from date of issue of certificate due to reason not attributable to the contractor.
 - b. The Owner commits any 'Act of Insolvency', or
 - c. If the Owner (being an individual, or firm) shall be adjudged an Insolvent, or (being an Incorporated Company or Society) shall have an order made against him or pass an effective resolution for winding up, either compulsorily or subject to the supervision of the Court or voluntarily, or if the Official Assignee or the Owner shall repudiate the contract, or if the Official Assignee or the Liquidator in any such winding up shall be unable within fifteen days after notice to him requiring him so to do, to show to the reasonable satisfaction of the Contractor that he is able to carry out and fulfill the Contract and to make all payments due, and to become due there under and, if required by the Contractor, to give security of the same, or
 - d. If the works be stopped for three months or more under a continuous spell under the order of the Architect /PMC or the Owner or by any injunction or other

order of any Court of Law,

29. Then and in any of the above said (Clause28) cases the Contractor shall be at liberty to determine the Contract by notice in writing to the Owner, through the Architect, and he shall be entitled to recover from the Owner payment for all works executed and cost of the material supplied and lying at site for the purpose of the Contract as on the said day of the termination. No other claim for idle labour , loss of overheads , profits shall be entertained nor shall any other claim on account of the delay in completion of the work /availability of site/ unwarranted conditions whatsoever shall be tenable, even if it is caused by circumstances beyond the Contractor's control.

30. Procedure for Settlement of Disputes

30.1 Engineer's Decision

If a dispute of any kind whatsoever arises between IIIT-Delhi and the contractor in connection with, or arising out of , the contract or the execution of the works, whether during the execution of the works or after their completion and whether before or after any repudiation or other termination of the contract, including any dispute as to any opinion, instruction, determination, certificate or valuation of the engineer, the matter in dispute shall, in the first place, be referred in writing to the engineer, with a copy to all parties. Such reference shall be made within one (1) month of arising of any such dispute and state that it is made pursuant to this clause. No later than one (1) month after the day on which he received such reference the engineer shall give notice of his decision to IIIT-Delhi and the contractor. Such decision shall state that it is made pursuant to the reference under this clause.

Unless the contract has already been repudiated or terminated, the contractor shall in every case, continue to proceed with the works with all due diligence and the contractor and IIIT-Delhi shall give effect forthwith to any / every such decision of the engineer unless and until the same shall be revised, as hereinafter provided, in an amicable settlement or an arbitral award. If either IIIT-Delhi or the contractor be dissatisfied with any decision of the engineer, or if the engineer fails to give notice of his decision on or before one (1) month after the day on which he received the reference, then either IIIT-Delhi or the contractor may within a further period of one (1) month from the day on which it / they receive(s) the notice of such decision, or on the day on which the said period of notice of / for decision expired, as the case may be, give notice to the other party, with copy for information to the engineer, of its / their intention to commence arbitration. Such notice shall establish the entitlement of the party giving the same to commence arbitration, as hereinafter provided, as to such dispute and no arbitration in respect thereof may be commenced unless such notice is given. If the engineer has given notice of his decision as to a matter in dispute to IIIT-Delhi and the contractor and no notification of intention to commence arbitration as to such dispute has been given by either IIIT-Delhi or the contractor as herein provided, the said decision shall become final and binding upon IIIT-Delhi and the contractor.

30.2. Amicable Settlement

Where notice of intention to commence arbitration as to a dispute has been given in accordance with sub-clause 22.1, arbitration of such dispute shall not be commenced unless an attempt has first been made by the parties to settle such dispute amicably. Provided that, unless the parties otherwise agree, arbitration may be commenced on or after one (1) month from the day on which notice of intention to commence arbitration of such dispute was given, whether or not any attempt at amicable settlement thereof has been made or result achieved.

30.3. Arbitration

Any dispute in respect of which:

- a) the decision, if any, of the engineer has not become final and binding pursuant to the first sub-clause above,
- b) amicable settlement has not been reached within the period stated in the second sub-clause above,

shall be finally settled, unless otherwise specified in the contract, by arbitration to be held in New Delhi in English, under the provisions of the Arbitration and Conciliation Act 1996, including any statutory reenactment(s) / amendment(s) thereof and Rules made thereunder, by the arbitrator. The Director of the Institute shall appoint one person as the sole arbitrator. Either party shall be limited in the proceeding before such arbitrator to evidence or arguments put before the engineer for the purposes of obtaining the said decision pursuant to the first sub-clause herein. No such decision shall disqualify the engineer from being called as a witness and giving evidence before the arbitrator on any matter whatsoever relevant to the dispute. Arbitration proceedings shall not be commenced prior to the completion of the works, unless any major pre-requisite criticality is discerned by the arbitrator, and the obligations of IIIT-Delhi, the engineer and the contractor shall not be altered by reason of the arbitration. The works shall not be stopped on account of the said process of arbitration and the contractor shall not be relieved of his responsibilities for the completion of the work under any circumstances whatsoever.

31.2. Contractor to provide everything necessary

The Contractor shall provide everything necessary for the proper execution of the Work according to the intent and meaning of the Drawings, Schedule of Quantities and Specifications taken together whether the same may or may not be particularly shown or described therein provided that the same can reasonably be inferred there from, and if the Contractor finds any discrepancy in the Drawings or between the Drawings, Schedule of Quantities and Specification he shall immediately and in writing refer the same to the Architect who shall decide which is to be followed.

31.3. Materials and Workmanship to conform to Descriptions

All materials and workmanship shall so far as procurable be of the respective kinds described in the Schedule of Quantities and/or Specification and in accordance with the Architect's Instructions, and the Contractor shall upon the request of the Architect furnish him with all invoices, accounts, receipts and other vouchers to prove that the materials comply therewith. The Contractor shall at his own cost arrange for and/or carry out any test of any materials which the Architect may require.

31.4. Assignment and Sub-letting

The whole of the works included in the Contract shall be executed by the Contractor and the Contractor shall not directly or indirectly transfer, assign or underlet the Contract or any part share thereof or interest therein without the written consent of the Architect, and no undertaking shall relieve the Contractor from the full and entire responsibility of the Contract or from active superintendence of the Work during its progress.

31.5. Removal of improper work

The Architect shall, during the progress of the Work, have the power to order the removal, from the Site or works within such reasonable time or times as may be specified in the order, of any materials which in the opinion of the Architect are not in accordance with the Specification or the Instructions of the Architect, the substitution of proper materials, and the removal and proper re-execution of any works executed with materials or workmanship not in accordance with the Drawings, Specifications or Instructions and the Contractor shall forthwith carry out such order at his own cost. In case of default on the part of the Contractor to carry out such order, the Owner shall have the power to employ and pay other persons to carry out the same, and all expenses consumed thereon or incidental thereto as certified by the Architect shall be borne by the Contractor, or may be deducted by the Owner from any moneys due or that may become due to the Contractor.

ADDITIONAL CONDITIONS

1. General conditions of contract for Central PWD Works 7/8 (Tender of Form) shall be part of the agreement.
2. The work shall be carried out strictly as per CPWD specifications 2007, Part I & II with up to date correction slips. Wherever no specification is available in the above said document, drawings and specifications supplied with bill of quantities shall be applicable
3. The Contractor shall have to clear the site for the work of all overlying rubbish /garbage/dumped refuse material prior to commencement of the work in case required at no extra cost. The contractor shall take approval from the Engineer /Officer in Charge in writing for collection and stacking of materials.
4. The contractor must follow CPWD Safety Code as provided in general conditions of contract for CPWD Works.
5. Any damage done by the contractor or his workmen to any existing work during the course of execution of the work shall be made good by him at his own cost.
6. Contractor shall clear the site thoroughly of all rubbish etc. left out of his materials immediately on completion of the work and properly keep the site clean around the building to the satisfaction of the Engineer- in-Charge.
7. The preference of the codes will be IS codes.
8. The rates are inclusive of all staging, material and labour as required for the works. The items in the bill of quantities include all the materials, labour, and installation, complete as a finish items unless otherwise stated.
9. Unless specifically mentioned otherwise, quoted Rates shall be deemed to include work to be carried out at all curvatures, heights, depths, inclinations and locations, and in wet/foul locations, as and when they are encountered. The rates quoted for the various works as specified in the Priced Schedule of Quantities are work in all types of soils/rock and prevailing Site conditions including earth work, excavation, shoring, execution of various other items of work, i.e., laying of pipes, joining, concreting, masonry, plastering, etc. in and under water and dewatering as required. Nothing extra is payable on this account.
10. All security precautions shall be taken during dismantling work. The site shall be fenced /barricaded with suitable material during construction period .No payment shall be made for fencing/barricading work. Fencing/barricading shall be done immediately after possession of site and shall be removed after completion of construction period
11. No space on site/otherwise for labour huts shall be provided by IIITD, cost of same shall be borne by contractor.
12. The general condition of contract for Central P.W.D. Works has reference of various laws /acts /rules. The settlement of any disputes and arbitration, only Indian arbitration and conciliation act 1996 shall be applicable.
13. In case any specific brand of material has been specified either the same brand or of approved make of same specifications shall be used. The contractor shall take approval in advance for all such materials.
14. Costs for all materials and labour for the preparation of samples, market research, etc. shall be borne by the Contractor within his quoted Rates and nothing extra shall be payable for this. The works shall not be proceeded with without approval of the sample. In case sample is rejected and works cannot be proceeded with the IIITD shall be at liberty to terminate the contract and the Contractor shall have no claim for the works under such circumstances whatsoever.
15. The contractor should take utmost care to avoid any damage to the existing structures, walls , finishing , flooring, electrical works/cables, telephone cables, false ceiling,

- sprinkler system, fire alarm etc. in place. In case of any damage, it would be the responsibility of the contractor to restore the same immediately.
16. The contractor may have to carry out the works in odd hours of day and night as per academic schedule of the Institute and no extra charges shall be payable.
 17. The works may have to be suspended from time to time as per academic requirements. No extras/escalation will be payable except for suitable extension of time of upto time as per GCC of the CPWD.
 18. All protocols/guidelines for preventing spread of Covid 19/ Cov2 SARS virus strains need to be followed by the Contractor/s as per Govt . / IIITD authorities Guidelines issued from time to time.
 19. Necessary guidelines for Environmental Protection as per local /State Govt/ Central Govt Authorities as applicable shall be followed by the Contractor/s.

CORRIGENDUM TO FORM 7/ 8 / 9 (CPWD) MUST BE READ ALONG WITH THE PAMPHLET

S.No	FOR	READ
1	Government of India/Owner	Indraprastha Institute of Information Technology Delhi
2	C.P.W.D. or Government or Department	Indraprastha Institute of Information Technology Delhi
3	CPWD -7/8/9	CPWD 7/8/9
4	President / President of India	Chairman ,BOG,IIITD
5	Chief-Engineer	Director ,IIITD
6	Superintending Engineer	CE, IIITD
9	Administration Head	Registrar ,IIITD
11	CPWD Code, Paragraph '90	Shall be applicable to IIITD works
12	DSR' Latest	Shall be applicable to IIITD works
13	CPWD specifications Latest part - I & II	Shall be applicable to IIITD works
14	DSR (Internal) Latest for Electrical works	Shall be applicable to IIITD works
15	CPWD specifications (Internal) Latest for Electrical works	Shall be applicable to IIITD works
16	DSR External Latest for Electrical works and specifications	Shall be applicable to IIITD works
17	Provision of Section 12 Sub-Section (i) of the works man compensation	Shall be applicable to IIITD works
18	CPWD safety Code framed from time to time	Shall be applicable to IIITD works
19	CPWD maternity benefits to labour	Shall be applicable to IIITD works
20	Model Rules of the protection of health and sanitary appointment for workers employed by CPWD	Shall be applicable to IIITD works
21	CPWD contractor labour Regulations	Shall be applicable to IIITD works

SPECIFICATIONS:

1. GENERAL:

- 1.1. Without forgoing the requirements of the conditions of Tender and the Conditions of Contract the works in general shall conform to the "Specifications Latest as published by CPWD, New Delhi and the "Specifications for works" stated in this tender. In case items not covered by the general specifications referred above, reference shall be made to the appropriate I.S. Codes. If there is any difference in the particular specifications of individual item of work and the description of item as given in the Schedule of quantity, the latter shall prevail. In case of any work for which there is no specification in I.S. specifications in the specifications forming part of tender documents or in case there is any variation, such work shall be carried out in all respects in accordance with the instructions to be issued by the Engineer-in-charge. The term Officer in Charge appearing in the specifications shall mean supervisor and be in Charge of the work or his authorized representative as the context may demand. All corrections to "Specifications Latest" or latest revisions of I.S. Code/ Specification shall be deemed to apply to this contract.
- 1.1.1. Materials bearing ISI certification mark certification shall be given highest preference for use in the works. Where the Contractor is required to do, perform, execute (etc.) any work or service or the like, it shall be deemed to be at his own cost. Absence of terms providing, Supplying, installing, fixing, etc. shall not even remotely entitle the Contractor to any additional payment there for
- 1.1.2. The rates accepted in the Schedule of Quantities apply to all floors, heights, depths, leads, lifts, spans, sizes, shapes, locations, etc. unless a distinction has been included in the very Schedule.
- 1.1.3. The Specifications and the Schedules may have been divided into various sub-heads for convenience only. This does not limit applicability of one to the other nor does it absolve the Contractor of his responsibility to complete any trade / item of work as reasonably inferred from one or more of such sub-heads.
- 1.1.4. The Schedule of Quantities is not necessarily based on "Schedule of Rates - Delhi latest or any of its later/ earlier versions. Hence the Schedule of Quantities shall be read and construed according to explanations given herein and intentions gathered there from. A mere parallel drawn from the said Schedule of Rates shall therefore not form a basis for a variation and, or additional payment.
- 1.1.5. All work under this contract is deemed to be performed above subs soil water level. However, removal of water collected from rains and the like shall be treated as part of contractual risk/obligation.
- 1.1.6. Screws, bolts, nuts, washers, hold fasts, lugs, anchors, clamps, plugs, suspenders, brackets, straps and fasteners of the like are deemed to be included in the rates of various items unless the Schedule of Quantities expressed a different intention.
- 1.1.7. Resetting any displacements, making good holes/chases and such other incidental jobs are included in rates of respective items for which these are required.

2. DRAWINGS, SPECIFICATIONS, INTERPRETATIONS ETC.:

In general, drawings shall indicate the dimensions, positions and type of construction, the specifications shall stipulate the qualities and the methods and performance criteria, and the schedule of quantities shall indicate the provisional quantities and the rates for each item of work. However, the above documents being complementary, what is called for by any one shall be as binding as if called for by all. In case of contradictory requirements between specifications and schedule of quantities, the requirements given in the schedule of quantities shall prevail.

Special conditions being mainly an amplification of General Conditions, they shall be read in conjunction with each other.

Work indicated on the drawings and not mentioned in the schedule of quantities or specifications or vice versa, shall be deemed as though fully set forth in each. Work not specifically detailed, called for, marked or specified, shall be the same as similar parts that are detailed, marked or specified.

Special Note

Though every care is taken while preparing this document to cover all necessary matters, specifications, general conditions, special conditions, provisions for smooth and complete execution of work, however in case of any omission in the tender/ contract document, latest correction slips of General Conditions of Contract for CPWD Works will be the reference manual but not in supersession to aforesaid conditions.

Contractor should depute a qualified supervisor dedicated for this work, who will monitor and coordinate work from contractor's side and interact with the IIITD Engineers, responsible for supervision of work, on regular basis.

Contractor will take due permission for entry of all his workers in IIITD. No unauthorized person will be allowed to work inside. During execution of work, Engineer may make minor changes in the scope of work as per site conditions or other reasons. Contractor will have no extra claim in his rates for the same.

All standard protocols such as wearing masks, using sanitizer, maintaining safe distancing norms must be followed by the Contractor and his workers to prevent spread of coronavirus failing which expulsion/ penalty shall be levied on the agency.

The workers shall be scanned for temperature before entry as per norms and actions per policy taken.

All are supposed to use identified utilities of the Institute only.

AGREEMENT

AN AGREEMENT is made this -----BETWEEN the Indraprastha Institute of Information Technology. A State University established by Govt Of NCT of Delhi ,and with its registered office at IIITD Campus , Okhla Phase III , New Delhi 110020, which expression shall include its successor, unless repugnant to or Excluded by the contract here of and assignees of and represented by its Registrar, IIITD the first party (hereinafter called the Authority) and by its sole proprietor/partners/Director.of M/s -----and having registered office at ----- (which expression shall be including his / its successor's heirs, executors, representative and or assignees of the second party (hereinafter called the contractor}).

WHEREAS the Authority has, under tender Notification No. -----

-----,
WHEREAS the contractor has submitted tender for carrying out the work as above as per the tender document page ---- to ----- and has represented that in conformity with his / its obligation contained in the tender as modified by the correction slips and corrigendum contained he / it shall carryout the same truly, faithfully and honestly.

THE SAME has been accepted by both the parties on the terms and conditions, corrections, corrigendum contained in the tender as modified as well as the letter of acceptance Issued party No.1 annexed here to as.

The same shall be binding on both the parties.

IN WITNESS WHEREOF, the parties have signed the deed of agreement on the date, month and year referred to above.

Date: -----
At New Delhi.

Signed by _____

Party No.1

Party No.2

WITNESS

1. ----- Party No.1

2. ----- Party No.2

**SCOPE OF WORKS FOR INTERIOR WORK ON 1ST FLOOR IN R & D
BLOCK AT IIIT-D CAMPUS- ELECTRICAL & LOW VOLTAGE WORKS**

1.0 SCOPE OF WORK

The Scope of work for Electrical and LV works to be executed at R & D Block Block-1st floor at IIIT-D Campus is as follows :-

- i. SDB, ESDBs and final distribution boards.
- ii. L.T. Cables from Tap off box to SDBs, ESDBs.
- iii. Sub main Cables from SDBs & ESDBs to final distribution boards, AHUs, etc.
- iv. Point wiring of all light, light plug points, fan points, & general power points, AC Point, including modular type light and power accessories etc. complete in all respects.
- v. Supply, Installation, Testing & Commissioning of Light fixtures, ceiling fans & exhaust fans.
- vi. Conduiting and wiring for Data Networking System including Patch Panel, Data Rack, information outlet (I/O) complete with Data cabling between Data Racks & Data outlets etc. as required.
- vii. Conduiting and wiring for IP based CCTV
- viii. Fire Alarm System Complete with Conventional Smoke Detectors, Manual call points, hooter, response indicator and cabling with fire survival cable including integration with existing addressable fire alarm panel and public address system.
- ix. Earthing of electrical installation complete in all respect as required.
- x. Scope of work shall include supply, installation, testing & commissioning of complete electrical system installation as described above.

It is not the intent to specify completely here in all aspects of design and constructional features of equipment's and details of the work to be carried out, nevertheless, the equipment and work shall conform in all respects to high standards of Engineering, design and workmanship and shall be capable of performing in continuous commercial operation in a manner acceptable to the owner who will interpret the meaning of the specifications and drawings and shall have right to reject or accept any work or material which in his assessment is not complete to meet the requirement of these specifications and or applicable codes and standards mentioned elsewhere in these specifications.

TECHNICAL SPECIFICATIONS **INTERNAL ELECTRICAL WORKS**

1.0 GENERAL

1.1 The Internal Electrical works shall be carried out in accordance with Indian Standard Code of Practice for Electrical Wiring Installation IS: 732-1989 and IS: 2274-1963. Electrical Installation work shall also be in conformity with National Electrical Code with upto date ammendments. All Electrical work shall be carried out in accordance with the provision of Indian Electricity Act 2003 & Indian Electricity Rules 1956 ammended upto date. The work shall also conform to Indian Standard Code of Practice for the type of work involved. It shall also be in conformity with regulations and requirements of the Local Electricity Supply Authority and Fire Insurance regulations so far as these become applicable to the installation. Electrical work shall be carried out as per following CPWD general Specifications for Electrical Works.

Part I - Internal Work - Latest .
Part II - External Work - Latest.
Part VI - Fire Work - Latest

1.2 Wherever this Tender Specifications call for a higher standard of material and or workmanship than those required by any of the above mentioned regulations and specifications then the particular specifications given here under shall take precedence over the said regulations and standards.

1.3 The work shall be executed and measured as per the dimensions given in the Bill of Quantities. Drawings, Designs, Specifications etc. The abbreviations used shall mean as under :-

//	-	Inch (25.4mm)
/	-	Foot (12 inches or 30.48 cms)
Sq.Ft.	-	Square Feet
Sq.Mt (M ²)	-	Square Metre.
Cu. Ft.	-	Cubic Feet.
Cum (M ³)	-	Cubic Metre.
Kg.	-	Kilograms (Equivalent to 1000 gms)
T.(M.T.)	-	Tonne (Equivalent to 1000 Kgs.)
No.	-	Numbers.
Cm.	-	Centimetre.
M or R.M.	-	Metre or Running Metre.

2.0 SUB DISTRIBUTION BOARDS & DISTRIBUTION BOARDS

2.1 GENERAL

SDB & Meter Boards shall be metal clad totally enclosed, rigid, floor mounting, air insulated, compartmentalized cubicle type Panel Board for use on 415 volts, three phases, 50Hz 4 wire system. Equipment shall be designed for operation in high ambient temperature and high humidity tropical atmospheric conditions.

2.2 STANDARDS

The equipment shall be designed to conform to the requirements of :

- a. IS 8623 / 93 - Factory Built Assemblies of switchgear and control gear.
- b. IS 4237 - General requirements for switchgear and control gear for voltage not exceeding 1000 volts.
- c. IS 2147-Degrees of protection provided by enclosures for low voltage switchgear and controlgear.
- d. IS 375 - Marking and arrangement of busbars.

2.2.1 Individual equipment housed in the MDB / SDB & Meter Boards shall conform to the following IS specifications:

- | | |
|----------------------------------|---------------------------|
| a) Moulded Case Circuit Breakers | - IS : 13947-2/IEC 947-2. |
| b) Current Transformers | - IS : 2705. |
| c) Indicating Instruments | - IS : 1248. |
| d) Integrating Instruments | - IS : 722. |
| e) HRC fuse links | - IS : 13703 / IEC 269. |

2.3 CONSTRUCTIONS

2.3.1 SUB DISTRIBUTION BOARD

Sub Distribution Boards shall be constructed only of materials capable of withstanding the mechanical, electrical and thermal stresses, as the effects of humidity, which are likely to be encountered in normal service.

Each vertical section shall comprise of :

- a) A front framed structure of rolled/folded sheet steel channel section, of minimum 2mm thickness, rigidly bolted together. This structure shall house the components contributing to the major weight of the equipment, such as circuit breaker cassettes, fuse switch units, main horizontal busbars, vertical risers and other front mounted accessories.
- b) The structure shall be mounted on a rigid base frame of folded sheet steel of minimum 2mm thickness and 100 mm height or 100 mm x 50mm x 5mm thick MS Channel. The design shall ensure that the weight of the components is adequately supported without deformation or loss of alignment during transit or during operation.
- c) A side cable chamber in Main / Sub Distribution Boards for housing the cable end connections, and power/ control cable terminations. The design shall ensure generous availability of space for ease of installation and maintenance of cabling,

and adequate safety for working in one vertical section without coming into accidental contact with live parts in an adjacent section.

- d) A cover plate at the top of the vertical section, provided with a ventilating hood where necessary. Any aperture for ventilation shall be covered with a perforated sheet having less than 1 mm diameter perforations to prevent entry of vermin.
- e) Front and rear doors fitted with dust excluding neoprene gaskets with fasteners designed to ensure proper compression of the gaskets. When covers are provided in place of doors, generous overlap shall be assured between sheet steel surfaces with closely spaced fasteners to preclude the entry of dust.
- f) All doors shall be lockable mounted lock.
- g) Gland plate shall be 3mm thick.

2.3.2 The height of the Main / Sub Distribution Boards / Meter Boards should not be more than 2000mm. The total depth of the panel should be adequate to cater to proper cabling space and should not be less than 400mm. Operating handle not higher than 1700mm and not lower than 300mm from bottom of MDB / SDB / Meter Board.

2.3.3 Doors and covers shall be of minimum 2mm thick sheet steel. Sheet steel shrouds and partitions shall be of minimum 2mm thickness. All sheet panels shall be smoothly finished, levelled and free from flaws. The corners should be rounded.

2.3.4 The apparatus and circuits in the panel board shall be so arranged as to facilitate their operation and maintenance and at the same time to ensure the necessary degree of safety.

2.3.5 Apparatus forming part of the Main / Sub Distribution Boards & Meter Boards shall have the following minimum clearances.

- i. Between phases - 32mm.
- ii. Between phases and neutral - 26mm.
- iii. Between phases and earth - 26mm.
- iv. Between neutral and earth - 26mm.

2.3.6 When, for any reason, the above clearances are not available, suitable insulation shall be provided. Clearances shall be maintained during normal service conditions.

2.3.7 Creepage distances shall comply to those specified in relevant standards.

2.3.8 All insulating material used in the construction of the equipment shall be of non-hygroscopic material, duly treated to withstand the effects of the high humidity, high temperature tropical ambient service conditions.

2.3.9 Functional units such as circuit breakers and fuse switches shall be arranged in multi-tier formation, except that not more than two air circuit breakers shall be housed in a single vertical section. Cable entry for various feeders shall be from the rear / front. Panel board shall be suitable for termination of cable for incoming breakers.

2.3.10 Metallic perforated barriers shall be provided within vertical sections and between adjacent sections to ensure prevention of accidental contact with:

- i. Main busbars and vertical risers during operation, inspection or maintenance of functional units and front mounted accessories.
- ii. Cable termination of one functional unit, when working on those of adjacent unit/units.

All doors/covers providing access to live power equipment/ circuits shall be provided with tool operated fasteners to prevent unauthorized access.

Provision shall also be made for permanently earthing the frames and other metal parts of the switchgear by two independent connections.

- 2.3.11 Main / Sub Distribution Board shall have full length of Earthing strip (minimum size 25mm x 3mm GI) at bottom of Panel for earth connection and brought out through terminal bolt at two end of Panel.

3.0 DISTRIBUTION BOARDS.

- 3.1 Distribution boards for final distribution for lighting & small power shall be provided under Internal Electrical Works. DB's shall be prewired type (Three phase or Single phase).
- 3.2 Distribution Board shall be double door type with extended loose wire box at the top and suitable for flush installation. All distribution boards shall be of three phase (415 Volts) or single-phase (240Volts) type with incoming isolator or MCB and/or ELCB as in bill of quantities. Distribution boards shall contain plug in or bolted type miniature circuit breaker mounted on busbars. Miniature circuit breakers shall be quick make & quick break type with trip free mechanism. MCB shall have thermal & magnetic short circuit protection. MCB shall conform with IS 8828-1978. Busbars shall be of electrolytic copper. Neutral busbars shall be provided with the same number of terminals, as there are single ways on the board, in addition to the terminals for incoming mains. An earth bar of similar size as the neutral bar shall also be provided. Phase barrier shall be fitted and all live parts shall be screened from the front. Ample clearance shall be provided between all live metal and the earth case and adequate space for all incoming and outgoing cables. All distribution board enclosures shall have an etched zinc base stove painted followed by synthetic stoved enamel, colour light gray. A circuit identification card in clear plastic cover shall be provided for each distribution board.
- 3.3 Distribution Board with single-phase outgoing requirement shall be Horizontal type. Distribution Board with three-phase outgoing requirement shall be Vertical/ Horizontal type. Distribution Board installed in indoor dry locations shall conform to IP-42. Distribution Board installed in outdoor & wet locations shall conform to IP- 65.
- 3.4 Miniature Circuit Breakers for lighting circuits shall be of "C" series. All miniature circuit breakers shall be of not less than 10 KA rated rupturing capacity.

Distribution Board shall be provided with isolator or MCB and/or Residual Current Circuit Breaker as mentioned in drawings and BOQ. Residual Current Circuit Breaker shall be current operated type and of minimum 30mA sensitivity unless

otherwise stated. RCCB shall be mounted within distribution board box for single phase distribution board while in three phase distribution board RCCB shall be either mounted within distribution board box or in a separate MS box below distribution board. Width and depth of RCCB box shall be same as that of distribution board box and of same finish. Height of RCCB box shall be sufficient to accommodate RCCB & termination of incoming & outgoing wires. Distribution board box, isolator, MCB'S used shall be of one/same manufacturer. Standard size manufactured by approved manufacturer shall be used. In case size specified in BOQ is not standard size of manufacturer, in that case next standard size distribution board box shall be used with incoming & outgoing MCB as specified in BOQ. Additional cutout/space for outgoing MCB shall be plugged with blank plates. No extra cost shall be paid for using bigger/higher size distribution board box and blank plates.

4.0 **CONDUIT AND WIRING SYSTEM**

4.1 **General**

4.1.1 **Conduit & wiring of light points, fan points, light plug points, power points** (general & for equipment wiring), indoor AC unit / FCU 6A light plug points & shall be in general shall be carried out in concealed / recess / surface **system with PVC conduit & accessories.**

4.1.2 **Conduiting of telephone, data networking & CCTV, access control points conduiting shall be carried out in with PVC conduit** & accessories and shall in general carried out in concealed/ recess/ surface conduit system. Fish wire shall be provided in all conduits provided for telephone & data networking to facilitate drawing of wires.

4.1.3 Wiring for FDA system shall be carried out **with Fire Survival cables.**

4.1.4 Conduiting for **submain wiring** shall be carried out in **PVC conduit** with junction boxes to facilitate drawing of submain wiring.

4.1.5 Conduiting works may be carried out on surface . Conduits shall be fixed directly to soffit of slab / wall and / or fixed on purposed made suspender/ supports as per the direction of Engineer – in – charge. Cost of purpose made suspenders / supports, saddles etc. shall deemed to be included in the quoted rates of the point wiring / conduiting items.

4.1.6 All conduiting works in walls shall be carried out in recessed / concealed in wall.

4.1.7 Wiring of light circuit (namely light point, fan point & light plug point) shall be in separate conduit than wiring for power points.

4.1.8 Separate conduiting shall be provided for lighting point, power points, telephone points, CCTV point, Data Networking, access control etc. wiring for normal & UPS supply shall be in separate conduit etc. Low voltage conduits shall in general kept way at least 300mm for electrical wiring conduits.

4.2 **PVC CONDUIT**

Conduits shall be heavy gauge rigid PVC of minimum thickness of 2mm. Conduits shall be ISI marked confirming to IS : 9537 (Part-3)-1983. All conduit and conduit accessories shall be of PVC. Conduits shall be joined together by vinyle type cement / solvents. Minimum size of conduit shall be 25mm dia.

Conduit shall be fixed on ceiling or wall. All conduits shall be concealed in wall ceiling etc. or fixed on surface of wall with clamps at regular interval as called for elsewhere. For termination of PVC conduits into switch outlet boxes, PVC female adapters shall be used. Wherever conduit run exceeds 10 metre, circular junction boxes shall be provided to facilitate pulling & inspection of wires. Inspection boxes shall be suitable located in co-ordination with the Engineer-in-charge. Conduits shall be bend using suitable size springs. Long radius bends shall be provided. Heating shall not be used to bend the conduits. Size of conduit shall depend upon number and size of wires to be drawn.

4.3 **FIXING OF CONDUITS**

a) **SURFACE CONDUIT**

Conduit pipes shall be fixed by heavy gauge saddles, secured to suitable rawl plugs or other approved plugs with screws in an approved manner at an interval of not more than one metre but on either side of the couplers or bends or similar fittings, saddles shall be fixed at a distance of 30cm from the centre of such fittings. The saddles should not be less than 24 gauges for conduits upto 25mm dia and not less than 20 gauge for larger diameter conduits. The corresponding widths shall be 19mm & 25mm. Where conduit pipes are to be laid along the trusses, steel joint etc. the same shall be secured by means of special clamps made of MS. Where as it is not possible to drill holes in the trusses members suitable clamps with bolts and nuts shall be used. All fixing arrangement like saddles, special purpose clamps, nuts, bolts etc. shall deemed to be included in quoted rates of conduit. Conduits above false ceiling shall be fixed on purposed made suspension / supporting arrangement and duly saddled to supports and cost of the suspenders / supports deemed to be included in the quoted rates.

For 25mm diameter conduit width of clip shall be 19mm and of 20 SWG. For conduit of 32mm and above, width of clip shall be 25mm and of 18 SWG.

Where conduit pipes are to be laid above false ceiling, conduit pipes shall not be clamp to false ceiling framework. Conduits shall be either fixed to soffit of slab / wall or suspended with suitable supports from the soffit of slab. For conduit pipe run along with wall, the conduit pipe shall be clamped to wall above false ceiling in uniform pattern with special clamps if required to be approved by the Engineer-In-Charge at site.

b) **RECESS / CONCEALED CONDUIT**

The chase in the wall shall be neatly made and of ample dimensions to permit the conduit to be fixed in the manner desired. In the case of building under construction, conduit shall be buried in the wall before plastering and shall be finished neatly after erection of conduit. Incase of exposed brick/rubble masonry work, special care shall be taken to fix the conduit and accessories in position along with the building work. Entire work of chasing the wall, fixing the conduit in chases, and during the conduit in mortar before plastering shall

form part of point wiring work. (For chase cutting-chase cutting machine shall be used and no manual cutting shall be allowed).

The conduit pipe shall be fixed by means of staples or by means of saddles not more than 60cm apart or by any other approved means of fixing. Fixing of standard bends and elbows shall be avoided as far as practicable and all curves maintained by bending the conduit pipe itself with the long radius, which shall permit easy drawing in of conductors. All threaded joint of conduit pipe shall be treated with some approved preservative compound to secure protection against rust. Suitable inspection boxes to the barest minimum requirements shall be provided to permit periodical inspection and to facilitate replacement of wires, if necessary. These shall be mounted flush with the wall. Suitable ventilating holes shall be provided in the inspection box covers. Wherever the length of conduit run is more than 10 metres, then circular junction box shall be provided to facilitate pulling of wires.

c) **CONDUITING FLOOR**

Conduiting works in general shall not be carried in flooring (floor finish). However in case conduiting works is carried in floor, then conduit shall be of mild steel. Conduits shall be fixed on top of RCC slab prior for floor finishing.

4.4 **ERECTION AND EARTHING OF CONDUITS:-**

The conduit of each circuit or section shall be completed before conductors are drawn in. The entire system of conduit after erection shall be tested for mechanical and electrical continuity throughout and permanently connected to earth conforming to the requirement by means of special approved type of earthing clamp effectively fastened to conduit pipe in a workmen like manner for a perfect continuity between the earth and conduit. Gas, water pipe shall not be used as earth medium.

4.5 **LIGHT & POWER ACCESSORIES :-**

a) **GENERAL**

All light & power accessories shall be of modular range of plate switch type and shall be of one manufacturer (brand) and type. Boxes for switch & outlet (light & power accessories) shall be of specific manufacture standard design.

b) **LIGHT SWITCHES**

All switches for control of light shall be of 6Amp unless otherwise stated. All switches shall be modular range of plate switch type. The switches shall be rocker mechanism type with silver contact. All switches shall be of white finish.

c) **6/16 AMP SWITCH SOCKET OUTLET**

Switch socket outlet on lighting circuit shall be of 3 pin 6Amp outlet shall have safety shutters. The switch shall be of rocker mechanism type with silver contact. Socket outlet shall be shutter type and of modular range of plate type

and having white finish. Switch and socket outlet shall be mounted on a suitable size GI box with suitable size modular cover plate.

Switch socket outlet on power circuit shall be of 6 pin 16/6 Amp outlet (Universal Socket) shall have safety shutters. The switch shall be of rocker mechanism type with silver contacts. Socket outlet shall be shutter type and of modular range of plate type and having white finish. Switch and socket outlet shall be mounted on a suitable size G.I. box with suitable size modular cover plate.

d) **TV COAXIAL OUTLET**

TV outlet shall be provided with modular range of cover plate, box and coaxial outlet. Cover plate shall match in shape & finish with other light and power accessories.

e) **TELEPHONE OUTLET**

Each Telephone outlet location shall be provided with 1 No. telephone Jack type outlet (RJ 45). The telephone outlet shall be of modular range of plate switch type and shall be mounted on a suitable size G.I. box with modular range cover plate.

4.6 **WIRING**

All PVC insulated copper conductor multi-stranded wires (**FRLS Type**) shall conform to relevant IS Codes. Cable conductor size and material shall be as specified in BOQ.

All internal wiring shall be carried out with PVC insulated wires of 650/1100 volts grade. The circuit wiring for points shall be carried out in looping in system and no joint shall be allowed in the length of the conductors. Circuit wiring shall be laid in separate conduit originating from distribution board to switch board for light/fan. A light/fan switchboard may have more than one circuit but shall have to be of same phase. Looping circuit wiring shall be drawn in same conduit as for point wiring. Each circuit shall have a separate neutral wire. Neutral looping shall be carried out from point to point or in light/fan switchboards. A separate PVC insulated copper conductor earthwire shall be provided alongwith circuit wiring for each circuit. For point wiring red colour wire shall be used for phase and black colour wire for neutral. Circuit wiring shall be carried out with red, yellow or blue colour PVC insulated wire for RYB phase wire respectively and black colour PVC insulated wire for the neutral wires. copper wire shall be used as earth continuity conductor and shall be drawn alongwith other wires. No wire shall be drawn into any conduit until all work of any nature, that may cause injury to wire is completed. Care shall be taken in pulling the wires so that no damage occurs to the insulation of the wire.

Before the wires are drawn into the conduit, the conduits shall be thoroughly cleaned of moisture, dust and dirt. Drawing & jointing of copper conductor wires & cables shall be as per CPWD specifications.

4.7 **JOINTS**

All joints shall be made at main switches, distribution board socket and switch boxes only. No joint shall be made in conduits & junction boxes. Conductors shall be continuous from outlet to outlet.

4.8 **SUB MAINS**

4.8.1 **Submain wiring shall be carried out with PVC Insulated Copper conductor multi- stranded wires/cables (FRLS Type) in suitable PVC conduit for final distribution board.**

4.8.2 Sub-main cable where called for shall be of the rated capacity and approved make. Every sub-main shall be drawn into an independent adequate size conduit. Adequate size draw boxes shall be provided at convenient locations to facilitate easy drawings of the sub-main cables. Cost of junction box/drawn box is deemed to be included in the rates of submain wiring. An independent earth wire of proper rating shall be provided for every sub-main. Single phase submain shall have single earth wire whereas three phase submain shall be provided with two earth wire. Earth wire for sub-main wiring shall also be PVC insulated copper conductor for suitable size / capacity and shall be draw alongwith phase & neutral wired in the same conduit

Where sub-mains cables are connected to the switchgear, sufficient extra lengths of submain and mains cable shall be provided to facilitate easy connections and maintenance. For termination of cables criping type cable socket/lugs shall be provided. Same colour code as for circuit wiring shall be followed.

4.9 **LOAD BALANCING**

Balancing of circuits in three phase installation shall be planned before the commencement of wiring and shall be strictly adhered to.

4.10 **COLOUR CODE FOR CIRCUIT & SUBMAIN WIRING**

Colour code for circuit & submain wiring installation shall be Red, Yellow, Blue for three phases. Black for neutral and yellow/ green or green only for earth incase of insulated earth wire.

4.11 **CLASSIFICATION OF POINTS**

- 4.11.1 Classification and measurement of Point wiring shall be as follows:
- 4.11.2 Conduiting & wiring from switch to First light point including circuit & earth wiring from DB to switch, Switch, Cover plate and Box shall be classified as “One light point (First point) controlled by one number 6 Amp one way / two way switch”.
- 4.11.3 Conduiting & wiring from First light point to next light point to be controlled by same switch in same circuit shall be classified as “Looping Light Points”.
- 4.11.4 General-purpose power point, “Two power point may be wired on one circuit. From distribution board upto first power outlet point shall be measured as “ First Point”. Wiring for 2nd Power outlet on same circuit (wiring from first point to 2nd power point) shall be measured as second power point.
- 4.11.5 Maximum of four outlet for computer point (each outlet for computer shall have 2 Nos. 6Amp socket controlled by 1 No. 6Amp Switch) shall be wired with 2.5 sqmm. Till Ist Point & subsequent LOOPING points with 1.5 Sq. mm single core multistrand copper conductor PVC wires / cables

4.12 **CONDUCTOR SIZE**

Wiring shall be carried out with following sizes of PVC insulated multi-stranded single core copper conductor wire/cable.

- i. Light point. - 1.5 Sq.mm
- ii. Plug Point (5 A Switch. Socket. outlet) - 1.5 Sq.mm
- iii. Circuit Wiring for Light Points - 1.5 Sq.mm
- iv. Computer outlet Point on each work station- Ist Point- 2.5 Sq.mm
- v. Computer Point on each workstation (Looping point)- 1.5 Sq.mm
- vi. General Power Point (15A S.S. outlet)-First Point - 4.0 Sq.mm
- vii. General Power Point (15A S.S. outlet)-Second Point- 2.5 Sq.mm

Maximum number of PVC insulated 650/1100 V grade aluminium/copper conductor cable conforming to IS : 694 – 1990, that can be drawn into rigid PVC/MS conduit

Nominal Cross-Sectional Area of conductor In Sq.mm	20mm		25mm		32mm		38mm		51mm		64mm	
	S	B	S	B	S	B	S	B	S	B	S	B
1	2	3	4	5	6	7	8	9	10	11	12	13
1.50	5	4	10	8	18	12	-	-	-	-	-	-
2.50	5	3	8	6	12	10	-	-	-	-	-	-
4	3	2	6	5	10	8	-	-	-	-	-	-

6	2	-	5	4	8	7	-	-	-	-	-	-
10	2	-	4	3	6	5	8	6	-	-	-	-
16	-	-	2	2	3	3	6	5	10	7	12	8
25	-	-	-	-	3	2	5	3	8	6	9	7
35	-	-	-	-	-	-	3	2	6	5	8	6
50	-	-	-	-	-	-	-	-	5	3	6	5
70	-	-	-	-	-	-	-	-	4	3	5	4

NOTE :

1. The above table shows the maximum capacity of conduits for a simultaneous drawing in of cables.
2. The columns headed 'S' apply to runs of conduits which have distance not exceeding 4.25m between draw in boxes and which do not deflect from the straight by an angle of more than 15 degrees. The columns headed 'B' apply to runs of conduit which deflect from the straight by an angle of more than 15 degrees.
3. Conduit sizes are the nominal external diameters.

5 INSTALLATION OF LIGHT FIXTURES**SUPPORTS AND FIXINGS**

- i. Where Linear LED fluorescent luminaires 1200 mm or more in length are supported directly by the conduit system they shall be fixed to two circular conduit boxes both of which shall form an integral part of the conduit system.
- iii. Where the weight of the luminaire is supported by a conduit box or cable trunking the fixing of the conduit box or trunking shall be adequate for the purpose and approved by Architect/Consultant.
- iv. Support of luminaires from cable trunking shall be by means of appropriate clamps or brackets.
- v. Luminaires mounted on or recessed into suspended ceilings shall not be support on the false ceiling unless specifically shown and approved.
- vi. For wall mounted luminaires, the mounting height specified on drawings shall be above finished floor level measured to the centre of the conduit box, unless otherwise indicated.

WIRING CONNECTIONS

- a) Where luminaires, other than those are fixed direct to circular boxes or supported by pendants or chains, the final circuit wiring shall terminate at a terminal block in the conduit box.
- b) Where luminaires having fluorescent tubes are fixed direct to circular conduit boxes, the final circuit wiring may be terminated within the luminaire unless otherwise indicated. The wiring shall enter each luminaire at the conduit entry nearest to the terminal block and where the loop - in wiring system is used leave by same entry wiring shall not pass through a luminaire.
- c) Where luminaires are mounted on or recessed into a suspended ceiling connection shall be by flexible cord from a plug in ceiling rose shall be located not more than 500 mm from the access panel in the ceiling and shall be firmly supported, unless otherwise approved by the consultant.
- d) Cables and flexible cords for final connections to luminaires shall be suitable for the operating temperature of the luminaire. Flexible cords for chain suspensions, if any shall have a white sheath unless otherwise indicated.
- e) The size of final connection cables or flexible cords shall be as indicated.
- f) Cables and cords passing close to ballast within a luminaire shall be suitable for the operating temperature of the ballast. Heat resistant sleeves shall be provided.
- g) A protective conductor shall connect the earthing terminal or earthing contact of each luminaire to an earthing terminal incorporated in the adjacent conduit box. Where the final connection is by flexible cord the protective conductor shall form part of the cord.
- h) Where luminaires are recessed in the false ceiling, luminaires shall be suspended with MS conduit with ball & socket arrangement, checknut etc. Suspension arrangement shall be fixed to steel/RCC structure with suitable purpose made clamps etc. (Cost of suspension arrangement is deemed to be included in the rate of installation/erection of luminaires). Contractor shall submit the shop drawing for proposed suspension arrangement of various types of light fixtures in various type of ceiling and shall obtain necessary approval from the Engineer-in-Charge.
- i) The light fixtures and fans shall be assembled and installed in position complete and ready for service in accordance with the detailed drawings, manufacturer's instructions and to the satisfaction of the Engineer - In - Charge. Fixtures shall be suspended true to alignment plumb level and capable of resisting all lateral and vertical forces and shall be fixed as required. All ceiling fans shall be provided with suspension arrangement in the concrete slab/roof members. It shall be the duty of the contractor to make these provisions at the appropriate stag & locations shown on the drawings. Fan box with MS hook shall be as per CPWD specifications. Suspended type fluorescent light fixture shall be fixed to circular junction box with a metallic ball and socket arrangement. Light fixture in general shall be directly fixed to ceiling slab with rawl plugs. All switch and outlet boxes shall be bonded to earth through connector blocks. MS pipe shall be fixed with suitable fixing accessories and metal continuity shall be maintained.

6. PREAMBLE TO BILL OF QUANTITIES

- a) The Bill of Quantities should be read with all the other sections of this tender. All the items of work mentioned in the Bill of Quantities covered by this contract shall be carried out as per the drawings, specifications and directions of the departments and shall include the cost of all labour, materials, tools and plants, equipments, and testing of materials, if any, with CONTRACTOR's testing appliance, all octroi, duties, royalties, sales tax on works contract, toll tax, taxes (including service tax) and CONTRACTOR's profit and overheads etc.....
- b) The TENDERERS shall be deemed to have studied the drawings, specifications and details of work to be done within the time schedule and to have acquainted himself of the conditions prevailing at site. The quoted rates shall be applicable for all works in any section / size / shape and Design etc.
- c) The quantities shown against the various items are only approximate. Any increase or decrease in the quantities shall not form the basis for alteration of the rates quoted and accepted. Quantities can be eliminated if required from tender.
- d) In case where the specifications given in the Description of the item of work given in Bill of Quantities are found wanting, the C.P.W.D. specifications for Electrical Works – I & II shall be followed; where not specified the latest edition of relevant I.S:732-1989 Specifications shall be applicable. In case of any ambiguity in interpretations, the DEPARTMENTS decision shall be final and binding.
- e) The rates quoted for items of work shall include working in all conditions at all heights / depths including in / under water, liquid mud, foul conditions etc. and shall also include bailing or pumping out water from the foundations basements or any other place of construction collected from rain or any other source whatsoever at any time, till the completion of work including all suspension period and delays whatsoever.
- f) The quoted rates shall include all costs for disposal of any dismantled R.C.C. / Cement concrete rubbish or malba etc. outside the site premises; all form work for any size, section, thickness, and for all heights and all depths, curing of cement concrete / R.C.C. work and all works wherein cement is consumed. Nothing extra shall be payable on any such accounts.
- g) All the items of work shall be carried out as per description given in the Bill of Quantities and as shown in the drawings. All materials to be got approved from the DEPARTMENTS.
- h) The point wiring rates shall deem to include the costs for supply and installation, fixing etc. of all sundry items like, PVC Connector, Fan Box Cover, Surface / Deep Tee, Junction boxes, Hylam Sheet Cover for junction boxes, brass screws, washer etc.
- i) The rates quoted for point wiring / conduiting shall include laying of conduit in all places i.e. R.C.C. slab, RCC beam, brick work, etc. including cutting of chase & repairs etc.
- j) The rates quoted for cable tray & suspenders shall include two coats of red oxide primer paints after dust and dirt removal and finished with two coats of spray paints of approved make and shade synthetic enamel paint.

LIST OF APPROVED MAKES FOR INTERNAL ELECTRICAL WORKS:

Main / Sub Distribution Boards, Electrical Panels etc.	Conquerent Control System Pvt. Ltd., Application Control Pvt Ltd. Control Wel Switchgear Pvt Ltd.
Moulded Case Circuit Breaker & Air Circuit Breakers & Contractors	Schneider Electric L & T Legrand
Distribution Boards with Miniature Circuit Breakers, RCCB & Isolator.	Legrand Schneider Electric L & T
Power Cable 1.1 KV Grade XLPE Insulated AL Conductor Armoured Cables (FR Type).	Finolex Polycab Havells
PVC Insulated copper conductor single core stranded wires of 650/1100 volt grade(FRLS Type)	Finolex Polycab Havells
Modular Type Light & Power Accessories(Switches, Socket, TV coaxial point etc.) M.S. Switch Boxes	North-west (Styles+) MK India (Wraparound) Legrand (Myrius)
M.S./PVC Conduit (ISI Marked) with Accessories	BEC AKG NIC
Cable Glands & Cable Lugs	Commet Dowells Multi
Cable Tray (MS)	Pilco Indeana Engineering MEM Slotco
Ceiling/Wall Fan	Orient Usha Havells
Light Fixtures	Philips Wipro Havells
<u>Fire Alarm System:</u>	
Conventional Smoke Detector Alarm panel	Daksh, Agni , System Sensor
Addressable Detectors & devices like control module, monitor module sounders, Duct Detectors, addressable sounder etc.	Esser
Amplifier, Speaker, Hooter	Bosch, Ahuja, System Sensor
<u>CCTV System</u>	
CCTV-Cameras	Honeywell

Annexure X

“Exempted Bid Security Declaration Form”

Date: _____ Tender No. _____

To (insert complete name and address of the purchaser)

I/We. The undersigned, declare that:

I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.

I/We accept that I/We may be disqualified from bidding for any contract with you for a period of one year from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We

- a) have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid;
or
- b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity (i) fail or reuse to execute the contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid Security Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: _____ (signature of person whose name and capacity are shown)

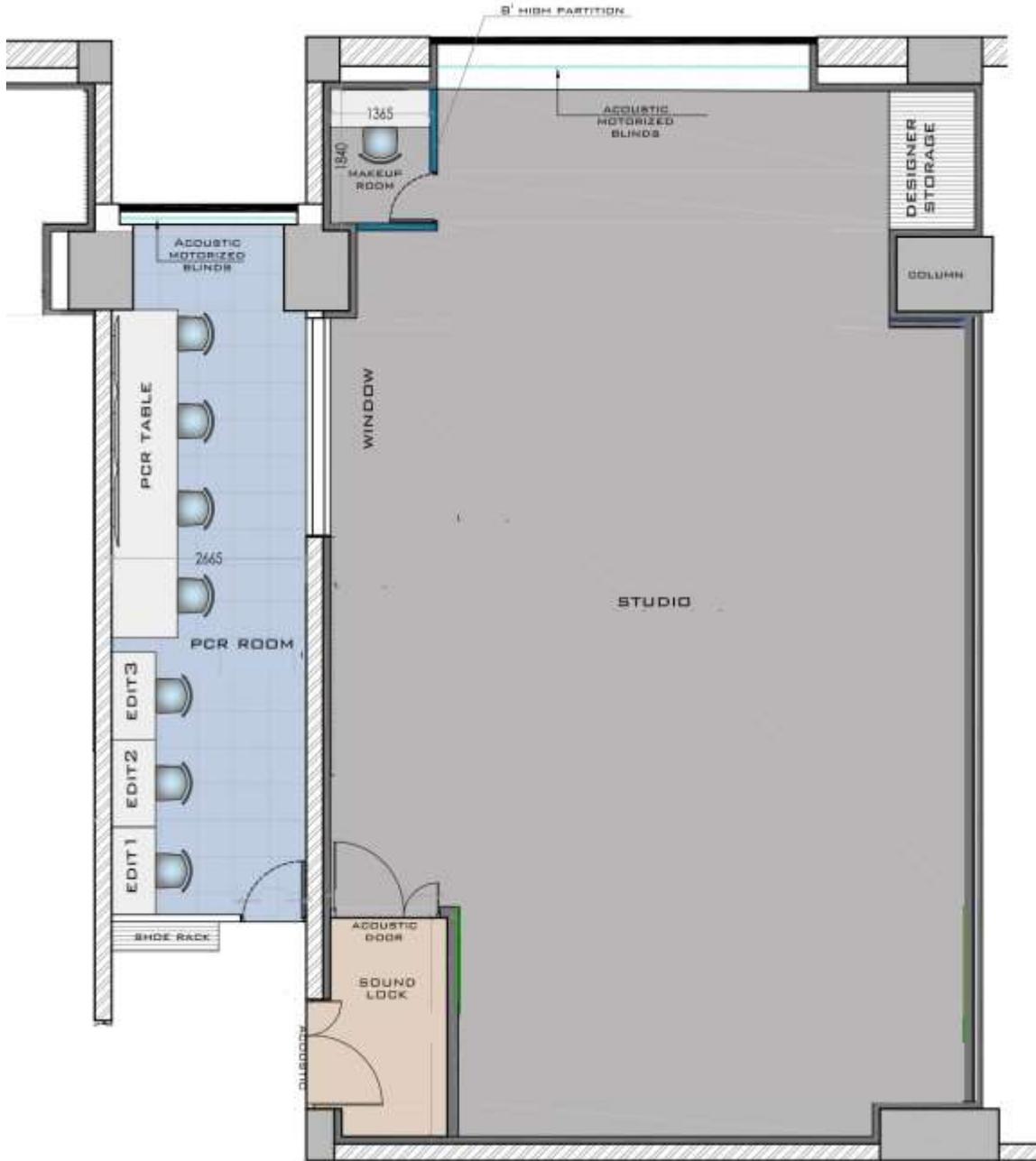
In the capacity of _____ (legal capacity of person signing the Bid Securing Declaration)

Name: (complete name of person signing he Bid Security Declaration)

Duly authorized to sign the bid for an on behalf of (insert complete name of Bidder)

Dated on _____ day of _____ (insert date of signing)

Corporate Seal (where appropriate)



LAYOUT PLAN FOR VIDEO STUDIO AND PCR ROOM

<u>SUMMARY SHEET</u>		
SUB-HEAD	SH. DESCRIPTION	AMOUNT
A	INTERIOR CIVIL WORKS	
B	ELECTRICAL WORKS	
	TOTAL	
	GST @ _____	
	TOTAL AMOUNT WITH GST	

Note: All rate to be inclusive cost of Transportation, Labour, Materials etc. as required for satisfactory completion of work.

SCHEDULE OF QUANTITIES

S.NO	ITEM OF WORK	UNIT	QTY	RATE	AMOUNT
1	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.- (In cement mortar)	Cum	1.75		
2	15 mm cement plaster on the rough side of single or half brick wall of mix : 1:4 (1 cement: 4 fine sand)	Sqm	15		
3	Provide and fixing of GI frame on Floor and Ceiling channel (0.55 mm BMT,52mm wide & having two flanges of 30mm each) to the RCC Floor and Slab with Approved Fasteners @600 mm C/C respectively. The frame Wall Studs (0.55mm BMT, 50mm wide having one flange of 34mm another of 36 mm). These Wall studs are placed maximum distance of 610 mm C/C in Floor and Ceiling channel. 50mm thick @ 48kg/cum density Rockwool Insulation to be suspended on Insulation Holder Strip positioned at 1200mm vertical centers within the stud cavity.		-		
3.1	2x12.5 mm thick Standard Plasterboard up to all heights on each side (i.e. 4 boards in total) is screw fixed to metal system using Self tapping 3.5 x 25/38mm corrosion resistant drywall screws spaced at 150mm centers on all joints and 300mm centers in the field of plasterboards. Screw fixing is done mechanically. Install Flat Strap 90mm x 0.55mm behind horizontal board joints. Finally, plasterboards and screw heads are to be jointed and finished so as to have a flush look which includes filling tapered edge and square edges of board with APJC Compound, Paper Tape (As per recommended practice). All perimeters and penetrations to be sealed with fire and acoustic sealant along with baker rod as per manufacturer's specifications. Cost of the partition shall be inclusive of necessary additional bracing of the frames at the slab level for stability and making necessary cutouts for electrical / data and other service outlets and also for passing through ducts, cable trays and other service requirements. (Elevational area of the executed work shall be measured and paid for) All complete as per drawing and specifications and direction of the Engineer-in-Charge. (Make : India Gypsum, Saint Gobain, Gyproc)	Sqm	90		

<p>4</p>	<p>Fully perforated gypsum board acoustical wall paneling on brick wall/existing structure/gypsum partition wall.Providing and fixing of Gypsum board of size 1200x2400mm having four tapered edges, 16% perforation area of board (Top) channel 50mm wide and 0.50 mm thick, fixed to the floor and ceiling (Top) at the spacing of 600 mm centre to centre with dash fastener of 12 mm diameter 38 mm length or suitable anchor fastener or metal screws with nylon plugs . Providing and fixing Wall lining of required height consisting of G.I.frame consisting of 48mm wide and 0.50 mm thick Studds & hole size of 12mm square shape having four tapered edges, backed with acoustic tissue having NRC 0.80 including providing and fixing of frame work made of roll formed G.I. sheet with zinc coating of 120 gms/sqm(both side inclusive), consisting of GI floor and ceiling (fixed vertically within flanges of floor and ceiling channel and placed at a spacing of 300mm centre to centre including fixing of studs along both ends of partition fixed flush to wall with suitable anchor fastener or metal screws with nylon plugs at spacing of 450 mm centre to centre, and fixing of 12.5mm fully perforated gypsum board of size 1200x2400mm having four tapered edges, 16% perforation area of board & hole size of 12mm square shape backed with acoustic tissue by 25 mm long drywall screws on studs, floor and ceiling channels at the spacing of 300 mm centre to centre. Nogging channels to be provided at the horizontal joints of the board. Then the joints of the tiles are finished to a flush finish with recommended jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher and two coats of primer suitable for board as per manufacturer specifications. Additionally, providing and laying of resin bonded Glass wool of 48kg/M3 of 50mm thickness, to be placed between the Wall and Board between the studs to get the higher sound absorption of NRC 0.9. (Make : India Gypsum, Saint Gobain, Gyproc)</p>	<p>Sqm</p>	<p>125</p>		
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5	P/F acoustical doors for the rooms. The door to be fabricated with 12mm MDF board exterior grade of approved make veneer facing and finished with varnish on both side.The door will have insulation with one layer of 50mm th. 48 kg. Cu. M density fiberglass. The fiberglass should be supported with wooden batten of Kail wood frame work minimum 610mm X 610mm to avoid sagging.The door leaf will be fabricated using 100mm x 74mm th. Teakwood frame. The fixed door frame (Chowkhat) shall be Teakwood of size 125mm x 79mm, the door frame shall be provided on all three sides. Rate including cost of vision panel of 150x1175mm with lipping & two layers of 6mm thick toughened glass separated by wooden spacer of 12mm.The door will have hydraulic door closer, cross bar door handle and relevant hardware for fabrication and fixing. The door seal of rubber Magnetic type of to be provided all around of the door frame, the door to be attached with the door frame by brass metal hinges with adequate strength and numbers to avoid sagging.All joints to be sealed with mastic sealant of approved make.The doors on the room side to be finished using non light reflective dull laminate as per approval. (Door size : 1050mm x 2400mm) and (1250mm x 2400mm)	Sqmt	8.50		
6	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.				
6.1	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	kg	450		
7	Distempering with 1st quality acrylic distemper, 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. (Make:Berger/ICI/Asian/Nerolac)		-		
7.1	Two or more coats	Sqm	255		
8	Distempering with 1st quality acrylic distemper, 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. (Make:Berger/ICI/Asian/Nerolac)		-		
8.1	Old work (one or more coats)	Sqm	220		
9	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 (Make: Birla white, J.K Cement, Saint Gobain)	Sqm	255		

10	Applying priming coats with primer of approved brand and manufacture, having low VOC (Volatile Organic Compound) content. (Make:Berger/ICI/Asian/Nerolac)		-		
10.1	With water thinnable cement primer on wall surface having VOC content less than 50 grams/litre	Sqm	255		
11	Providing and fixing first class beech wood skirting on all door & window frame as per detail drawings with melamine polish or paint. The wood should be knot and decay free. All complete as per drawing and specifications and direction of the Engineer-in-Charge. (Size:- 25x100mm)	Rmt	50		
12	Providing, making and fixing of Glass Observation Window made out of wooden frame and 12mm thick double glass unit comprising of two sheets of 12 mm thick clear toughened float glass in straight/inclined position as directed, separated by 50mm separator complete, to form a observation window laying by silica gel crystals at the bottom of the window surface, with necessary rubber/teak wood beadings for the edges of the window . Including 2nd Class Teak wood frame of 100mm X 50mm (app.) complete with rebates etc , fixing to wall/columns using anchor fasteners etc as required, all incidentals, antitermite treatment, spirit polishing complete in all respect. (Make - Modi Guard , Saint Gobain, Pilkington Glass)	Sqm	6		
13	Providing and fixing duly edge polished 6mm thick mirror of required size of approved quality and specifications with 12 mm thick ply sheet ground fixed with C.P counter sunk screws & washers complete, use silicon for fixing. (Make - Modi Guard , Saint Gobain, Pilkington Glass)	Sqm	3		
14	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) 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 : (Make - Greenply Industries, Century Plyboards, Kit ply, Archid Ply)				
14.1	35 mm thick including ISI marked Stainless Steel butt hinges, twin rubber door stopper, tower bolts, with necessary screws	Sqm	1.58		
15	Providing and fixing Heavy-duty door closer of (Make-Dorma model no. TS 68 Rack /Dorset, Ozone/ Hafele)	Each	1		
16	Providing and fixing bright finished 100 mm mortise latch and lock with six levers and a pair of stainless steel lever handles with necessary S.S. screws etc. complete (Make-Dorma /Dorset, Ozone/ Hafele)	Each	4		

17	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 / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge.		-		
17.1	For fixed portion- Powder coated aluminium (minimum thickness of powder coating 50 micron)	Kg	10		
18	Providing and Fixing slotted C channel of size 100 x 40 x 2.5 mm for 900mm x 900mm framing as grid work with nut bolt, washers and anchor fasteners of hilti or equivalent make etc.	Mtr	280		
19	Providing and Fixing slotted angle of size 40 x40 x 2.5 mm for hanging the grid structure including nutbolts, wsahers, anchor fasteners and all accessories as required. (Make-Tata /Equivalent BIS)	Mtr	300		
20	Providing and fixing strip of Size 200 x 40 x 2.5 mm for jointing the channel & angle, including nut bolts and holes in strips etc. (Make- Tata /Equivalent BIS)	Nos	600		
21	Painting with synthetic enamel paint, having VOC (Volatile Organic Compound) content less than 150 gms/litre, of approved brand and manufacture, including applying additional coats wherever required to achieve even shade colour. (Two or more coats). (Make:Berger/ICI/Asian/Nerolac)				
21.1	On Channel (100 x 40 x 2.5mm)	Mtr	280		
21.2	On Angle(40 x 40 x 2.5mm)	Mtr	300		
22	Disposal of mulba/ rubbish outside the campus.	L/S	1		
A	Total Amount - Civil Works				

B	Electrical Works				
1	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required.				
i	4 X 10 sq. mm + 2 X 6 sq.mm earth wire	Mtr	55		
2	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 volts, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 amps tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCB's (but without MCB's and incomer) as required . (Note : Vertical type MCB TPDB is normally used where 3 phase outlets are required.)				
(i)	4 way (4 + 12), Double door	No.	1		
3	Supplying and fixing following rating, four pole, 415 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
(i)	40 Amps	No.	1		
4	Supplying and fixing following rating, double pole, (single phase and neutral), 240 volts, residual current circuit breaker (RCCB) , having a sensitivity current upto 300 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
(i)	40 Amps	No.	3		
5	Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, "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.				
(i)	Single pole	No.	30		
7	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	No.	6		
8	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required.				
(i)	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	M.	150		
(iii)	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	M.	175		
9	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.	No.	7		

10	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.	No.	8		
11	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit alongwith 1 No 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	M.	50		
12	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 amps modular socket outlet and 5/6 amps modular switch, connection etc. as required.	No.	32		
13	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required.		-		
i	1 x 1.5 sq. mm	M.	110		
ii	2 x 1.5 sq. mm	M.	110		
iii	3 x 1.5 sq. mm	M.	105		
14	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		-		
ii)	25 mm dia	M.	50		
15	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.		-		
i	1 or 2 Module (75 mmX75 mm)	Nos	2		
	3 Module (100mmX75mm)	Nos	Rate Only		
ii	6 Module (200mmX75mm)	Nos	1		
iii	12 Module (200 mmX150 mm)	Nos	1		
4	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.				
i	5/6 A switch	Nos	Rate Only		
ii	3 pin 5/6 A socket outlet	Nos	Rate Only		

16	Installation, testing and commissioning of pre-wired, fluorescent fitting / compact fluorescent / LED fitting of all types, complete with all accessories etc. in recess/directly on ceiling / wall, including connection with 1.5 sq.mm FR PVC insulated, copper conductor, single core cable and earthing etc. as required.	Nos	10		
17.00	Supply and Installtion of Wall Mounting Bracket Fan 400 Mm Sweep Single Phase, AC 230 V ,50hz with all accessories etc.	Nos	1		
7.10	Supply, Installation, Testing & Commissioning of IP IR Dome Camera 1080P High Definition H.264 IR Network Fixed Dome, 3.6mm fixed Lens, Built in Power over Ethernet (PoE); 15m IR distance with all accessories like tamper proof screws, clamps, wiring etc. complete as required.	Nos	1		
B	Total Amount				
(A+B)	Total Amount (Civil & Electrical)				