



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
ESTATE OFFICE
NOTICE INVITING TENDER

Telephone No. 022 2576-4060,022-2159-6922 email id drestate@iitb.ac.in

IIT Bombay invites signed Technical Bid & Financial Bid (Quality and Cost Based Selection -QCBS) for the following work from the contractors having similar experience in Central Government Departments / State Government Departments / Central or State Autonomous Bodies / Central or State Public Sector Undertakings / in reputed Private Organizations. The detail of work is given below:

Sr. No.	Name of Work	Estimated Cost (In Rs.)	EMD (Rs.)	Mode and Type of Tender	Duration of contract
1	Umbrella contract for structural repairs,renovation,retrofitting works, additions and alterations works, waterproofing, painting, plumbing and sanitary works and minor new construction works at Hostel area IIT Bombay. EO/A/UMBRELLA/HOSTEL/ WKS-75/26-27	19,88,76,801/-	39,77,000/- (in the form of Demand Draft/FDR/BG)	Percentage rate Offline mode Two Stage Bidding (QCBS).	01 year (One Year)

All tender documents, forms, etc are available online on <https://www.iitb.ac.in/resources/vendors-tenders> and Central Public Procurement Portal (CPPP) e-tender publishing portal of the Government of India. **The date and time for distribution/download of tender for technical and financial bids are from 10.08.2026 to 02.09.2026.**

Pre-bid meeting is scheduled on 10.09.2026 at 11:00 a.m.

Date of **submission** of technical and financial bids in 2 separate envelopes on **22.09.2026 from 10:00 a.m to 05:30 p.m.** in the tender box at 1st floor, Conference room, Estate Office. The date of **opening** the technical Bid will be **23.09.2026 at 11:30 a.m.** **The date of opening the financial bid shall be intimated later to the eligible bidders.**

Bidders who full fill the following criteria/requirements shall be considered as eligible.

A) Stage-I (Eligibility)

1. Submit a **DD/FDR/BG of INR Rs.39,77,000/- (Earnest Money Deposit amount)**, drawn in Favour of **"The Registrar, IIT Bombay"** mandatory to all in a separate envelope along with a technical bid which will be released after preparation of comparative statement except for the lowest bidder who stood the lowest in the tendering processes.
2. Experience of having successfully completed similar nature of works as mentioned below during the last 7 years ending previous day of last date of submission of tenders.
 - i) Three similar completed works each costing not less than the amount equal to **40% of estimated cost**,
 - OR**
 - ii) Two similar completed works each costing not less than the amount equal to **50% of the estimated cost**,
 - OR**
 - iii) One similar completed work costing not less than the amount equal to **80% of the estimated cost** put to tender
3. At least one of the above-mentioned projects of costing not less than the amount equal to **40% of estimated cost** should have been carried out for any Central Government Departments / Institutions/Autonomous Bodies/ /Public Sector organizations.

3. **Similar nature** of work includes major rehabilitation & retrofitting works costing not less than 40% of the estimated cost, toilet/terrace waterproofing works costing not less than 30% of the estimated cost, interior renovation & new construction works costing not less than 30% of the estimated cost.

***If works are carried out for more than one year, proportionate values will be considered.**

4. The contractor should have an average annual financial turnover of **50% of the estimated cost** put to tender during the last 5 **(five) years** ending 31-03-2026. This should be certified by a chartered accountant and should not have incurred any loss in more than two years during the last 5 (five) years ending 31-3-2026.

5. Detailed statement for works completed, work in hand including balance commitment of work should be enclosed for the last three years commencing from 1st April and ending with 31st March and the contractor should submit his details as per Annexure 'A' format with support of photo copies of the work order and work completion certificates which includes name of work, otherwise the bid capacity will not be calculated and his technical bid will be summarily rejected, and no Financial Bid will be opened.

Evaluation of applications for eligibility.

The applications will be evaluated for conformity to the eligibility criteria as mentioned in NIT under stage - I, Sr. No. 1 to 5 as per the prescribed format along with a copy of relevant documents and certificates.

All those applications found eligible in Stage-I will only be considered for the technical evaluation as under.

B) Stage – II (Technical)

Quality/safety/schedule/performance evaluation of completed / ongoing works shall be conducted by an Evaluation committee constituted by the Director, IIT Bombay. Evaluation will be based on the following parameters:

1. *Quality/safety performance based on one similar completed work - 20 marks*
2. *Quality/safety performance based on one similar ongoing work - 20 marks*
3. *Schedule performance of the current and past completed works in last 5 work - 20 marks*
4. *Total manpower working in company and the manpower to be deployed at site along with technical and non-technical Staff, Engineers, etc. - 20 marks*
5. *Tools, equipment, machineries, plants resources, etc. - 20 marks*

TOTAL MARKS = 100

The bidder shall submit documents/report detailing each of the above 5 items signed by the authorized signatory and should be part of the bid. Also submit the CVs of the manpower proposed to be deployed.

To qualify, the applicant must secure at least 60% (Sixty percent) marks in each one of the above criteria and 75% (Seventy Five percent) marks in aggregate.

The Indian Institute of Technology Bombay reserves the right to restrict the list of eligible Tenderers to any number deemed suitable.

Even though an applicant may satisfy the specified criteria, he would be liable to disqualification if he/she has:

- Made misleading or false representations or deliberately suppressed the information in the forms, statements and enclosures required in the application for eligibility.

- Record of poor performance such as, slow progress of work, abandoning of work, not properly completing the contract, or financial failures/ weaknesses etc.

The employer reserves the right to accept or reject any application and to annul the qualification process /Tender process and reject all applications at any time without assigning any reason or incurring any liability to the applicants.

C) List of documents to be submitted along with the bid application within the period of bid submission. Contractors who do not possess the documents listed below from Sr. No. 1 to 20 are advised not to apply, as submission of these documents is mandatory for qualification in the technical bid evaluation process.

1. Experience of having successfully completed similar works as detailed below during the last 7 years ending previous day of last date of submission of tenders.

i) Three similar completed works each costing not less than the amount equal to **40% of estimated cost**,

OR

ii) Two similar completed works each costing not less than the amount equal to **50% of the estimated cost**,

OR

iii) One similar completed work costing not less than the amount equal to **80% of the estimated cost** put to tender

2. At least one of the above-mentioned projects of costing not less than the amount equal to **40% of estimated cost** should have been carried out for any Central Government Departments / Institutions/Autonomous Bodies/ /Public Sector organizations.

3) **Completion certificates** in case of works carried out for Government department. The certificate should have been issued by an officer not below the rank of Executive Engineer.

4) Financial information in the form 'B' is enclosed.

5) Details of works in progress in form 'C' are enclosed.

6) Format of Performance report enclosed in form 'D'.

7) Form of Machinery details enclosed in form 'E'.

8) Form 'F' of undertaking and declaration of information in respect of manpower and man-days, list of Technical Staff & Engineers with copies of their certificates, required for above-said work must be given in undertaking with official signature and seal/stamp, otherwise bids/tenders will be summarily rejected.

9) Bank Solvency certificate **08 crores** issued within one year from any Nationalized / Schedule Bank.

10) P. F. registration certificate.

11) P. F. challans of last 12 months (as per the labourers engaged during a particular month).

12) ESIC registration certificate and copies of ESIC challans of the last 12 months (as per the labourers engaged during a particular month). Contractor name should be mentioned in the challans else the agency will be disqualified. OR Contractors' all risks insurance (CAR policy)

13) PAN card.

14) GST registration certificate.

15) Income Tax Return for the last 03 years.

16) Labor License obtained during last 03 years of at **least 20 labourers**.

17) Litigation history of the agency is required to be submitted in the form in **Non-Judicial Stamp paper Notarised** along with the application. A tender would not be awarded if any inquiry proceeding / criminal

case is found pending against the agency. If there is no enquiry then undertaking has to be submitted in the format given.

18) Power of Attorney, if any.

19) Proof of Constitution: An affidavit in case of Sole Proprietorship, Partnership Deed in case of Partnership Firm, and Article of Association in case of Private / Public Limited Companies.

20) List of works executed during last 7 years (with the date of schedule commencement / actual commencement, schedule date of completion / actual date of completion, Value of work order, Total revised value of work etc.).

21) Index Sheet: The vendor shall submit an index sheet as the cover page of the technical bid, with all enclosed documents serially page-numbered and referenced.

D) Opening of Financial/Price bid.

The L1 shall be decided on the highest composite score (Technical+Financial) on 30:70 (Technical:financial) . The date of opening of the price bid shall be intimated to the bidders only those who are technically qualified.

Financial Bid Evaluation on Quality and Cost Based Selection (QCBS)

The Financial bid of those bidders, who qualify in the technical bid evaluation, will only be opened. The financial scores would be normalized on a scale of 100. The total score, both technical and financial, shall be obtained by weighing the quality and cost scores and adding them up. On the basis of the combined weighted score for quality and cost, the contractor shall be ranked in terms of the total score obtained. The proposal obtaining the highest total combined score in the evaluation of quality and cost will be ranked as H-1 followed by the proposals securing lesser marks as H-2, H-3, etc. The proposal securing the highest combined marks shall be recommended for the award of contract. **In the event two or more bids have the same score in the final ranking, the bid with highest technical score will be H-1.**

An Evaluated Bid Score (B) will be calculated for each responsive Bid using the following formula, which permits a comprehensive assessment of the Bid price and the technical merits of each Bid:

$$B = \frac{F_{Low}}{F} W + \frac{T}{T_{High}} (1 - W) \quad (1)$$

Where, F is the Evaluated Bid price, F_{Low} is the lowest of all Evaluated Bid Prices among responsive Bids, T is the total Technical Score awarded to the Bid, T_{High} is the Technical Score achieved by the Bid that was scored best among all responsive Bids, and W is the Weightage for the Price as specified The Bid with the best-evaluated Bid score (B) among responsive Bids shall be the Most Advantageous Bid.

Example: The following procedure shall be followed. In a particular case of selection of contractor, it was decided to have minimum qualifying marks for technical qualifications as 75 (Seventy Five) and the weightage of technical bids and financial bids was kept as 30:70 (Thirty: Seventy). In response to the Tender, three proposals, A, B and C were received. The technical evaluation committee awarded the following marks as under: A: 75 Marks, B: 80 Marks, and **C: 90 Marks.**

The minimum qualifying marks were 75 (Seventy Five) thus, all the three contractors were found technically suitable. Using the formula T/T_{high} , the following technical points are awarded by the evaluation committee: A: $75/90 = 83$ points, B: $80/90 = 89$ points, and C: $90/90 = 100$ points

The financial proposals of each qualified contractors were opened after notifying the date and time of bid opening. The price evaluation committee examined the financial proposals and evaluated the quoted prices as under: A: Rs. 120, **B: Rs. 100**, and C: Rs. 110.

Using the formula F_{Low}/F , the committee gave them the following points for financial proposals: A: $100/120 = 83$ points, B: $100/100 = 100$ points, and C: $100/110 = 91$ points.

In the combined evaluation, thereafter, the evaluation committee calculated the combined technical and financial score as under:

Proposal A: $83 \times 0.30 + 83 \times 0.70 = 83$ points, H-3

Proposal B: $89 \times 0.30 + 100 \times 0.70 = 96.70$ points, **H-1**

Proposal C: $100 \times 0.30 + 91 \times 0.70 = 93.70$ points H-2

Proposal B at the evaluated cost of Rs. 100 (Rs. One hundred) was, therefore declared as the **winner** and recommended for negotiations/approval, to the competent authority.

Note:

The selected bidder should submit a **Performance Guarantee for 5% of the estimated cost**. The time allowed for submission of the Performance Guarantee from the date of issue of the letter of acceptance is 14 days.

Separate sub-work orders will be issued to execute the works with a separate time limit as per the items and rates of the umbrella contract. The works shall be executed and completed as per the sub-work order issued and the time limit. Bills shall be submitted accordingly for payment against the sub-work orders from time to time

If there is a delay in the work as mentioned in the sub-work order then the agency has to apply for an extension of the time limit with proper justification and before the expiry of the time limit. Application for EOT after the time limit will be approved with penalty only.

The contractor has to submit an acceptance letter along with each estimate mentioning the time period for each sub work order.

The contractor has to submit the challans, and/ or invoice copies of material as per the request of the Engineer in charge as and when required.

The Contractors can download Tender documents and all other required forms from the CPPP website and <https://www.iitb.ac.in/resources/vendors-tenders> official tender advertisement portal of IIT Bombay.

The validity of the bid will be valid for 180 days from the date of opening of tender.

If required Contractors/Agencies/Proprietors should submit the Power of Attorney to their representative to deal any matter with any Officers or Staff of IIT Bombay on behalf of them or their agency.

The rates are taken from CPWD SOR 2023 with multiplying factor & rate analysis.

The pre-bid meeting will held on 10.09.2026 at 11:00 a.m. Estate Office, IIT Bombay. Contractors who wish to attend shall intimate to this office with number of visitors attending it with their names at drestate@iitb.ac.in in an advance on or before 09.09.2026 up to 04:00 p.m. Tenderers should be send by email all their queries, latest by **15.00 hours one day before to the scheduled Pre-bid meeting** date to drestate@iitb.ac.in

If there are varying or conflicting provisions made in any one document forming part of the contract, the Dy. Superintending Engineer Tender Committee shall be the deciding authority with regard to the interpretation of the documents and his decision shall be final and binding on the tenderer.

IIT Bombay reserves its right to verify all the credentials, quality, quantity, workmanship, other required details etc. of the bidders/contractors with their clients along with ongoing/completed projects based on on-site visit and other sources before finalization and award of the work. In case of requirements/emergency, IIT Bombay reserves its right to award any quantity of works to any other contractor/agencies at his own risk and cost.

IIT Bombay reserves its right to reject/accept any or all applications for issue of blank tender forms and/or accept/reject any tender or re-invite the tenders without assigning any reason and without any reference.

Important dates to remember:

- 1) Pre-bid meeting is scheduled on 10.09.2026 at 11:00 a.m.
- 2) The date of **submission** of technical and financial bids in 2 separate envelopes are on **22.09.2026** from 10:00 a.m to 05:30 pm.
- 3) The date of **opening** of the Technical Bid will be 23.09.2026 at 11:30 a.m.
- 4) The time and date of opening of the financial bid shall be intimated later to the eligible tenderer.

sd/-
Dy. Superintending Engineer

TO BE SUBMITTED IN A SEPARATE ENVELOP ALONG WITH FINANCIAL BID

**ANNEXURE 'A' (FORMAT)
TECHNICAL BID**

File No. : EO/UMBRELLA/HOSTEL/WKS-75/26-27

Name of Work : Umbrella contract for structural repairs,renovation,retrofitting works, additions and alterations works, waterproofing, painting, plumbing and sanitary works and minor new construction works at Hostel area IIT Bombay.

Name of the Contractor _____

Sr. No.	Name of Client	Name of Works	2022-2023 (In Lakhs)	2023-2024 (In Lakhs)	2024-2025 (In Lakhs)	2025-26 (In Lakhs)	
						Completed	Balance
			-	-	-	-	-
			-	-	-	-	-
Total Amount (In Lakhs)			-	-	-	-	-

Note : Contractor must submit his details as per Annexure 'A' with declaration stating that **he is possessing all the original copies of work orders and experience certificates, it will be produced as and when required to IIT Bombay.** However, if it is found false at later stage, the contractor will be debarred or blacklisted. Whereas, if information is not submitted as per Annexure 'A' format his bid capacity will not been calculated and his tender will be summarily rejected.

Signature of Contractor
Name & Address in full

EO/UMBRELLA/HOSTEL/WKS-75/26-27

FORM 'B'

**FINANCIAL
INFORMATION**

(To be duly filled, signed and submitted along with technical bid by the tenderer)

I Financial Analysis –

Details to be furnished duly supported by figures in Balance Sheet / Profit and Loss Account for the last Five years duly certified by the Chartered Accountant, as submitted by the applicant to the Income-Tax Department (Copies to be submitted separately).

Sl No	Detail s	Year ending 31 st March of				
		2020	2021	2022	2023	2024
1	Gross annual turnover in construction work					
2	Profit (+) / Loss (-)					

II. Financial arrangement for carrying out the proposed work.

III. Income Tax PAN details (to be enclosed separately)

IV. Solvency certificate from Bankers of Applicant (to be submitted separately)

SIGNATURE OF APPLICANT (S)

SIGNATURE OF CHARTERED ACCOUNTANT WITH SEAL

FORM ' C ' (To be duly filled, signed and submitted along with technical bid by the tenderer)										
PROJECTS UNDER EXECUTION OR AWARDED										
SR. NO.	Name of work/project & location	Owner or sponsoring organizations	Agreement No	Cost of work	Date of commencement as per contract	Stipulated Date of completion	Up to date percentage progress of work	Slow progress if any and reasons there of	Name and address/ Tel No of Officer to whom reference may be made	Remarks(Indicate whether any show cause notice issued or Arbitration initiated during the progress of work)
1	2	3	4	5	6	7	8	9	10	11

Signature of Applicants

FORM 'D'

(To be duly filled, signed and submitted along with technical bid by the tenderer)

PERFORMANCE REPORT FOR WORKS REFERRED

1. Name of the work / Project & Location.
2. Scope of work.
3. Agreement No.
4. Estimated Cost
5. Tendered Cost
6. Value of work done
7. Date of Start
8. Date of completion
 - i. Stipulated date of completion.
 - ii. Actual date of completion.
9. Amount of compensation levied for delayed Completion if any.
10. Performance report based on Quality of Work, Time Management, and Resourcefulness : Excellent/ Very Good / Good / Fair

DATE

**EXECUTIVE ENGINEER /
PROJECT MANAGER OR
EQUIVALENT**

(*Signature and seal of the client / owner to
whom the work executed)

***Certified by self will not be
accepted**

TO BE SUBMITTED IN A SEPARATE ENVELOP ALONG WITH TECHNICAL BID

ANNEXURE 'E'

MACHINERY DETAILS

File No. : EO/UMBRELLA/HOSTEL/WKS-75/26-27

Name of Work : Umbrella contract for structural repairs,renovation,retrofitting works, additions and alterations works, waterproofing, painting, plumbing and sanitary works and minor new construction works at Hostel area IIT Bombay.

Name of the Contractor _____

Sr. No.	Particulars	Yes/No
1.	Excavator, Poclain and JCB each	
2.	Milling Machine 01 nos	
3.	Paver Machine 01 nos	
4.	Vibrators (surface & needle)	
5.	Scaffolding, Shuttering, Props minimum 5,000 sq.mt.	
6.	Road Rollers static and Vibrator	
7.	Auto Level	
8.	Dewatering pump 05 nos	
9.	Cutting and Blending Machine	
10.	Building Hoist	

Note : Contractor must submit his details as per Annexure 'E' with declaration stating that **contractor is possessing all the original equipments required for awarded work, with all other required statutory & license formalities, it will be produced as and when required by concern authorities of IIT Bombay.** However, if it is found false at later stage, the contractor will be debarred or blacklisted.

Signature of the Contractor
with official Seal/Stamp of the agency

TO BE SUBMITTED IN A SEPARATE ENVELOP ALONG WITH TECHNICAL BID
WORK UNDERTAKING
FORM 'F'

EO/UMBRELLA/HOSTEL/WKS-75/26-27

To,
Dy. Superintending Engineer
Indian Institute of Technology Bombay,
Powai, Mumbai, Maharashtra – 400 076.

Sub : Umbrella contract for structural repairs,renovation,retrofitting works, additions and alterations works, waterproofing, painting, plumbing and sanitary works and minor new construction works at Hostel area IIT Bombay.

Dear Sir,

We are hereby quoting all the rates for the attached schedule of short tender of the above mentioned job.

We hereby accept & signed all the General Terms and Conditions and Special Conditions of Contract.

The work will be completed within specified time limit of **One year** as mentioned in the notice inviting for tenders.

I / We agree to keep the tender open for One Hundred and Eighty (180) days from the due date of its opening / One Hundred and Eighty days from the date of opening of financial bid in case tenders are invited on 2 envelope system and not to make any modification in its terms and conditions.

List of information in respect of technical, non-technical and manpower : -

1) Technical and non-technical staff to be engaged in project.

Information to be provided for Engineer's, technical staff and non-technical staff as under:

Sr. N o.	Name	Gender	Qualification	Designation	Discipline/ stream	University	Years of experience
1.							
2.							
3.							
4.							
5.							

Project manager/Engineer's with 10years of experience. Penalty for not employing Engineer/supervisors etc. to be double.

2) Information for labours required to be provided by the contractor for the contract period,

	Male	Female
Number of Unskilled casual labour to be required per day.		
Number of Skilled casual labour to be required per day.		
Total Mandays required for completion of work.		

Note:- The following information is required to be provided by the contractor. If fails to do so, the tender will be assumed incomplete and hence it may be rejected.

Thanking you,

Yours faithfully,

Signature of the Contractor
With official Seal / Stamp of the firm

**Form of Earnest Money Deposit
Bank Guarantee Bond**

WHEREAS, contractor..... (Name of contractor) (hereinafter called "the contractor") has submitted his tender dated (date) for the construction of
..... (name of work) (hereinafter called "the Tender")

KNOW ALL PEOPLE by these presents that we (name of bank) having our registered office at (hereinafter called "the Bank") are bound unto
... (Name and division of Executive Engineer) (hereinafter called "the Engineer-in-Charge") in the sum of Rs. (Rs. In words) for which payment well and truly to be made to the said Engineer-in-Charge the Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this day of 20.....

THE CONDITIONS of this obligation are:

- (1) If after tender opening the Contractor withdraws, his tender during the period of validity of tender (including extended validity of tender) specified in the Form of Tender;
- (2) If the contractor having been notified of the acceptance of his tender by the Engineer-in-Charge:
 - (a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to contractor, if required;

OR

- (b) fails or refuses to furnish the Performance Guarantee, in accordance with the provisions of tender document and Instructions to contractor,

We undertake to pay to the Engineer-in-Charge either up to the above amount or part thereof upon receipt of his first written demand, without the Engineer-in-Charge having to substantiate his demand, provided that in his demand the Engineer-in-Charge will note that the amount claimed by him is due to him owing to the occurrence of one or any of the above conditions, specifying the occurred condition or conditions. This Guarantee will remain in force up to and including the date* after the deadline for submission of tender as such deadline is stated in the Instructions to contractor or as it may be extended by the Engineer-in-Charge, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

DATE

SIGNATURE OF THE BANK

WITNESS

SEAL

(SIGNATURE, NAME AND ADDRESS)

*Date to be worked out on the basis of validity period of 6 months from last date of receipt of tender

DECLARATION

- (a) We are not involved in any litigation that may have an impact of affecting or compromising the works as required under this tender.
- (b) We are not black-listed by any Central/State Government/Public Sector Undertaking in India.
- (c) We hereby confirm and declare that M/s [Company Name] does not have any Litigation / Arbitration History with any Government department, Public Sector Undertaking (PSU), or Private Sector agency for works executed during the **last 5 years**.
- (d) I/we undertake that the documents submitted are genuine/authentic and nothing material has been concealed therefrom and that I/we are not debarred by any Government organization and are competent to have the contract. I/we understand that the contract is liable to be cancelled, if found to be having obtained, through fraudulent means/concealment of information.

(Signature of Authorized Signatory)

Name of the bidder: _____

Complete Address: _____

Address (Works), if _____

any: Contact Nos. _____

INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
ESTATE OFFICE

EO/A/UMBRELLA/HOSTEL/WKS-75/26-27

Name of Work : Umbrella contract for structural repairs,renovation,retrofitting works, additions and alterations works, waterproofing, painting, plumbing and sanitary works and minor new construction works at Hostel area IIT Bombay.

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
1	Dismatting & Removing works				
1.01	Removing damaged doors, windows with/without frame, ventilators of any size and type with working platform/setpladder wherever required and stacking the same at suitable location for taking away out of IIT Campus etc all complete as directed by Engineer In-Charge. (15% amount of this item will be deducted for scrap value of material).	300.00	475.94	Nos	1,42,782.00
1.02	Removing teak wood or aluminium paneled / partly glazed or veneer / plywood partitions, any type of ceiling carefully with working platform/setpladder wherever required without damaging the frame or panels and taking out the same outside IIT Campus etc all complete as directed by Engineer In-Charge. (15% amount of this item will be deducted for scrap value of material).	50.00	53.35	Sqm	2,667.50
1.03	Carefully removing the existing old and damaged G.I., C.I. / PVC / HDPE / DI pipes of any diameter floor / walls / slab/ trenches etc including excavation & refilling trenches / holes after taking out pipes manually/mechanical means with working platform/setpladder wherever required without damaging the structures / existing pipe system and taking away the same out of IIT Campus etc. all complete as directed by Engineer In-Charge. (15% amount of this item will be deducted for scrap value of material).	8,000.00	141.81	Rmt	11,34,480.00
1.04	Carefully removing urinal pan/ hand wash basin/ Flush tanks/ European WC with brackets including disconnecting the sanitary and water supply connections, removing the MS supports and taking out dismantled material out of IIT campus etc. all complete as directed by Engineer In-Charge.	800.00	109.00	Nos	87,200.00
1.05	Taking out old and damaged C.I. / PVC nahani trap with connecting pieces from floor carefully and taking out dismantled material out of campus etc. all complete as directed by Engineer In-Charge. (5% amount of this item will be deducted for scrap value of material).	300.00	199.00	Nos	59,700.00
1.06	Removing existing open or concealed flush valve/ urinal sensors from its position without damaging the side tiles, walls etc. and taking away the same outside campus etc. all complete as directed by Engineer In-Charge. (15% amount of this item will be deducted for scrap value of material).	120.00	394.00	Nos	47,280.00
1.07	Dismantling plain cement concrete work including breaking concrete by chiselling, wedging etc. with working platform/setpladder wherever required and stacking the same at suitable locations with green net/tarpaulin covering for taking away out of IIT campus etc. all complete as directed by Engineer In-Charge.	50.00	1,423.42	Cum	71,171.00
1.08	Pulling down burnt brick masonry/block masonry (in cement mortar) with working platform/setpladder wherever required including lowering down debris and stacking the same at suitable locations with green net/tarpaulin covering for taking away out of IIT campus etc. all complete as directed by Engineer In-Charge.	150.00	1,950.35	Cum	2,92,552.50
1.09	Dismantling stone masonry in cement mortar with plaster / pointing without dust nuisance and stacking at suitable location with green net/tarpaulin covering for taking away outside IIT campus etc. all complete as directed by Engineer In-Charge.	10.00	2,327.83	Cum	23,278.30
1.10	Dismantling Reinforced cement concrete work including breaking concrete by chiselling, wedging with working platform/setpladder wherever required including covering area with jute kantan to avoid spreading of dust, concrete pieces and stacking the debris at suitable location with green net/tarpaulin covering for taking outside IIT campus etc. all complete as directed by Engineer In-Charge.	10.00	3,361.89	Cum	33,618.90
1.11	Removing the old cement concrete or any type of tiles from floor / wall carefully including plaster and bedding, levelling the surface with working platform/stepladder wherever required cleaning the site, stacking the debris at suitable location with green net/tarpaulin covering to take away out of IIT campus etc. all complete as directed by Engineer In-charge.	5,000.00	107.31	Sqm	5,36,550.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
1.12	Dismantling steel work in built-up sections in angles, tees, flats, channels, chain links, barbed wires & concertina from any height including all gusset plates, bolts, nuts, cutting rivets, welding etc by using gas cutter/gas welding including transportation, loading and unloading, lowering down from any height and dismembering and stacking at suitable location with working platform/setpladder wherever required etc all complete as directed by Engineer In-Charge. (Recovery of scrap will be done at Rs. 20 per kg for actual weight of material.)	5,000.00	5.35	Kg	26,750.00
1.13	Taking out existing CC interlocking paver blocks from parking area, footpath, central verge etc. including removal of rubbish, disposal of unserviceable material and stacking of serviceable material at suitable location with green net/tarpaulin covering as directed etc all complete as directed by Engineer In-Charge.	100.00	124.72	Sqm	12,472.00
1.14	Removing galvanised iron or asbestos cement sheet roof covering from any height and taking out the same outside IIT Campus including working platform/stepladder wherever required etc all complete as directed by Engineer In-Charge. (15% amount of this item will be deducted for scrap value of material).	100.00	156.15	Sqm	15,615.00
1.15	Carefully removing external weather shade / chajja at any height with working platform/stepladder wherever required and lowering down at suitable location to take away out of IIT campus etc. all complete as directed by Engineer In-charge. (5% amount of this item will be deducted for scrap value of material)	100.00	577.00	Nos	57,700.00
1.16	Removing the existing brickbat coba waterproofing treatment from WC/bathroom, terrace up to any thickness including plaster/bedding etc without making any damages to the mother slab with the use of electrically operated cutting tools, sharp chisels, levelling and cleaning the floor surface for providing new specialised waterproofing treatment, lowering down debris without causing dust nuisance and stacking the debris at suitable location with green net/tarpaulin covering for taking outside IIT campus etc all complete as directed by Engineer In-charge.	250.00	2,044.00	Cum	5,11,000.00
1.17	Removing the existing loose and damaged china mosaic flooring waterproofing treatment from terrace area up to any thickness without making any damages to the roof slab with the use of sharp chisels, levelling and cleaning the roof surface for providing new specialised waterproofing treatment, lowering down debris without causing dust nuisance and stacking the debris upto a distance at suitable location with green net/tarpaulin covering for taking outside IIT campus etc. all complete as directed by Engineer In-charge.	100.00	438.00	Sqm	43,800.00
1.18	Dismantling PCC, IPS layer of any thickness above brick bat coba(till naked slab if brickbat coba is absent) from terrace floor/chajjas of building carefully without damaging the existing brickbat(if present), levelling the surface, cleaning the site, stacking the debris outside at suitable location with green net/tarpaulin covering for taking outside IIT campus etc. all complete as directed by Engineer In-charge.	50.00	2,304.45	Sqm	1,15,222.50
1.19	Removing surplus excavated materials, debris etc. from site of work to anywhere in IITB campus as directed beyond the initial lead of 50 mtrs including, excavation, loading, transporting to low lying area, unloading, spreading and levelling, etc all complete as directed by Engineer In-Charge. (30% voids will be deducted of inside hold of truck for truck measurement).	500.00	183.00	Cum	91,500.00
1.20	Disposing debris, loose stones, boulders, concrete pieces etc. collected and stacked as directed including loading in trucks covering with green net/tarpaulin, transporting out of IIT Campus including obtaining permission of BMC competent authorities for disposing off on to their approved locations. (30% voids will be deducted in case of truck measurement) etc. all complete as directed by Engineer In-charge.	1,500.00	694.00	Cum	10,41,000.00
				Total 1	43,46,339.70
2	Earthwork				
2.01	Site cleaning including surface dressing of the ground including removing vegetation and inequalities and levelling/disposal of rubbish, debris, vegetation, etc all complete as directed by Engineer In-Charge.	500.00	32.33	Sqm	16,165.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
2.02	Excavation for foundation, trenches, Roadway etc. in earth, soil of all types, sand, gravel, soft and hard murum, soft rock etc. including removing the excavated materials up to a distance of 50 meters beyond the site of work and lift up to 1.50 meters, stacking and spreading as directed preparing the bed for the foundation and necessary dewatering using pump, backfilling, ramming, watering, including shoring and strutting, providing necessary barricading around excavated area etc. all complete as directed by Engineer In-Charge.	500.00	246.42	Cum	1,23,210.00
2.03	Excavation for foundation, trenches, Roadway etc. in earth, soil of all types, sand, gravel, loose boulders, soft and hard murum, soft rock etc. beyond 1.50 meter and upto 3.00 meter depth including removing the excavated materials up to a distance of 50 meters beyond the building area, stacking and spreading as directed including dewatering using pumps, preparing the bed for the foundation and necessary backfilling, ramming, watering complete including shoring and strutting, providing necessary barricading around excavated area etc. all complete as directed by Engineer In-Charge.	200.00	366.46	Cum	73,292.00
2.04	Excavation for foundation, trenches, Roadway etc. in earth, soil of all types, sand, gravel, loose boulders, soft and hard murum, soft rock etc. beyond 3.0 meter and upto 4.5 meter depth including removing the excavated materials up to a distance of 50 meters beyond the building area, stacking and spreading as directed including dewatering using pumps, preparing the bed for the foundation and necessary backfilling, ramming, watering complete including shoring and strutting, providing necessary barricading around excavated area etc. all complete as directed by Engineer In-Charge.	50.00	486.50	Cum	24,325.00
2.05	Excavation work in Hard rock (blasting prohibited) by mechanical means/manual means in foundation trenches for drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms upto 1.5m, including getting out the excavated rock and stacking of the same as directed, providing necessary barricading around excavated area etc. all complete as directed by Engineer In-Charge.	20.00	1,441.84	Cum	28,836.80
2.06	Excavation work in Hard rock (blasting prohibited) by mechanical means (Hydraulic excavatory) manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, beyond 1.5m upto 3.0m including getting out the excavated rock and stacking of the same as directed including dewatering using pumps, necessary backfilling, ramming, watering, providing necessary barricading around excavated area etc. all complete as directed by Engineer In-Charge.	20.00	1,657.11	Cum	33,142.20
2.07	Excavation work in Hard rock (blasting prohibited) by mechanical means (Hydraulic excavatory) manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, beyond 3m upto 4.5m including getting out the excavated rock and stacking of the same as directed including dewatering using pumps, necessary backfilling, ramming, watering, providing necessary barricading around excavated area etc. all complete as directed by Engineer In-Charge.	20.00	1,872.39	Cum	37,447.80
2.08	Filling in open area with approved moorum brought from outside sources and filling in layers not exceeding 150mm thick including breaking clods, spreading including charges of transportation, RTO, royalty etc all complete as directed by Engineer In-Charge. (16% voids will be deducted of inside hold of truck for truck measurement).	200.00	727.29	Cum	1,45,458.00
2.09	Filling in open area with approved soil brought from outside sources and filling in layers not exceeding 150mm thick including breaking clods, spreading including charges of transportation, RTO, royalty etc all complete as directed by Engineer In-Charge. (16% voids will be deducted of inside hold of truck for truck measurement).	200.00	734.15	Cum	1,46,830.00
				Total 2	6,28,706.80
3	Concrete work				
3.01	Providing and laying plain cement concrete M-20 of trap metal for leveling/bedding, flooring, plinth protection, etc. including bailing out water (dewatering), formwork, compacting and curing etc. all complete as directed by Engineer In-Charge.	80.00	7,896.10	Cum	6,31,688.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
3.02	Providing and laying in position ready mix (RMC) or site batched design mix plain M-20 grade cement concrete using trap metal, river sand and cement as per approved mix design based on guidelines given in relevant IS codes for foundation, bedding and all works at any height. The item inclusive of admixtures of approved manufacturing company required during the period of transportation to maintain the workability of concrete. The ready mix concrete required for approved grade should be from Plant which is certified / approved by the Engineer In-charge. The RMC concrete should be manufacture in fully automatic batching plant and transported to site of work in transit mixer for all leads & lifts having continuous agitated mixer including admixtures to accelerate, retard setting of concrete to improve the workability impairing strength and durability. The item includes pumping of RMC from transit to site of laying includes bailing out water manually, centering, shuttering, compacting by vibrator and curing etc. all complete as directed by Engineer In-Charge. (Excluding reinforcement)	20.00	8,721.37	Cum	1,74,427.40
3.03	Providing and laying in position Ready mix or machine batched and machine mixed design mix M-25 grade cement concrete for all work up to plinth level for reinforced cement concrete work, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per relevant IS codes to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge including compacting, roughening the surface if special finish is to be provided, casting cubes and testing etc. all complete as directed by Engineer In-Charge.	50.00	8,997.94	Cum	4,49,897.00
3.04	Providing and laying in position Ready mix or machine batched and machine mixed design mix M-25 grade cement concrete for all works above plinth level upto any floor for reinforced cement concrete work, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per relevant IS codes to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge including compacting, roughening the surface if special finish is to be provided, working platform wherever required, casting cubes and testing etc. all complete as directed by Engineer In-Charge.	50.00	9,334.62	Cum	4,66,731.00
3.05	Providing and laying in position Ready mix or machine batched and machine mixed design mix M-30 grade cement concrete for all works up to plinth level for reinforced cement concrete work, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per relevant IS codes to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge including compacting, roughening the surface if special finish is to be provided, casting cubes and testingetc. all complete as directed by Engineer In-Charge.	50.00	9,140.84	Cum	4,57,042.00
3.06	Providing and laying in position Ready mix or machine batched and machine mixed design mix M-30 grade cement concrete for all works above plinth level upto any floor for reinforced cement concrete work, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per relevant IS codes to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge including compacting, roughening the surface if special finish is to be provided, working platform wherever required casting cubes and testing etc. all complete as directed by Engineer In-Charge.	50.00	9,477.52	Cum	4,73,876.00
3.07	Centering and shuttering including strutting, propping etc. and removal of form for all heights : Foundations, footings, bases of columns, coping, raft etc all complete as directed by Engineer In-Charge.	500.00	371.24	Sqm	1,85,620.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
3.08	Centering and shuttering including strutting, propping etc. and removal of form for all heights : Suspended floors, roofs, landings, staircase waist slab, balconies, cantilever chajjas and access platform etc all complete as directed by Engineer In-Charge.	200.00	877.81	Sqm	1,75,562.00
3.09	Centering and shuttering including strutting, propping etc. and removal of form for all heights : Lintels, beams, columns, plinth beams, girders, bressumers, retaining walls, lift walls and cantilevers etc all complete as directed by Engineer In-Charge.	500.00	697.13	Sqm	3,48,565.00
3.10	Providing and fixing in position tor steel bar having grade Fe-500D or more for reinforcement of various diameters for R.C.C. footings, foundations, slabs, beams, columns, canopies, staircases, chajjas, lintels, pardies, coping, fins, dowel bars with sleeve, tie bar, any other required work etc. as per detailed designs, drawings and schedules including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, working platform wherever required etc. all complete as directed by Engineer In-Charge.	15,000.00	102.10	Kg	15,31,500.00
3.11	Providing RMC / machine mix and laying of 75mm thick vacuum dewatered (Tremix) concrete of grade M 25 of trap metal as per requirements including dewatering , steel form work, compaction , panels as specified and as per manufacturer of equipment, forming construction joints by square edge painted with bitumen, including providing reinforcement of G.I mesh of 12 guage laid along with specified covering etc, power floating and broom finishing or finishing smooth as specified, cleaning, curing surface, working platform wherever required, etc. all complete as directed by Engineer In-Charge.	10.00	1,560.00	Sqm	15,600.00
3.12	Providing and laying plum concrete of M20 mix using stone of size not more than 230mm and proportion of plum to concrete is at the rate of 40:60 including curing, formwork, dewatering, etc. all complete as directed by Engineer In-Charge.	10.00	5,790.00	Cum	57,900.00
3.13	Screed Concrete for Repairs: a) P/A polymer slurry/bonding coat of approved brand of Polymer & Cement in ratio 1:1, to exposed RCC members (Slab) within 30 minutes of P/Casting of concrete b) P/L Concrete screed of conc. 1:1:2 Volumetric Mix (Strength not less than 25 N/mm ²), over the treated surface of the floor slab, average thickness 50mm etc. all complete as directed by Engineer In-Charge.	5.00	11,658.00	Cum	58,290.00
3.14	Cutting Transverse/ contraction/ expansion, construction & longitudinal joints by groove cutting machine upto required depth including labour, trasportation, tools and plants etc. all complete as directed by Engineer In-charge.	200.00	20.00	Rmt	4,000.00
3.15	Providing and filling the joint using foam baker rod as base with cold Polysulfide with labour, transportation, tools and plants etc. All complete as directed by Engineer In-charge.	200.00	255.00	Rmt	51,000.00
				Total 3	50,81,698.40
4	Stonework				
4.01	Laying dry trap / rubble stone soling of required thickness including hand packing and compacting etc. complete using IITB stone including transporting stone from various locations from IIT campus and cutting the stone in required size as per requirement etc all complete as directed by Engineer In-charge.	20.00	841.00	Cum	16,820.00
4.02	Providing & laying dry trap / rubble stone soling of required thickness including hand packing and compacting in proper level etc. all complete as directed by Engineer In-Charge.	100.00	1,559.00	Cum	1,55,900.00
4.03	Providing uncoursed rubble masonry of trap stones in cement mortar 1:6 (Cement:sand) including raking out joints when plastering is to be done, striking out joints, watering and pointing with cement mortar 1:3 on outside exposed faces, including providing M-20 grade concrete block header @ 1 header per sqm. to the full thickness of wall, providing weep holes with 100mm dia P.V.C pipes, working platform wherever required, etc. all complete as directed by Engineer In-Charge.	50.00	6,921.40	Cum	3,46,070.00
4.04	Providing uncoursed rubble masonry (using IITB stones) of trap stones in cement mortar 1:6 (Cement:sand) including raking out joints when plastering is to be done, striking out joints, watering and pointing with cement mortar 1:3 on outside exposed faces, including providing M-20 grade concrete block header @ 1 header per sqm. to the full thickness of wall, providing weep holes, with 100mm dia P.V.C pipes including collecting and transporting stone form various locations from IIT Campus upto working site, cutting stones/ bouldres in piceses as per requirement, working platform wherever required etc. all complete as directed by Engineer In-Charge.	10.00	3,850.00	Cum	38,500.00
4.05	Pointing on stone work with cement mortar 1:3 (1 cement : 3 fine sand) :Flush/ruled/raised/tuck pointing as per existing pattern in proper line and level etc. all complete as directed by Engineer In-Charge.	500.00	364.85	Sqm	1,82,425.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
4.06	Providing and laying dry trap / rubble stone pitching to the sloping side in average 200 to 300mm thickness including cuffing, dressing and levelling the undulation of sloping surface, making uniform slope in line and level, laying stone pitching in line level and pointing with cement mortar 1:3 on outside exposed faces, etc. including removing loose earth, cleaning compacting the base providing and fixing 100mm dia. PVC pipe for weep holes at in 1m c/c in staggered position wherever required, etc. all complete as directed by Engineer In-Charge.	200.00	836.06	Sqm	1,67,212.00
4.07	Providing and laying dry trap / rubble stone pitching to the sloping side in average 200 to 300mm thickness including cuffing, dressing and levelling the undulation of sloping surface, making uniform slope in line and level, laying stone pitching in line level etc. including removing loose earth, cleaning compacting the base providing and fixing 100mm dia. PVC pipe for weep holes at in 1m c/c in staggered position wherever required, etc. all complete as directed by Engineer In-Charge.	200.00	676.00	Sqm	1,35,200.00
				Total 4	10,42,127.00
5	Brickwork				
5.01	Providing second class burnt brick masonry with IS approved quality well burnt bricks having crushing strength of 35 kg / square cm in cement mortar 1:4 upto plinth level including striking joints, raking out joints, watering and working platform etc. all complete as directed by Engineer In-Charge.	30.00	6,977.63	Cum	2,09,328.90
5.02	Providing second class burnt brick masonry with IS approved quality well burnt bricks having crushing strength of 35 kg / square cm in cement mortar 1:4 in superstructure above plinth level including striking joints, raking out joints, watering and working platform etc. all complete as directed by Engineer In-Charge.	150.00	8,846.09	Cum	13,26,913.50
5.03	Providing second class burnt brick masonry with IS approved quality well burnt bricks having crushing strength of 35 kg / square cm in cement mortar 1:4 at any level including providing RCC band of M-20 concrete (1:1½:3), 100mm x 100mm to the full length of wall at every one meter height, using two numbers 8mm dia tor steel reinforcement, working platform, raking out joints and watering etc. all complete as directed by Engineer In-Charge.	500.00	1,063.88	Sqm	5,31,940.00
5.04	Providing and laying autoclaved aerated cement blocks masonry with 100mm/125mm thick AAC blocks in super structure above plinth level with RCC band at sill level and lintel level with approved block laying polymer modified adhesive mortar, working platform, etc. all complete as directed by Engineer In-Charge. (The payment of RCC band and reinforcement shall be made for seperately).	10.00	9,651.81	Cum	96,518.10
5.05	Providing and laying autoclaved aerated cement blocks masonry with 150mm/230mm/300 mm thick AAC blocks in super structure above plinth level with RCC band at sill level and lintel level with approved block laying polymer modified adhesive mortar, working platform, etc. all complete as directed by Engineer In-Charge. (The payment of RCC band and reinforcement shall be made for seperately).	10.00	7,889.28	Cum	78,892.80
5.06	Removing loose mortar from the brick joints wherever plaster has removed filling all the joints with 1:2 cement mortar mixed with impermo waterproofing compound 1kg / bag of cement or pidiproof of pidilite industries Ltd. waterproofing compound @ 200 ml per bag of cement or acquaproof waterproofing compound, watering the surface fixing the new brick / brick pieces wherever bricks are broken, curing the surface and working platform wherever required etc. all complete as directed by Engineer In-charge.	500.00	165.00	Sqm	82,500.00
				Total 5	23,26,093.30
6	Granite, Marble, Kadappa work				
6.01	Providing and fixing not less than 16 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut Marble for kitchen platforms, vanity counters, window sills, facias and similar locations of any size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, pasting with adhesive including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. all complete as directed by Engineer In-Charge.	50.00	2,914.25	Sqm	1,45,712.50
6.02	Providing and fixing not less than 16 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut Granite (black, Cherry/Ruby red) for kitchen platforms, vanity counters, window sills, facias and similar locations of any size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, pasting with adhesive including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. all complete as directed by Engineer In-Charge.	1,500.00	4,862.42	Sqm	72,93,630.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
6.03	Providing and fixing not less than 16 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut Granite of any colour (except black, Cherry/Ruby red) for kitchen platforms, vanity counters, window sills, facias and similar locations of any size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, pasting with adhesive including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. all complete as directed by Engineer In-Charge.	500.00	3,643.48	Sqm	18,21,740.00
6.04	Providing and fixing Kadappa stone slab for kitchen, washbasin platform/cupboard shelves/framework of any size of approved type and design not less than 25mm thick in cement mortar 1:4 including filling joints, curing, cleaning etc. all complete as directed by Engineer In-Charge.	50.00	1,162.00	Sqm	58,100.00
6.05	Providing flamed/ lapato/ sand blasting/hon finish polishing to granite including transportation, site cleaning, washing, etc. complete as directed by Engineer In-Charge.	100.00	558.00	Sqm	55,800.00
				Total 6	93,74,982.50
7	Building repairs				
7.01	Carefully removing the internal /external cement plaster or top of concrete surface of any thickness and at any height covering with plastic/tarpaulin for floor wherever required without causing dust nuisance including stepladder/working platform wherever required and stacking the debris at suitable location with green net/tarpaulin covering to take away out of IIT campus and cleaning the site etc. all complete as directed by Engineer In-Charge.	20,000.00	51.74	Sqm	10,34,800.00
7.02	Cutting, demarcating grooves at any height with electrically operated cutter machine between sound and unsound plaster, cracks on external wall, separation cracks including stepladder/working platform wherever required and stacking the debris at suitable location with green net/tarpaulin covering to take away out of IIT campus and cleaning the site etc. all complete as directed by Engineer In-Charge.	10,000.00	45.00	Rmt	4,50,000.00
7.03	Providing and filling separation crack of 50mm-100mm width and 25mm deep with polymer modified cementitious mortar. Demarcating groove, removing plaster / concrete carefully, washing with potable water. Filling polymer modified cementitious mortar in layers of 20mm thick (applying bond coat at every layer) upto profile of concrete in vicinity (composition of mortar: cement 1Kg.: polymer (SBR) of approved manufacturer 15% by wt. of cement : 3Kg silica sand (grading IS 383, zone II, silt content = 0%) over a polymer + cement bond coat, applying/ making tape on both side of groove, cleaning, finishing to match the plaster in vicinity, stacking of debris at suitable location to take away out of IIT campus, cleaning etc. all complete as directed by Engineer In-Charge. Proportion of Bond coat i.e. SBR polymer + cement in the ratio 1:1 by volume, SBR polymer 150ml, Cement 1 Kg., Silica sand 3.0 kg. (Note: - Demarcating groove, breaking plaster / concrete shall be paid under respective items).	10,000.00	173.00	Rmt	17,30,000.00
7.04	Carefully exposing the existing damaged RCC members like columns, beams, slabs, chajjas, paradis, fins etc in patches or any length by using electrical cutting tools/manually means up to any depth till the corroded reinforcement will be opened allround without damaging brickwork, plaster in the vicinity, cleaning the rusted reinforcement and exposed surface by wire brush mechanical device or any other established method and applying alkaline based rust removing solution of approved make and quality with cotton waste swab to reinforcement and allowing to dry the same for 24 hour, brushing of loose particles and applying first coat of rust preventive coating of polymer and cement slurry in 1:1.5 proportion with soft brush without adding water including applying another coat of rust preventing after 4 hours allowing air curing for 48 hours, stacking the debris at suitable location with green net/tarpaulin covering for taking away out of IIT campus, cleaning the site etc all complete including covering the furniture with plastic sheet while exposing concrete, working platform/stepladder etc. all complete as directed by Engineer In-Charge. Note: Proper tools to be used for removal of concrete.	6,000.00	143.00	Sqm	8,58,000.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
7.05	Providing and applying an effective bond coat of Polymer (SBR) approved by IITB and cement in the proportion of 1:1 using brush in multiple coats as required to accommodate the whole thickness of polymer modified mortar wherever required on the surface of old concrete or repaired concrete etc all complete as directed by Engineer In-Charge. Polymer (SBR) of approved manufacturer should have the following properties: Suspended solid particle should not be less than 40%-specific gravity should not be more than 1.01-PH should not be less than 8.5. Note : The actual consumption of polymer shall be measured for payment on weight basis. Challans/Invoice of authorised dealer will be verified.	9,000.00	422.00	Kg	37,98,000.00
7.06	Providing & placing in position readymix polymer mortar manufacture by Dr. Fixit, Sunanda, Roff, MC Bouchmey, Chembond and adding water in the proportion of 1:0.14 (polymer mortar: water) in prepared grooves / cracks of the concrete surface in layers as directed including mixing the polymer mortar with water using forced action mixer mild curing with water for 3 days, working platform/stepladder wherever required etc all complete as directed by Engineer In-Charge. Payment will be paid for the actual quantity of polymer mortar used on weight basis. Challans/Invoice of authorised dealer will be verified etc. all complete as directed by Engineer In-Charge.	3,29,400.00	49.00	Kg	1,61,40,600.00
7.07	Providing and laying super fluid micro concrete of approved manufacturer at any floor after reinforcement treatment coat including mixing with 5mm to 10mm size quartz aggregate in the ratio of 1 part ACC shrikomp to 0.75 part of quartz aggregate by weight providing marine plywood formwork in line and level, cleaning, curing and stepladder/working platform wherever required, etc. complete. The compressive strength of super fluid micro concrete should not be less than 20N / mm2 etc all complete as directed by Engineer In-Charge. Challans/Invoice of authorized dealer will be verified before processing the bills.	2,000.00	69.00	Kg	1,38,000.00
7.08	Providing and applying HILTY HIT-HY RE 500 injection in RCC including fixing in steel diameter 8mm to 12mm & length 4" to 6" reinforce bars including drilling hole as per manufacturer specifications, blowing out the hole and finishing etc. all complete as directed by Engineer In-Charge.	30.00	682.00	Nos	20,460.00
7.09	Providing & Fixing Anchor Bolt Drilling and inclined holes upto 100mm depth and upto 25mm dia in concrete / masonry using electrically operated drilling machine and fixing Anchor Bolt firmly by applying HILTY HIT-HY RE 500 injection including blowing out the hole and finishing including working platform etc. all complete as directed by Engineer In-charge.	30.00	706.00	Nos	21,180.00
7.10	Providing and applying external waterproof plaster using factory made ready mix polymer cement mortar plaster at any height. I) Providing and rendering the prepared surfaces with new sand faced cement plaster of minimum 25mm thick in two coats by using factory made ready mix polymer modified cement plaster waterproof plaster of approved make (M/s Wall Plast, M/s Fare-Matt, Damani) or any other approved brand. II) The base coat of minimum 12-15mm thick using above ready mixed polymer modified mortar plaster to proper plumb level & line including making the plaster surface rough (all as per the manufacturer's specifications) to receive the top finish coat. III) Applying top/finish coat plaster of minimum 10-12mm thickness with similar ready mix polymer cement mortar plaster finishing in perfect plumb, line & level so as to obtain fine sand grain finish by using branded approved variety sponge or using mechanised devise including adding additional required quantity of cement for managing richer mix preferable ordinary portland cement 43 grade variety of approved brand at no extra cost, doing regular curing for minimum 7 days, working platform/stepladder, etc all complete as directed by Engineer In-Charge.	15,000.00	685.00	Sqm	1,02,75,000.00
7.11	Providing and applying acrylic synthetic plaster (dura plast) of minimum 2 mm thickness of IITB approved make manufacturer as per existing/approved pattern over existing/new cement plaster or concrete surface including removing existing paint/synthetic plaster to receive the acrylic synthetic plaster as per manufacturer specification for any height including cleaning, scrapping the surface before application, with working platform/stepladder wherever required etc all complete as directed by Engineer In-charge.	5,000.00	466.00	Sqm	23,30,000.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
7.12	Providing internal cement plaster 12mm thick in single coat in cement mortar 1:4 without neeru finish to concrete or brick surfaces in all positions and curing with working platform/stepladder wherever required etc. all complete as directed by Engineer In-Charge.	1,000.00	328.54	Sqm	3,28,540.00
7.13	Providing cement plaster 20mm thick in single coat in cement mortar 1:4 without neeru finish to concrete or brick surfaces in all positions and curing, with working platform/stepladder wherever required etc. all complete as directed by Engineer In-Charge.	3,000.00	446.22	Sqm	13,38,660.00
7.14	Providing sand face cement plaster externally using approved screened sand in all positions including base coat of 15mm thick in cement mortar 1:4 using water proofing compound @ 2% by weight of cement and curing the same for not less than two days and keeping the surface of base coat rough to receive the sand faced treatment 6 to 8mm thick in cement mortar 1:4, finishing the surface by taking out grains and curing for 14 days with working platform/stepladder wherever required etc all complete as directed by Engineer In-Charge.	1,000.00	688.00	Sqm	6,88,000.00
7.15	Providing rough cast/Pebble Dash plaster (matching with existing finish), upto any height above ground level with a mixture of sand and gravel or crushed stone from 6 mm to 10 mm nominal size, dashed over and including the fresh plaster in two layers, under layer 12 mm cement plaster 1:4 (1 cement : 4 coarse sand) using water proofing compound (as per manufacture's specification) and top layer 10 mm cement plaster 1:3 (1 cement : 3 fine sand) mixed with water proofing compound as per manufacture's specification with working platform/stepladder wherever required etc. all complete as directed by Engineer In-Charge.	50.00	839.32	Sqm	41,966.00
7.16	Drilling straight and inclined holes upto 300mm depth and upto 20mm dia in concrete / masonry using electrically operated drilling machine and fixing PVC nipple for grouting, conducting water test, etc. all complete as directed by Engineer In-Charge.	500.00	35.00	Nos	17,500.00
7.17	Drilling straight & inclined holes of 12-14mm dia and upto required depth in concrete/walls/floors for PU resin injection, including cleaning the surface, fixing of injection packers, and making the surface ready for grouting, including necessary working platform/stepladder etc. All complete as directed by Engineer In-charge.	500.00	70.00	Nos	35,000.00
7.18	Grouting existing RCC structural members & tile work as per following operations, sealing leak paths with cement mortar & polymer, fixing of nipple, plugging the hole with neat cement paste by ram packing, cleaning etc all complete as directed by Engineer In-Charge. 1) Add Sunflex powder 1.00 kg in one bag of cement of 50 kg with adequate water. 2) Using mechanical means of pressure grouting with the above mix. The pressure shall be 5-10 psi. 3) The grouting to be done into the cracks of ceiling , walls , columns, & beam junctions wherever required. 4) After through grouting sealing the holes with cement slurry.	2,500.00	25.00	Kg	62,500.00
7.19	Epoxy grouting to in any RCC structure/masonry with low viscosity epoxy injection Monomer manufactured by M/s. CICO, SIKKA, MC Bouchmey, Sunanda Chemicals, Roffee, EPCO-KP/HP-250 etc. including resin and hardner epoxy based product of similar properties, as per manufacture's specification by providing suitable arrangement for grouting at pressure 2 to 3 kg / sqm including seal paths with lead wool, removing nipple, plugging the holes with neat cement paste by ram packing, cleaning for all lift and leads. The grouting is to be done after cement grouting is completed etc. all complete as directed by Engineer In-Charge.	500.00	992.00	Kg	4,96,000.00
7.20	Injection grouting of cracks, joints, & leakages in walls/floors using polyurethane (PU) resin including cleaning the surfaces, grouting with PU resin under controlled pressure, allowing the foam to set, removal of packers, sealing of holes with epoxy polymer modified mortar & cleaning, finishing the surface with stepladder /working platform wherever required etc all complete as directed by Engineer In-charge.	1,000.00	1,293.00	Kg	12,93,000.00
7.21	Hacking of CC flooring including removing loose and uneven surface/layer, cleaning for surface including stacking the debris at a suitable location to take away out of IIT campus etc all complete as directed by Engineer In-Charge.	100.00	19.00	Sqm	1,900.00
7.22	Providing temporary steel supports such as tubular steel props 50mm dia, as required for supporting system till the repaired work of the beam, column, slab, chajja, etc. work completed in all respects by providing rubber sheet/plywood at bottom as directed and when required in any floor of any height inside and outside of the building and removing the supporting system as directed without damaging the structure etc. all complete as directed by Engineer In-Charge.	100.00	46.00	Nos	4,600.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
7.23	Providing and fixing double scaffolding system on the exterior/interior side at any height made up with 40mm dia M.S. tube 1.5m or 2m centre to centre, horizontal & vertical tubes joining with cup & lock system with M.S. tubes, M.S. tube chollies, M.S. clamps and M.S. staircase system in the scaffolding for working platform etc. and maintaining it in a serviceable condition for the required duration i.e., till completion of the work as approved and removing it there after. The scaffolding system shall be stiffened with bracings, runners, connection with the building etc wherever required for inspection of work at required locations with essential safety features for the workmen etc. complete as per directions and approval of Engineer-in-charge. The elevational area of the scaffolding shall be measured for payment purpose. The payment will be made once irrespective of duration of scaffolding (till the completion of the work).	2,000.00	320.21	Sqm	6,40,420.00
7.24	Providing and erecting at site steel tubular H – frame double scaffolding with bracings to all heights as directed by engineer in charge before commencement of work and removing the same after completion of all external work requiring double scaffolding etc all complete as directed by Engineer In-Charge. The elevational area of the scaffolding shall be measured for payment purpose. The payment will be made once irrespective of duration of scaffolding (till the completion of the work).	35,000.00	146.00	Sqm	51,10,000.00
7.25	Providing and erecting single scaffolding for painting, water supply and sanitary pipe line repair works using bamboo male of 1” to 1-1/2 dia. Vertical and Horizontal at 1.20mtr and necessary cross bamboos and short bamboos for supports from bldg by taking necessary holes in wall and remaking good the damages after completion of work, including coir and all necessary material including conveying loading, unloading including removing the same after completion of work by taking necessary precautions and measures of labour etc. all complete as directed by Engineer In-charge.	500.00	41.00	Sqm	20,500.00
7.26	Providing and erecting double scaffolding for painting, water supply and sanitary pipe line repair works using bamboo male of 1” to 1-1/2 dia. vertical and horizontal at 1.20mtr and necessary cross bamboos and short bamboos for supports from bldg by taking necessary holes in wall and remaking good the damages after completion of work, including coir and all necessary material including conveying loading, unloading including removing the same after completion of work by taking necessary precautions and measures of labour etc. all complete as directed by Engineer In-charge.	500.00	79.00	Sqm	39,500.00
7.27	Providing and fixing good quality Jute Kantan (Tarat) screen over the scaffolding of external/ internal surface as directed including removing the same after the work is over & taking away out of IIT campus etc. all complete as directed by Engineer In-Charge.	37,000.00	12.00	Sqm	4,44,000.00
7.28	Providing and erecting arrester/safety net in double layer mesh having first layer 4mm PP rope in 100mmx100mm and second layer with blue fish net with 18mm mesh supported by border rope and tie cord 12mm PP at terrace floor level (6 th floor level) to prevent the debris from falling on ground during progress of work and keeping the same during the entire period etc. all complete as directed by Engineer In-Charge.	100.00	78.00	Sqm	7,800.00
7.29	Providing and fixing approved quality G.I chicken mesh with nails at junction of R.C.C. and masonry walls before plastering including necessary tools & plants etc all complete as directed by Engineer In-Charge.	500.00	31.00	Sqm	15,500.00
7.30	Providing M.S staging work for cantilever terrace slab using ISMC 150x75 for main runner & ISMC 100x50 for short side, P/F props for supporting the shuttering work, P/F GI pipe for cross bracing of vertical support all complete as directed by Engineer-In-charge.	20.00	763.00	Sqm	15,260.00
				Total 7	4,73,96,686.00
8	Wood works				
8.01	Providing and fixing 2 nd class locally available teakwood for frame of doors/ windows/ ventilators by using wood of required size as per site requirements including all moulding, rebating, hold fast and finishing with one coat of primer, applying coal tar on the external faces of frame including stepladder/working platform etc. all complete as directed by Engineer In-Charge.	0.50	1,61,325.00	Cum	80,662.50
8.02	Providing and fixing solid core flush door in single or double leaf 32mm thick of commercial type of exterior grade, approved commercial plywood facing both side without glazing and venetians, all necessary beads, moulding and lipping, 300mm long 2 nos. decorative type S.S handles for each shutters, 8” long stainless steel tower bolt 1 no for each shutter, 6 lever Godrej mortise lock with triplicate keys and other required fittings etc. all complete as directed by Engineer-In-Charge. (without frame). (fittings will be approved by Engineer in charge before fixing)	10.00	5,693.00	Sqm	56,930.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
8.03	Providing and fixing solid core flush door in single or double leaf 32mm thick of commercial type of exterior grade, approved commercial plywood facing both side without glazing and venetians, all necessary beads, moulding and lipping, 300mm long 2 nos. decorative type S.S handles for each shutters, 8" long stainless steel tower bolt 1 no for each shutter, 12" long stainless steel heavy duty aldrop and other required fittings etc. all complete as directed by Engineer-In-Charge. (without frame). (fittings will be approved by Engineer in charge before fixing)	300.00	5,499.00	Sqm	16,49,700.00
8.04	Providing & fixing solid core Decorative flush door in single or double leaf 50mm thick commercial ply of exterior grade including all necessary beading, moulding & lipping on edges, 300 mm long decorative type brass handle on both sides, lock, 200mm brass tower bolt, 300mm brass aldrop & 200mm tadi patti & other required fittings & fixtures as directed etc all complete as directed by Engineer In-charge. (without frame). (fittings will be approved by Engineer in charge before fixing)	10.00	7,051.00	Sqm	70,510.00
8.05	Providing and fixing 35 mm thick Advance/Rawji/approved make Fiberglass Reinforced Plastic (F.R.P.) door shutter in flush or depress design as approved colour shade and wood finish made with fire retardant grade unsaturated polyester resin, moulded to 3 mm thick FRP laminate all around, with suitable wooden blocks inside at required places for fixing of fittings like 100mm SS hinges 3 nos, 200mm SS tadi patti with packing 2no, 150mm SS handles 2 nos on each shutters and polyurethane foam (PUF)/ Polystyrene foam to be used as filler material throughout the hollow panel, casted monolithically etc. all complete as directed by Engineer-In-Charge.	50.00	4,627.00	Sqm	2,31,350.00
8.06	Providing and fixing 30 mm thick Advance/Rawji/approved make Fiberglass Reinforced Plastic (F.R.P.) door shutter in flush or depress design as approved colour shade and wood finish made with fire retardant grade unsaturated polyester resin, moulded to 3 mm thick FRP laminate all around, with suitable wooden blocks inside at required places for fixing of fittings like 100mm SS hinges 3 nos, 200mm SS tadi patti with packing 2no, 150mm SS handles 2 nos on each shutters and polyurethane foam (PUF)/ Polystyrene foam to be used as filler material throughout the hollow panel, casted monolithically etc. all complete as directed by Engineer-In-Charge.	400.00	4,170.00	Sqm	16,68,000.00
8.07	Providing & Fixing 30 mm thick Advance/Rawji/approved make Fiberglass Reinforced Plastic (F.R.P.) door shutter, design with PUF/EPS Core with wood grain texture and veneer finish on both sides including 300 mm long decorative type brass handle on both sides, lock, 200mm brass tower bolt, 250mm brass aldrop & 200 mm tadi patti & other required fittings & fixtures etc. all complete as directed by Engineer-In-Charge. (fittings will be approved by Engineer in charge before fixing)	10.00	6,639.00	Sqm	66,390.00
8.08	Providing & Fixing 35 mm thick Advance/Rawji/approved make Fiberglass Reinforced Plastic (F.R.P.) door shutter, Glass Cutout with Beeding patti & 5mm Plain Glass Single panel Design with PUF/EPS Core with Wood Grain Texture and Veneer finish on both sides, 300 mm long decorative type brass handle on both sides, lock, 200mm brass tower bolt, 250mm brass aldrop & 200mm tadi patti & other required fittings & fixtures as directed etc all complete as directed by Engineer In-charge. (fittings will be approved by Engineer in charge before fixing)	10.00	8,751.00	Sqm	87,510.00
8.09	Carefully removing existing wooden doors of any size and type with/without frame without damaging and re-fixing the same after completion of repair works and required modification like cutting from bottom, fixing beading patti, etc. with required necessary fixtures and fittings including screws/hinges, etc. all complete as directed by Engineer-In-Charge.	10.00	635.00	Nos	6,350.00
8.10	Providing and fixing 6mm thick commercial plywoods for table top, panelling, shutters, partition and any other work with necessary fittings and fixtures etc. all complete as directed by Engineer-In-Charge.	50.00	345.00	Sqm	17,250.00
8.11	Providing and fixing 8mm thick commercial plywoods for table top, panelling, shutters, partition and any other work with necessary fittings and fixtures etc. all complete as directed by Engineer-In-Charge.	50.00	445.00	Sqm	22,250.00
8.12	Providing and fixing 12mm thick commercial plywoods for table top, panelling, shutters, partition and any other work with necessary fittings and fixtures etc. all complete as directed by Engineer-In-Charge.	200.00	632.00	Sqm	1,26,400.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
8.13	Providing and fixing 18mm thick commercial plywoods for table top, panelling, shutters, partition and any other work with necessary fittings and fixtures etc. all complete as directed by Engineer-In-Charge.	300.00	882.00	Sqm	2,64,600.00
8.14	Providing and fixing 9mm thick marine plywoods for table top, panelling, shutters, partition and any other work with necessary fittings and fixtures etc. all complete as directed by Engineer-In-Charge.	20.00	883.00	Sqm	17,660.00
8.15	Providing and fixing 12mm thick marine plywoods for table top, panelling, shutters, partition and any other work with necessary fittings and fixtures etc. all complete as directed by Engineer-In-Charge.	20.00	976.00	Sqm	19,520.00
8.16	Providing and fixing 18mm thick marine plywoods for table top, panelling, shutters, partition and any other work with necessary fittings and fixtures etc. all complete as directed by Engineer-In-Charge.	20.00	1,319.00	Sqm	26,380.00
8.17	Providing and fixing 12mm thick cement bonded wood particle board (bison panel) for chajja, ceiling, staircase at any floor, providing suitable hole for fixing nuts and bolts including making suitable groove on walls, P/F sheet in proper slope including working platform wherever required and finish the surface after installation, etc. all complete as directed by Engineer-In-Charge.	50.00	1,206.00	Sqm	60,300.00
8.18	Providing and fixing 20mm thick cement bonded wood particle board (bison panel) for chajja, ceiling, staircase at any floor, providing suitable hole for fixing nuts and bolts including making suitable groove on walls, P/F sheet in proper slope including working platform wherever required and finish the surface after installation etc. all complete as directed by Engineer-In-Charge.	100.00	1,496.00	Sqm	1,49,600.00
8.19	Providing and fixing 2 nd class teak wood moulded beading of size 50x12mm or nearly available to door and window frames with iron screws, plugs and priming coat on unexposed surface etc. all complete as directed by Engineer-In-Charge.	50.00	209.31	Rmt	10,465.50
8.20	Providing and fixing 2 nd class teak wood moulded beading of size 50x20mm or nearly available to door and window frames with iron screws, plugs and priming coat on unexposed surface etc. all complete as directed by Engineer-In-Charge.	50.00	257.26	Rmt	12,863.00
8.21	Providing and fixing openable shutter made up of 18mm thick commercial plywood of approved make, P/F 1mm thick designer sunmica on expose side and edges of shutters and frame, P/F 0.80mm thick white sunmica on unexposed side and frame, P/F stainless steel hinges 2 nos. for each shutter, 1no handle(S.S) for each shutter, ball cage etc. with screws in line and level, fixing on wooden frame of required size for frame rectification of all damages etc. All complete as directed by Engineer-In-Charge.	10.00	4,703.00	Sqm	47,030.00
8.22	Providing & fixing in position plywood panelling made using 2" x 1.5" or nearly available teakwood frame at 600mm c/c as frame with 12mm thick commercial plywood, finish with 1mm thick designer or solid colour laminate of century, green lam, royal touch, marino brand with approved pattern and colour, making necessary grooves wherever required as per standard practice, making necessary arrangement for removable type panels for electrical work using mirror screws,, making edges smooth with all required fittings and fixtures etc. all complete as directed by Engineer-In-Charge.	5.00	5,639.00	Sqm	28,195.00
8.23	Providing and fixing pin up board on walls using 8mm thick plywood for backside support, P/F 12mm thick soft board on plywood with fabric of approved pattern and design with all required fittings and fixtures and necessary hardware etc. all complete as directed by Engineer-In-Charge.	10.00	5,207.00	Sqm	52,070.00
8.24	Providing, making & fixing 12mm thick Softboard of IITB approved make over existing aluminium frame or Plywood as per drawing for wall panelling with necessary teak wood support, head moulding, nails, screws, adhesive etc. all complete as directed.	10.00	1,108.00	Sqm	11,080.00
8.25	Providing and fixing 2 nd class teak wood lipping/ moulded beading or taj beading of required size fixed with wooden adhesive of approved quality and screws/ nails on the edges, etc. all complete as directed by Engineer-In-Charge.	50.00	96.70	Rmt	4,835.00
8.26	Providing & fixing 1mm thick designer laminate of approved brand and pattern wherever required including, making necessary grooves wherever required as per standard practice with all required fittings and fixtures etc. all complete as directed by Engineer-In-Charge.	1,000.00	959.00	Sqm	9,59,000.00
8.27	Providing & fixing 0.8mm thick white laminate of approved brand and pattern on partition/ door shutter/ door frame/ over window including, making necessary grooves wherever required as per standard practice with all required fittings and fixtures etc. complete as directed by Engineer-In-Charge.	200.00	760.00	Sqm	1,52,000.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
8.28	Providing & fixing 4mm teak veneer of approved brand and pattern on partition/ door shutter/ door frame/ over window including, making necessary groves wherever required as per standard practice with all required fittings and fixtures etc. all complete as directed by Engineer-In-Charge.	50.00	1,796.00	Sqm	89,800.00
8.29	Providing & fixing in position overhead storage cabinet having depth 1'-6" made out of using 18mm thick commercial plywood for sides, top, bottom, shelf & 12mm thick ply for back sides, 1mm thick decorative sunmica for outside and 1mm thick white sunmica for inside surfaces, CP teakwood frame work/support fixing the unit on wall, 01 nos handle for each shutter, magnet, lock, polish with including necessary edging, moulding, buffing, auto hinges, & other hardware required fitting etc. all complete as directed by Engineer-In-Charge.	500.00	12,028.00	Sqm	60,14,000.00
8.30	Providing & fixing in position wall unit, overhead storage, made out of using 18mm thick waterproof plywood sides & shutters, 6mm thick waterproof plywood backing, 1 mm thick sunmica for all exposed surfaces, CP teakwood frame work / supports fixing the unit on wall, handles with providing & fixing glass shelf of 12mm thick 1 no at 45 cm including necessary edging, moulding, buffing etc. & locking arrangement, hinges & other hardware & required fitting etc. all complete as directed by Engineer In-charge.	20.00	14,570.00	Sqm	2,91,400.00
8.31	Providing and fixing drawer unit for the study table using 12mm & 18mm thick commercial ISI grade plywood of approved make, including pasting 1mm thick sunmica as per approved shade and pattern, fixing 2 feet drawer channels, handle and concealed lock with necessary fittings & fixtures, etc. all complete as directed by Engineer In-Charge.	10.00	3,674.00	Nos	36,740.00
8.32	Fabricating Working table (Size - 7' x 3'0" x 2'6" Ht.) for office by using commercial plywood of 18 mm thick for table top, vertical support, P/F side storage of 15"width, 27" ht & 27" depth made of 18mm thick commercial plywood, P/F 1mm thick laminate for exposed & unexposed surfaces, including providing key board drawer on channel, foot rest of plywood, covering all edges by edge band. etc. all complete as directed.	5.00	33,729.00	Nos	1,68,645.00
8.33	Providing and fixing Staff table of depth not less than 2' and upto 2'6" and of height 2'6" by using 18mm thick commercial Plywood for top, vertical & back, p/f laminate for exposed and unexposed surface, P/F key board drawer on channel, etc. including providing 2mm thick PVC edge as required all complete as directed. (Make for plywood- Greenlam)	5.00	12,895.00	Rmt	64,475.00
8.34	Providing and fixing in position pedestal unit of size Size 425mm x425mm x 700mm with castor made of 18mm thick commercial plywood for sides, top, bottom, shelf, 12mm thick commercial plywood for drawer with 01 nos. shutter and 01nos drawer including p/f laminate of using laminate Merino/ Green lam/ newmica and of required shade, lock, handle and all required fittings as directed by Engineer-in-charge.	5.00	9,887.00	Nos	49,435.00
8.35	Providing, Fabricating & Supplying Teapoy table (600mmx600mmx 450mm) Using 18mm thick marine plywood with 1mm laminate finish & fixing 10mm thick Tinted Glass for top with all required fittings and fixtures etc all complete as directed by Engineer in charge	5.00	10,402.00	Nos	52,010.00
8.36	Providing and Fixing 12mm thick Acoustic Sheet for sound proof of approved brand like armstrong/ approved make etc. size 600mm x 600mm on teakwood frame of size 50mm x 37mm having anti termite coating including one coat of wood primer and two coats of synthetic enamel paint, fixing the same on existing wall/ceiling with screws/nails, fevicol including necessary fittings and fixtures as per site requirement and as directed by Engineer-In-Charge.	20.00	4,130.00	Sqm	82,600.00
8.37	Providing and fixing acoustic board 25mm thick of armstrong, Anutone make/approved make in required colour, pattern, size and shape on existing plywood using clips, pasting the board on plywood using suitable pasting gel, necessary cutting, fitting etc all complete as directed by Engineer-In-Charge.. (excluding plywood)	20.00	9,650.00	Sqm	1,93,000.00
8.38	Providing & Fixing Echo Sound Proof Sheet BOARD wall (INDIA GYPSUM) - Providing & Fixing of 12.5mm thk Echo board wall Sheet to Aluminium framing in perfect level. Necessary offsets and grooves to be provided at the junction of walls/columns/partitions etc., Cut out for light fittings A/C grills etc. Rate to include providing & fixing of necessary frame supports for the above fixtures & additional suspenders & the wall in area as per instructions. Aluminium frame to consist of proprietary supplied frames & as per manufacturers recommendations suspended from dashfastners anchored to structural slab by means of L.angles. Echo board fixed with proprietary supplied fixing devices & finished. The joint between the sheets of plaster board are to be covered with jointing paper tape and flushed jointing compound) to provide a smooth durable and professional finish ready to receive the paint. MAKE India Gypsum Ltd/approved brand	20.00	2,912.00	Sqm	58,240.00
8.39	Providing & fixing 5mm thick plain glass for vision panel in door including making necessary cutting in the door of required size with necessary teakwood moulding and melamine polish on moulding etc all complete as directed by Engineer-In-Charge.	10.00	2,078.00	Sqm	20,780.00
8.40	Providing and fixing ISI marked concealed type door closer of approved quality and make to door shutter including necessary fittings & fixtures and making proper adjustment for smooth operation etc. all complete as directed by Engineer In-charge.	50.00	5,929.00	Nos	2,96,450.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
8.41	Providing and fixing ISI marked and IITB approved make hydraulic door closer to door shutter including making proper adjustment for smooth operation etc. completed as directed Engineer In-charge.	100.00	1,560.00	Nos	1,56,000.00
8.42	Providing and fixing double action hydraulic floor spring with stainless steel cover plate minimum 1.25 mm thickness of approved brand and manufacture conforming to as per relevant IS code, having brand logo embossed on the body / plate with double spring mechanism and door weight upto 125 kg, for doors, including cost of cutting floors, embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer In-charge.	10.00	2,673.28	Nos	26,732.80
8.43	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with float glass panes of 5 mm thickness including EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of Engineer-In-charge .	10.00	1,424.99	Sqm	14,249.90
8.44	Providing and fixing fly proof stainless steel mesh of approved quality to windows, grills, doors and any other location using teak wood or aluminium anodised section of require size with necessary fittings and fixtures etc. all complete as directed by Engineer In-charge.	20.00	1,511.99	Sqm	30,239.80
8.45	Providing and fixing mirrors 6mm thick of approved Indian quality copper plated with 4-6mm thick bakelite sheet as backing, fixing mirror on wall with aluminum F Channel with necessary rubber gasket and screws etc. including removing the existing damaged mirrors and taking away for disposing it out of IIT Campus etc all complete as directed by Engineer In-Charge.(Make – Saint Gobain / Modiguard) (Note: All aluminium sections should be 15 micron anodized/ powder coated).	50.00	2,935.40	Sqm	1,46,770.00
8.46	Providing and fixing (600X450mm) mirrors 6mm thick of approved Indian quality copper plated with 4mm thick bakelite/hardner sheet, fixing mirror on wall with S.S. mirror studs for all corners, screws etc. all complete as directed by Engineer In-Charge. (Make:Modiguard/Saint-Gobain)	50.00	1,262.00	Nos	63,100.00
8.47	Providing and fixing (900X600mm) mirrors 6mm thick of approved Indian quality copper plated with 4mm thick bakelite/hardner sheet,, fixing mirror on wall with S.S. mirror studs for all corners, screws etc. all complete as directed by Engineer In-Charge. (Make:Modiguard/Saint-Gobain)	150.00	1,990.00	Nos	2,98,500.00
8.48	Providing and fixing (1500X450mm) mirrors 6mm thick of approved Indian quality copper plated with 4mm thick bakelite/hardner sheet , fixing mirror on wall with S.S. mirror studs for all corners, screws etc. all complete as directed by Engineer In-Charge. (Make:Modiguard/Saint-Gobain)	50.00	2,086.00	Nos	1,04,300.00
8.49	Providing and fixing mirrors 6mm thick of approved Indian quality copper plated of any size and shape fixing mirror on wall with 45mm Slim Profile section including removing the existing damaged mirrors and taking away for disposing it out of IIT Campus etc. all complete as directed by Engineer In-charge.	30.00	9675.00	Sqm	2,90,250.00
8.50	Providing and laying clear glass over table, table sides, table partitions etc. of 10mm thick as per required shape with buffing, edge polishing, cutting etc. Complete as directed by Engineer In-charge.	10.00	1,208.00	Sqm	12,080.00
8.51	Providing and fixing stainless steel cloth hangers of minimum 6 hooks to walls with minimum 2 inch SS screws as per approved design and pattern including necessary fittings and fixtures etc. all complete as directed by Engineer In-Charge.	1,000.00	597.00	Nos	5,97,000.00
8.52	P/F 25mm dia Stainless steel 304 grade heavy duty 16 gauge approved pattern curtain rod with decorative side holders and middle brackets including required fittings and screws etc. all complete as directed by Engineer In-charge.	50.00	811.00	Rmt	40,550.00
8.53	Providing and fixing aluminum curtain track with end caps to windows with necessary wall brackets, runners & stainless steel hooks as per approved pattern including necessary fittings and fixtures, transposition and working platform/stepladder wherever required etc. all complete as directed by Engineer In-Charge.	20.00	479.00	Rmt	9,580.00
8.54	Providing and fixing magnet catch set as per existing model including necessary fittings and fixtures, removing the old damaged set and cleaning the site etc. all complete as directed by Engineer In-charge.	1,000.00	231.00	Nos	2,31,000.00
8.55	Providing and fixing Mortise lock cylinder 80mm with keys as per existing model including necessary fittings and fixtures, removing the old damaged set without damaging to door and cleaning the site etc. all complete as directed by Engineer In-charge.	10.00	783.00	Nos	7,830.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
8.56	Providing and fixing steel (powder coated) crescent lock for windows/ doors with necessary screws etc. all complete as directed by Engineer In-charge.	20.00	187.73	Nos	3,754.60
8.57	Providing and fixing Door Stopper S.S. finish heavy type, as per existing model including necessary fittings and fixtures, removing the old damaged set without damaging to door and cleaning the site etc. all complete as directed by Engineer In-charge.	1,000.00	127.00	Nos	1,27,000.00
8.58	Providing and fixing fire resistant door frame of section 143 x 57 mm/ as per existing pattern having built in rebate made out of 16 SWG G.I. sheet (zinc coating not less than 120 gm/sqm) duly filled with vermiculite based concrete mix, suitable for mounting 60 minutes fire rated door shutters. The frame is fitted with intumescent fire seal strip of size 10x4 mm (minimum) around the frame and fixing with dash fastener of approved size and make, including filling the gap between wall & frame through PU Foam, applying a coat of approved brand fire resistant primer etc. complete as per direction of Engineer-in-charge.	30.00	1,618.11	Rmt	48,543.30
8.59	Providing and fixing fire rated door having 2 hours of fire resistant of TATA Pravesh/Sukriti/Navair/Hormann/Bhawani/ approved make including G.I frame profile of (100 x 58mm)/(125mm x 55mm)/(125mmx75mm), thickness not less than 1.2mm and 0.80mm to 2mm thick extra stiffeners to support the accessories filled with rockwool of density not less than 120kg/m3 with door shutter of 44mm to 46mm thick made of G.I sheet of 1.2mm thickness powder coated of Pure Polyester (PP) Coating, 60-90 microns (supplied by Jotun/Akzonobel) and filled with honeycomb (Cell size 21mm) including fixing the frame with anchor fasteners (Hilti make), filling the gap between wall & frame through PU Foam and including the following hardware like S.S ball bearing butt hinges 4" – 4nos, S.S 'D' Type Handle – 1 pair, vision wired glass (1Hrs fire rated, schott Pryan make) of size 200mm x 300 mm- 1 No, Door closer- 1 no, Panic bar- 1 No and all necessary required fittings and fixtures etc all complete as directed by Engineer In-charge. Note :- 1.All hardware are of GEZE/DORMA/HAFELE/approved make	20.00	13,276.00	Sqm	2,65,520.00
8.60	Providing and fixing of fully insulated non metallic wooden doors of minimum 52mm thick of approved make for 120 min integrity & insulation finished with commercial ply and 1mm thick Laminate of Greenlam / Merino or equivalent on both faces with heat activated intumescent fire seal strip of size 20mm x 4 mm mounted in the suitable grooves all three sides except bottom. The door is manufactured made out of thoroughly seasoned hardwood. The moisture content shall not be more than 15% approx. Door frame shall be single rebate profile, of approved make, of section 120 x 70 mm made out of CP teakwood of approved quality with factory made groove of suitable size so as to accomodate intumescent fire seal. Frame & shutter should be fixed with anchor fastener of Hilti/fisher or equivalent of M10X80mm length with SS ball bearing hinges of size 100x75x3mm, mortise lock, 50mm Euro profile cylinder 70mm long with one side key other side thumb turn operation with SS lever handle and necessary fittings & fixtures. Door and frame shall be finished with fire retardant primer FR880. The visible external surfaces of the door frame & shutter lipping shall be finished with three coats of melamine polish as per the directions of Engineer- In-charge.	10.00	13,638.00	Sqm	1,36,380.00
8.61	Providing and fixing heavy duty panic bar / latch (Double point) fitted with a single body, Trim Latch & Lock on back side of the Panic Latch of approved brand and manufacture etc all complete as directed by Engineer In-charge.	50.00	7,920.05	No	3,96,002.50
8.62	Supplying, installation, testing and commissioning of sliding type panic bar with locking trim handles of Geze/Dorma/approved make for fire rated doors with necessary fittings, fixtures, transportation, etc all complete as directed by Engineer In-charge.	50.00	21,012.00	Nos	10,50,600.00
8.63	Providing and fixing S.S. kick plate to the existing FRD door as per required length & width with necessary welding, grinding, buffing, polishing with necessary fitting and fixtures etc all complete as directed by Engineer In-charge.	50.00	20,234.00	Sqm	10,11,700.00
				Total 8	1,83,84,158.90
9	Steel Work				

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
9.01	Providing and fabricating structural steel works in rolled sections like joists, channels, angles, tees, and any other required sections etc. as per detailed designs & drawings for supports, rafters, purlins, railing, staircase and any other work including fixing in position with connecting plates, braces and welding, riveting, bolting as necessary including one coat of redoxide priming coat, working platform etc. all complete as directed by Engineer-In-Charge.	20,000.00	111.09	Kg	22,21,800.00
9.02	Providing, fabricating and fixing Chequered Plate of required thickness for steps and any other work including in required size, welding, fixing necessary supporting M.S frame work with the plate including one coat of steel primer etc. all complete as directed by Engineer-In-Charge. (M.S work will be paid separately)	500.00	117.01	Kg	58,505.00
9.03	Providing fabricating and fixing Steel work in built up tubular (round, square or rectangular hollow tubes, trusses etc.) in hot finished welded type tubes, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. all complete as directed by Engineer-In-Charge.	1,000.00	184.03	Kg	1,84,030.00
9.04	Providing and fixing stainless steel (Grade 304) railing/door/gate made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners, stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement etc. all complete as directed by Engineer-In-Charge. (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	500.00	731.21	Kg	3,65,605.00
9.05	Fabricating and fixing structural steel works supplied by Institute in rolled sections like joists, channels, angles, tees, hollow sections and any other required sections etc. as per detailed designs & drawings for supports, rafters, purlins, railing and any other work including fixing in position with connecting plates, braces and welding, riveting, bolting as necessary including painting with one coat of red oxide/steel primer, working platform wherever required etc. all complete as directed by Engineer-In-Charge.	1,000.00	27.00	Kg	27,000.00
9.06	Providing and fixing hand rail of using 'C' class G.I pipe approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer, working platform wherever required etc. all complete as directed by Engineer-In-Charge.	500.00	192.22	Kg	96,110.00
9.07	Providing and fixing mild steel grill work of required pattern for windows, open area, etc. With M.S angles, flats, square or round bars and doors in M.S. grill including fixtures, necessary welding and painting with one coat of anti-corrosive paint and two coats of synthetic enamel paint and working platform wherever required, etc. all complete as directed by Engineer-In-Charge.	3,000.00	225.64	Kg	6,76,920.00
9.08	Providing and fixing in position collapsible steel shutters with vertical channels 20 x 10 x 2mm and braced with flat iron diagonals 20 x 5mm size with Top bottom rail of T-iron 40 x 40 x 6mm with 40mm dia. Steel pulleys complete with bolts, nuts, locking arrangement, stoppers, handles including applying priming coat of approved steel primer including removing the existing damaged collapsible gate and taking it away out of IIT campus etc. all complete as directed by Engineer-In-Charge. (15% amount of this item will be deducted for scrap value of material for existing shutters)	5.00	10,829.62	Sqm	54,148.10
9.09	Providing and fixing rolling steel shutter fabricated from 18/19 gauge steel laths with side guides, bottom rail, brackets, door suspension shaft including rolling springs, locking arrangement and housing box at the top with one coat of red lead primer, working platform, etc. all complete as directed by Engineer-In-Charge.	10.00	5,740.00	Sqm	57,400.00
9.10	Providing and fixing worm gear system to the rolling shutter with all necessary fitting and fixtures as per standard specification etc. all complete as directed by Engineer-In-Charge.	5.00	7,242.00	Nos	36,210.00
9.11	Providing and fixing 50mm x 50mm x 8 gauge crimped mesh by cutting, welding etc with applying one coat of primer and two coats of synthetic enamel paint, working platform etc. all complete as directed by Engineer-In-Charge.	50.00	769.00	Sqm	38,450.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
9.12	Providing and fixing GI weld mesh of 25mm x 25mm (10 guage) to structural steel frame work as per existing pattern of detailed drawing or as directed one coat of primer and two coat synthetic enamel paint, working platform etc. all complete as directed by Engineer-In-Charge.	100.00	721.00	Sqm	72,100.00
9.13	Providing and fixing G.I. Welded mesh 12mm x 12mm and (18 gauge) to teakwood frame work including fixing weld mesh with 37mm x 12mm teakwood bedding patti and necessary pocketing for opening for shutters with necessary screws, fitting etc. all complete as directed by Engineer-In-Charge.	50.00	758.00	Sqm	37,900.00
9.14	Providing and fixing G. I. Chain links 50mm x 50mm and 8 gauge thick and of desired height, size to MS angle frame works including welding, nut bolts, providing and applying one coat of red oxide metal primer and two coats of synthetic enamel paint of approved brand & make with working platform wherever required etc. all complete as directed by Engineer-In-Charge.	300.00	777.00	Sqm	2,33,100.00
9.15	Providing and fixing concertina coil fencing with punched tape concertina coil 450 mm dia, having 50 nos rounds per 6 metre length, upto any height of wall / fence with existing angle iron 'Y' shaped and with 9 horizontal R.B.T. reinforced barbed wire, stud tied with G.I. staples and G.I. clips to retain horizontal, including necessary bolts or G.I. barbed wire tied to angle iron, welding all complete as directed by Engineer-in-charge, with reinforced barbed tape(R.B.T.) / Spring core (2.5mm thick) wire of high tensile strength of 165 kg/ sq.mm with tape (0.52 mm thick) and weight 43.478 gm/ metre (Payment for structural steel used in this item will be paid separately under structural steel item)	50.00	465.00	Rmt	23,250.00
9.16	Providing and fixing concertina coil fencing with punched tape concertina coil 600 mm dia, having 50 nos rounds per 6 metre length, upto any height of wall / fence with existing angle iron 'Y' shaped and with 9 horizontal R.B.T. reinforced barbed wire, stud tied with G.I. staples and G.I. clips to retain horizontal, including necessary bolts or G.I. barbed wire tied to angle iron,etc all complete as directed by Engineer In-Charge. with reinforced barbed tape(R.B.T.) / Spring core (2.5mm thick) wire of high tensile strength of 165 kg/ sq.mm with tape (0.52 mm thick) and weight 43.478 gm/ metre (Payment for structural steel used in this item will be paid separately)	100.00	525.00	Rmt	52,500.00
9.17	Providing and fixing concertina coil fencing with punched tape concertina coil 750 mm dia, having 50 nos rounds per 6 metre length, upto any height of wall / fence with existing iron angles, chain link fencing, stud tied with G.I. staples and G.I. clips to retain horizontal, including necessary bolts or G.I. barbed wire tied to angle iron and welding,etc all complete as directed by Engineer In-Charge with reinforced barbed tape(R.B.T.) / Spring core (2.5mm thick) wire of high tensile strength of 165 kg/ sq.mm with tape (0.52 mm thick) and weight 43.478 gm/ metre (Payment for structural steel used in this item will be paid separately under structural steel item)	50.00	500.00	Rmt	25,000.00
9.18	Providing and fixing barbed wire of 12 guage thick (2.64mm thick) over the fencing on structural steel supporting frame work as per site instructions / as directed by Engineer In-charge at site in proper position, fixing with M. S. Angle and flats as stated above, welding the angles, flats by welding/nut bolts clamps as necessary as per manufacturers specification including providing and fixing using staple clips, and strengthening bolt with necessary working platform and tools / plants etc. all complete as directed by Engineer In-charge. (Payment for structural steel used in this item will be paid separately)	100.00	32.00	Rmt	3,200.00
9.19	Providing and fixing G.I. Pipes of 50 mm internal diameter 'B' class (medium) (TATA / JINDAL / ZENITH/approved Make) having embossed at every metre as ISI mark and name of the manufacturer for gate frame work , fencing work etc. including elbows, tees ,welding of post caps and applying one coat of metal primer and two coats of synthetic enamel paint including necessary working platform etc. all complete as directed by Engineer-In-Charge.	100.00	266.00	Rmt	26,600.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
9.20	Providing and fixing precoated galvanised iron profile sheets 0.80 mm (+ 0.05 %) total coated thickness with zinc coating 150grams per sqm as per relevant IS code, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation. The sheet shall be fixed using self drilling /self tapping screws of size (5.5x 55 mm) with EPDM seal, complete upto any pitch in horizontal excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required etc. all complete as directed by Engineer-In-Charge.	300.00	1,153.00	Sqm	3,45,900.00
9.21	Carefully removing the existing damaged MS gates and refixing the same with proper alingment with fixing of new heavy duty ball bearing hinges and capsule hinges as per existing position including oiling, greasing and making gates are in workable conditions, etc all complete as directed by Engineer In-Charge.	5.00	8,687.00	Nos	43,435.00
9.22	Oiling, greasing rolling shutter and spring by opening the hood (house box) applying grease to spring, refixing the hood, applying grease to side guide channel, making pull type rolling shutter of any size with use of working platform/ step ladder etc all complete as directed by Engineer In-Charge.	50.00	1,513.00	Job	75,650.00
9.23	Applying Hot-Dip Galvanized iron coating for structural steel/TMT bars as per standard specification with thickness not less than 120 microns including transportation, loading, unloading, etc all complete as directed by Engineer In-Charge.	500.00	40.00	kg	20,000.00
9.24	Providing and fixing M.S. fan clamp of 16 mm dia M.S. bar, bent to shape with hooked ends in R.C.C. slabs or beams during laying, including painting the exposed portion of loop, all as per standard design etc. all complete as directed by Engineer In-Charge.	100.00	213.95	Nos	21,395.00
				Total 9	47,96,208.10
10	Flooring work				
10.01	Providing and laying cement concrete flooring 1:2:4, 40mm thick with 20mm nominal size stone aggregate finished with a floating coat of neat cement including cement slurry, curing etc. all complete as directed by Engineer In-charge.	20.00	581.45	Sqm	11,629.00
10.02	Providing and laying 52 mm thick cement concrete flooring with concrete hardener topping, under layer 40 mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) and top layer 12 mm thick cement hardener consisting of mix 1:2 (1 cement hardener mix : 2 graded stone aggregate 6 mm nominal size) by volume, hardening compound mixed @ 2 litre per 50 kg of cement or as per manufacturer's specifications etc. all complete as directed by Engineer In-charge.	50.00	926.28	Sqm	46,314.00
10.03	Providing and fixing Chequerred precast Cement concrete tiles not less than 25mm thick of approved colour and pattern vertically and horizontally including filling the joints with light shed pigment with white cement to match the shade of tiles including rubbing, curing and cleaning etc. complete on 20mm thick bed of cement mortar 1:4 (1 Cement : 4 coarse sand) etc. all complete as directed by Engineer In-charge.	10.00	1,327.24	Sqm	13,272.40
10.04	Providing and laying Kotah stone for flooring not less than 25mm thick of required size in plain / diamond pattern on a bed of 1:4 cement mortar (1 cement : 4 crush sand) or 20 mm thick plaster of cement mortar 1:3 (1 cement : 3 coarse sand) including cement float, filling joints with neat cement slurry, curing, polishing and cleaning etc. all complete as directed by Engineer In-charge.	500.00	1,844.37	Sqm	9,22,185.00
10.05	Providing and laying Kotah stone for skirting, tread, riser of steps not less than 25mm thick of required size in plain / diamond pattern on a bed of 1:4 cement mortar (1 cement : 4 crush sand) or 20 mm thick plaster of cement mortar 1:3 (1 cement : 3 coarse sand) including cement float, filling joints with neat cement slurry, curing, polishing and cleaning etc. all complete as directed by Engineer In-charge.	100.00	2,229.14	Sqm	2,22,914.00
10.06	Providing and fixing 1st quality ceramic wall tiles conforming to relevant IS code of size 300mmx450mm and 300mm x 600mm or as directed by Engineer-in-charge having thickness not less than 5mm, of approved make, in all colours, shades of any size in skirting, risers of steps, dados and floors over 12 mm thick bed of cement plaster /mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade and cleaning etc. all complete as directed by Engineer In-charge.	4,000.00	1,038.08	Sqm	41,52,320.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
10.07	Providing and fixing Ist quality ceramic floor tiles conforming to relevant IS code of size 300mmx450mm and 300mm x 600mm or as directed by Engineer-in-charge having thickness not less than 5mm, of approved make, in all colours, shades of any size in skirting, risers of steps and floors over 12 mm thick bed of cement plaster /mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade and cleaning etc. all complete as directed by Engineer In-charge.	200.00	1,245.17	Sqm	2,49,034.00
10.08	Providing and laying vitrified tiles of size 600mm x 600mm and above for flooring / skirting having thickness not less than 8mm of approved make, shade and pattern and having water absorption between 0.08% to 2.5% in required position laid on 20 mm thick Cement Mortar 1:4 (1 Cement : 4 Coarse sand), including neat cement float, filling joints with neat cement slurry mixed with approved shade of pigment to match the colour of tiles, curing and cleaning etc.all complete as directed by Engineer In-Charge.	1,200.00	1,470.62	Sqm	17,64,744.00
10.09	Providing and laying vitrified tiles of size 1000mm x 1000mm for flooring / skirting having thickness not less than 8mm of approved make, shade and pattern and having water absorption between 0.08% to 2.5% in required position laid on 20 mm thick Cement Mortar 1:4 (1 Cement : 4 Coarse sand), including neat cement float, filling joints with neat cement slurry mixed with approved shade of pigment to match the colour of tiles, curing and cleaning etc.all complete as directed by Engineer In-Charge.	100.00	1,978.23	Sqm	1,97,823.00
10.10	Providing and laying not less than 16 mm thick Italian Marble stone slab machine cut, mirror polished Marble stone flooring, in required design (Simple geometrical, abstract etc.) and in patterns in combination with Italian marble stones of different colours, shades and finished surface texture etc., in linear portions of the building, all complete as per the architectural drawings, with 18 mm thick stone slab laid over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with white cement slurry @ 4.4 kg/sqm including pointing with white cement slurry admixed with pigment to match the marble shade including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge.	10.00	6,251.25	Sqm	62,512.50
10.11	Providing and laying tactile tile (for vision impaired persons as per standards) of size 300x300x9.8mm having water absorption less than 0.5% and conforming to as per relevant IS code, of approved make in allcolours and shades in outdoor floors such as footpath, court yard,multi modals location etc., laid on 20mm thick base of cement mortar 1:4 (1 cement : 4 coarse sand) in all shapes & patterns including grouting the joints with white cement mixed with matching pigments etc. complete as per direction of Engineer-in-Charge.	10.00	1,910.02	Sqm	19,100.20
10.12	Deduct for not using 20 mm thick cement mortar 1:4 (1 cement : 4 coarse sand) bedding in laying of floor tiles and jointing with grey cement slurry @ 3.3kg/sqm etc.all complete as directed by Engineer In-Charge.	100.00	804.77	Sqm	80,477.00
10.13	Fixing glazed/ Ceramic/ Vitrified floor tiles with cement based high polymer modified quick-set tile adhesive (Water based) in average 3mm thickness including filling joints with neat cement slurry mixed with approved shade of pigment to match the colour of tiles, curing and cleaning etc.all complete as directed by Engineer In-Charge.	100.00	713.09	Sqm	71,309.00
10.14	Providing and fixing 2 mm thick PVC flooring (vinyl flooring) in roll or tile form approved shade and in approved pattern laid over on smooth and leveled bed of cement concrete coated with a thin layer of hot bitumen @2.45Kg/sqm, fixing the flooring as per manufacturer specifications etc all complete as directed by Engineer In-Charge.	50.00	1,626.00	Sqm	81,300.00
10.15	Providing and fixing wooden flooring of not less than 8 mm thick (AC-4 Grade) of approved make vista /armstrong/pergo in slat form including foam for levelling etc all complete as directed by Engineer In-Charge. (Measurment will include the skirting and side/ floor profiles if any)	30.00	1,742.00	Sqm	52,260.00
10.16	Providing and fixing Welspun CNL flooring including skirting/profile of approved design /make and pattern of upto 5.0 mm thick in grain slats or any other size or any other pattern, approved colour etc and cleaning /brooming/mopping the floor before installation and laying cushioning base /plastic sheet etc all complete as directed by Engineer In-Charge.	20.00	3,921.00	Sqm	78,420.00
10.17	Providing & fixing 25mm thick teak wood wooden flooring including cleaning, proper alignment etc all complete as directed by Engineer In-charge.	20.00	4,538.00	Sqm	90,760.00
10.18	Providing and fixing not less than 15mm teak solid wood flooring of Vito floors / Indiana floors/approved make made from a single, solid piece of teak hardwood in proper line & level and as per approved pattern including 2mm foam for leveling and cushioning, polishing and necessary tools & plants, etc all complete as directed by Engineer In-Charge.	20.00	6,495.00	Sqm	1,29,900.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
10.19	Providing and fixing wooden waterproof flooring of 9 mm thick of approved make in slat form including 2mm foam for levelling etc all complete as directed by Engineer In-charge.	20.00	3,988.00	Sqm	79,760.00
10.20	Providing and applying machine polishing to cement / marble mosaic/kota tiled flooring or any other type of flooring upto the desired finish by using sufficient quantity of water during polishing to prevent scratches. After each coat of polish, the surface to be applied with cement slurry of matching shade and cured before next polish is taken up and applying wax polishing after final polish, including transporation, necessary tools and plants, etc all complete as directed by Engineer In-Charge.	100.00	346.00	Sqm	34,600.00
10.21	Extra for Mirror polishing on Kotah stone work where ever required to give high gloss finish etc all complete as directed by Engineer In-Charge.	200.00	479.68	Sqm	95,936.00
10.22	Providing and applying Epoxy flooring of Dr Cipy or approved make for total thickness not less than 2mm where surface prepared by grinding by mechanical means and should be free from dust, oil, grease prior to application of primer. Applying one coat of epoxy primer which is thoroughly mixed slowly using a slow speed drill and paddle for at least 4 minutes. Primer to be applied on the dry concrete surface @ 0.2 to 0.25Kg/per square meter by Brush/Roller. Applying epoxy material underlay screed of minimum 1mm thick coat i.e. base coat after drying of the Primer (usually after 6 - 8 hrs. from application of primer) of Dr. Cipy or approved make ;Spreading talc powder before applying top coat of average thickness of 1mm-2mm in glossy /Matt finish just after the drying of base coat (within at least 12 hrs or as per manufacturers specification) including applying industrial marking of upto 4 inch width. All the work should be executed as per approved design, finish, colour and all proportions as per manufacturers specification with required adhesive, etc. all complete as directed by Engineer In-Charge.	10.00	2,677.00	Sqm	26,770.00
10.23	Providing and applying Epoxy flooring Covin including applying industrial marking of upto 4 inch width. All the work should be executed as per approved design, finish, colour and all proportions as per manufacturers specification with required adhesive, etc. all complete as directed by Engineer In- Charge.	10.00	1,166.00	Rmt	11,660.00
10.24	Providing & laying Vitrified Tiles INFINITY series Flooring with 1st quality homogeneous tiles of approved make & size on an average bedding of 25mm thick Cement Mortar 1:4 in desired slope / with tile drop as per the Design Drawings. Rate to include for laying tiles to the pattern as per the Design. Tiles to be laid with spacers in between and joints/grooves to be filled with grout of Weber or approved make of approved shade & color. Rate to include the cutting the tiles to size if there are any variations, cutouts for CP/Sanitary, Floor Drains etc all complete as directed by Engineer In-Charge. MAKE Kajaria / Johnson/ Somany/ RAK/ Nitco	100.00	2,233.00	Sqm	2,23,300.00
10.25	Providing and laying Polished Granite stone flooring in required design and patterns in linear as well as curvilinear portions of the building all complete as per the architectural drawings with not less than 16 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge.	10.00	4,242.35	Sqm	42,423.50
10.26	Providing and laying shock-absorbent rubber tile/mat flooring in gym area, made from high-density EPDM/SBR granules, factory molded, non-slip, wear resistant and impact resistant, suitable for heavy gym equipment and free-weight areas, including supplying of rubber flooring of approved make as per User's requirement having thickness not less than 20 mm. Fixing on prepared, smooth, level existing base including necessary repairs and removing old flooring if any, Pasting the tiles with approved polyurethane adhesive / rubber flooring adhesive and Cutting/ finishing at edges, corners, columns junctions and around equipment bases as per site condition with fixing of threshold patti wherever required to match the floor level, etc all complete as directed by engineer In-Charge.	50.00	3,980.00	Sqm	1,99,000.00
10.27	Providing and laying shock-absorbent rubber tile/mat flooring in gym area, made from high-density EPDM/SBR granules, factory molded, non-slip, wear resistant and impact resistant, suitable for heavy gym equipment and free-weight areas, including supplying of rubber flooring of approved make as per User's requirement having thickness not less than 30 mm. Fixing on prepared, smooth, level existing base including necessary repairs and removing old flooring if any, Pasting the tiles with approved polyurethane adhesive / rubber flooring adhesive and Cutting/ finishing at edges, corners, columns junctions and around equipment bases as per site condition with fixing of threshold patti wherever required to match the floor level, etc all complete as directed by engineer In-Charge.	50.00	6,499.00	Sqm	3,24,950.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
10.28	Providing and applying 8-layer acrylic synthetic sports flooring system for outdoor basketball court over prepared concrete/asphalt base complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge including the following: 1.Surface Preparation:Cleaning of base surface by brooming, air blowing and washing to remove dust, dirt, oil, grease and loose particles. Repairing minor cracks, joints and undulations using acrylic patch repair compound to achieve smooth and even surface. 2. Primer Coat (2 Layer): Applying Two coat of acrylic primer to ensure proper adhesion between base and subsequent layers. 3. Acrylic Cushion Coats (3 Layer): Applying three coats of acrylic cushion compound to form resilient shock-absorbing layers, each coat to be applied after proper curing of the previous coat. 4. Acrylic Base Coats (2 Layer): Applying two coats of acrylic base coat material to build surface thickness, improve levelling and provide uniform texture. 5. Acrylic Top Coats (1 Layer): Applying two coats of UV-resistant acrylic top coat to provide final playing surface with anti-skid finish, weather resistance and colour as approved. 6. Court Line Marking: Marking of standard basketball court lines using approved acrylic line marking paint as per relevant sports standards. 7. Curing, Finishing & Cleaning: Allowing proper curing time between layers, final surface inspection, cleaning and handing over ready-to-use court. Colour: As approved by Engineer-in-Charge/SAC In-Charge. Note: Agency should provide the guarantee/warranty for 3 years for the entire work in requisite (Rs. 100/-) non judicial stamp paper in favour of IITB	100.00	1,212.00	Sqm	1,21,200.00
10.29	Supplying providing and laying four layer Ultra Cushioned System Synthetic surface layer for badminton court of total 1.26mm thick,including preparing the surface for laying synthetic surface, consisting bottom layer for filler coat for levelling the pores etc, Second layer of cushion resurfacer, third and fourth layer as a top coat,making all necessary marking of courts as per the standards / site requirement etc. complete as directed by Engineer Incharge and Sports Officer. (All material used should be of Indo Sports make .)	200.00	950.00	Sqm	1,90,000.00
10.30	Providing and fixing 4mm thick carpet flooring woven or bonded on existng surface/ flooring / granite over flat or sloping surface with approved color and design with direct stick good quality adhesive material, including cutting, wastage, turning etc all complete as per directed by Engineer-In-charge. (make- Rosetta/Octavia/Excel)	1,000.00	2,000.00	Sqm	20,00,000.00
10.29	Grouting the joints of flooring tiles by following operations (1) Cutting, demarcating grooves / joints of 3mm width with electrically operated cutter machine. (2) cleaning of grooves / joints with wire brush and water jet.(3) Filling the grooves / joints using epoxy grout mix of 0.70 kg of organic coated filler of desired shade (0.10 kg of hardener and 0.20 kg of resin per kg). (4)Cleaning the site, finishing etc all complete as per direction of Engineer-in-charge.	200.00	292.57	Sqm	58,514.00
				Total 10	1,16,54,387.60
11	Roofing work				
11.01	Carefully refixing the old precoated galvanised iron profile/GI/FRP/Polycarbonate sheets as per availability and requirement in position with nut bolt arrangement, welding, riveting, bolting connecting plates, brasses, working platform upto required height, using self drilling /self tapping screws and sealing the joints properly with approved sealant materials including all leads and lifts etc. all complete as directed by Engineer In-Charge.	50.00	296.00	Sqm	14,800.00
11.02	Removing existing modular alto bond or other 600X600mm grid false ceiling sheets with false ceiling aluminium supports, stacking the material without getting damaged to desired location and re-fixing the false ceiling after completion of other renovations including all necessary supports, making necessary cutout for light and fixture, all labour, material, lifts and working platform/stepladder, covering the floor area, furniture with good quality sheets etc. all complete as directed by Engineer In-Charge.	10.00	436.00	Sqm	4,360.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
11.03	Providing and fixing tiled G.I lay in perforated metal false ceiling of specified materials of size 595x595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanized steel sections consisting of main "T" runner with suitably spaced joints to get required length and of size 24x38 mm made from 0.30 mm thick (minimum) sheet, spaced at 1200 mm center to center and cross "T" of size 24x25 mm made of 0.30 mm thick (minimum) sheet, 1200 mm long spaced between main "T" at 600 mm center to center to form a grid of 1200x600 mm and secondary cross "T" of length 600 mm and size 24x25 mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600 mm panel to form grids of 600x600 mm and wall angle of size 24x24x0.3 mm and laying false ceiling tiles of approved texture in the grid including, required cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main "T" runners to be suspended from ceiling using GI slotted cleats of size 27 x 37 x 25 x1.6 mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4 mm GI adjustable rods with galvanised butterfly level clips of size 85 x 30 x 0.8 mm spaced at 1200 mm center to center along main T, bottom exposed width of 24 mm of all T-sections shall be pre-painted with polyester paint, all complete for all heights including working platform/stepladder wherever required as per specifications, drawings etc. all complete as directed by Engineer In-Charge.	200.00	1,801.48	Sqm	3,60,296.00
11.04	Providing & fixing 12.5mm thick gypsum board false ceiling of Gyproc/approved make at all height including providing & fixing of framework made of special section, power pressed from M.S. sheets and galvanised with zinc coating of 120 gms/ sqm (both side inclusive) as per relevant IS code and consisting of angle cleat of size 25mm wide x 1.6mm thick with flanges of 27mm and 37mm, at 1200mm c/c, one flange fixed to the ceiling with dash fastener 12.5mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25 x10 x0.50mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I channels 45 x15 x 0.90mm running at the spacing of 1200 mm c/ c, to which the ceiling section 0.5mm thick bottom wedge of 80mm with tapered flanges of 26 mm each having lips of 10.5mm, at 450mm c/c, shall be fixed in a direction perpendicular to G.I intermediate channel with connecting clip made out of 2.64mm dia x 230mm long G.I wire at every junction, including fixing perimeter channels 0.50mm thick 27mm high having flanges of 20mm and 30mm long, the perimeter of ceiling fixed to wall/ partitions with the help of Rawl plugs at 450mm centre, with 25mm long dry wall screws @ 230mm interval, including fixing of gypsum Board to ceiling section and perimeter channels with the help of dry wall screws of size 3.5 x25mm at 230mm c/c, including jointing & finishing to a flush finish of tapered and square edges of the board with recommended jointing compounds, including jointing & finishing to a flush finish of tapered and square edges of the board with recommended jointing compounds, jointing tapes,finishing with jointing compounds in three layers covering up to 150mm on both sides of joints, all as per manufacture's specification and also including the cost of making opening for light fittings, grills, diffusers, cut outs made with frame of perimeter channels suitably fixed, covering the carpet, tables, chairs, machines,working platform/stepladder etc with plastic sheets all complete as per drawings, specificaton and direction of the Engineer in charge but excluding the cost of painting etc all complete as per drawings, specification and as directed by Engineer In-Charge.	100.00	1,283.51	Sqm	1,28,351.00
11.05	Providing & fixing 12mm thick Gypsum board on partition, false ceiling including, making necessary groves wherever required as per standard practice. The boards should be taped and filled from underside to give smooth, seamless surface with all required fittings and fixtures, working platform/stepladder etc all complete as directed by Engineer In-Charge.	10.00	1,149.00	Sqm	11,490.00
11.06	Providing & fixing 12mm thick Calcium Silicate board on partition, false ceiling including, making necessary groves wherever required as per standard practice, The boards should be taped and filled from underside to give smooth, seamless surface with all required fittings and fixtures etc. complete as directed.	10.00	1,413.00	Sqm	14,130.00
11.07	Providing & fixing 6mm thick Calcium Silicate board on partition, false ceiling including, making necessary groves wherever required as per standard practice, The boards should be taped and filled from underside to give smooth, seamless surface with all required fittings and fixtures etc. complete as directed.	10.00	740.00	Sqm	7,400.00
11.08	Providing and fixing modular false ceiling of 600mm x 600mm c/c and placing 3mm thick square aluminium composite sheet (alto bond sheet) to be fixed on frame work of aluminium section for suspended false ceiling consisting of aluminium T of 1" x 1 ½"(25 x 40mm) weighing 0.259 Kg/m suspended on GI wire at 1200mm c/c, fixed on wall beams, slab including rounding the edge with aluminium T of 1"x 1 ½" (25mm x 40mm) weighing 0.259kg/m(all aluminium section shall be anodized 15micron or powder coated), making necessary cutout for light and fixtures including all labour, material, lifts and working platform/stepladder etc all complete as directed by Engineer In-Charge.	100.00	2,003.00	Sqm	2,00,300.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
11.09	Providing & fixing of Dune microlook R.H 99% NRC ceiling system consisting of 600x600mm size grid with fleece laying in tiles of pre-coated galvanized steel in 0.4/0.5 mm thickness in required colour with 15mm wide T - section silhouete flanges of required colour having rotary stitching on the main Runner including P/F 1200mm & 600mm cross Tees as per manufacturer specifications and working platform/stepladder etc all complete as directed by Engineer In-Charge.	50.00	1,483.00	Sqm	74,150.00
11.10	Providing and fixing armstrong mineral fibre board 600mm x 600mm sheet in existing false ceiling frame by removing damaged sheet with required modification in frame as necessary, working platform/stepladder etc all complete as directed by Engineer In-Charge.	10.00	329.00	Nos	3,290.00
11.11	Providing and fixing trap door in existing false ceiling cutting and making 8mm Calcium silicate board trap door for service line using 15 mm GI pre-coated wall angle for framing and 8 mm calcium silicate board including all fixture with G.I support, working platform/stepladder , putty for filling gaps and joints etc. all complete as directed by Engineer In-charge.	5.00	1,718.00	Sqm	8,590.00
11.12	Providing & fixing cove false ceiling of 6mm thick calcium silicate board of hilux make at all height including providing & fixing of framework made of special section, power pressed from M.S. sheets and galvanised with zinc coating of 120 gms/ sqm (both side inclusive) as per IS : 277 and consisting of intermediate G.I channels 45 x15 x 0.90mm & perimeter channels 0.50mm thick 27mm high having flanges of 20mm and 30mm long of required width as per site condition suspended from ceiling using angle hangers of 25 x10 x0.50mm of required length with nuts & bolts including jointing & finishing to a flush finish of tapered and square edges of the board with recommended jointing compounds, jointing tapes,finishing with jointing compounds all as per manufacture's specification etc. all complete as directed by Engineer In-charge.	10.00	476.00	Rmt	4,760.00
11.13	Providing & fixing 6mm thick calcium silicate board (make: Hilux) false ceiling in classrooms, labs at all floors, foyer area, washrooms etc including providing & fixing of framework made of special section, power pressed from M.S. sheets and galvanised with zinc coating of 120 gms/ sqm (both side inclusive) as per IS : 277 and consisting of angle cleat of size 25mm wide x 1.6mm thick with flanges of 27mm and 37mm, at 1200mm c/c, one flange fixed to the ceiling with dash fastener 12.5mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25 x10 x0.50mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I channels 45 x15 x 0.90mm running at the spacing of 1200 mm c/ c, to which the ceiling section 0.5mm thick bottom wedge of 80mm with tapered flanges of 26 mm each having lips of 10.5mm, at 450mm c/c, shall be fixed in a direction perpendicular to G.I intermediate channel with connecting clip made out of 2.64mm dia x 230mm long G.I wire at every junction, including fixing perimeter channels 0.50mm thick 27mm high having flanges of 20mm and 30mm long, the perimeter of ceiling fixed to wall/ partitions with the help of Rawl plugs at 450mm centre, with 25mm long dry wall screws @ 230mm interval, including fixing of calcium silicate Board to ceiling section and perimeter channels with the help of dry wall screws of size 3.5 x25mm at 230mm c/c, including jointing & finishing to a flush finish of tapered and square edges of the board with recommended jointing compounds, jointing tapes,finishing with jointing compounds in three layers covering up to 150mm on both sides of joints, all as per manufacture's specification and also including the cost of making opening for light fittings, grills, diffusers, cut outs made with frame of perimeter channels suitably fixed, covering the carpet, tables, chairs, machines etc with plastic sheets all complete as per drawings, specifacaton but excluding the cost of painting etc. all complete as directed by Engineer In-charge.	50.00	1,423.00	Sqm	71,150.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
11.14	Providing & fixing 12mm thick calcium silicate board (make: Hilux / approved make) false ceiling in classrooms, labs at all floors, foyer area, washrooms etc including providing & fixing of framework made of special section, power pressed from M.S. sheets and galvanised with zinc coating of 120 gms/ sqm (both side inclusive) as per relevant IS code and consisting of angle cleat of size 25mm wide x 1.6mm thick with flanges of 27mm and 37mm, at 1200mm c/c, one flange fixed to the ceiling with dash fastener 12.5mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25 x10 x0.50mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I channels 45 x15 x 0.90mm running at the spacing of 1200 mm c/ c, to which the ceiling section 0.5mm thick bottom wedge of 80mm with tapered flanges of 26 mm each having lips of 10.5mm, at 450mm c/c, shall be fixed in a direction perpendicular to G.I intermediate channel with connecting clip made out of 2.64mm dia x 230mm long G.I wire at every junction, including fixing perimeter channels 0.50mm thick 27mm high having flanges of 20mm and 30mm long, the perimeter of ceiling fixed to wall/ partitions with the help of Rawl plugs at 450mm centre, with 25mm long dry wall screws @ 230mm interval, including fixing of calcium silicate Board to ceiling section and perimeter channels with the help of dry wall screws of size 3.5 x25mm at 230mm c/c, including jointing & finishing to a flush finish of tapered and square edges of the board with recommended jointing compounds, jointing tapes, finishing with jointing compounds in three layers covering up to 150mm on both sides of joints, all as per manufacture's specification and also including the cost of making opening for light fittings, grills, diffusers, cut outs made with frame of perimeter channels suitably fixed, covering the carpet, tables, chairs, machines etc with plastic sheets, working platform all complete as per drawings, specification etc all complete as directed by Engineer In-Charge.	50.00	1,789.00	Sqm	89,450.00
11.15	Providing & fixing 6mm thick Shera board false ceiling in required colour pattern and texture screwed/fixed to the under structure of suspended G.I grid constructed and suspended from the main ceiling consisting of ceiling section of size 25 x 50 mm maximum c/c distance of 600 x 600mm perimeter channel and intermediate channel at maximum c/c to distance of 1200mm galvanised grid should be fixed to reinforced cement concrete slab. The shera board should be fixed to galvanised iron grid with necessary screws. The board should be taped and filled from underside to to give smooth , seamless ceiling. The rate should include necessary additional ceiling section and intermediate channels. Additional intermediate channels should be fixed to strap hangers for additional support to prevent strapping at every 1200mm item to be completed in all respect including necessary sleeves for ducts finishing of joints cut outs and including labour ,material, lift and working platform/stepladder etc all complete as directed by Engineer In-Charge.	20.00	4,156.00	Sqm	83,120.00
11.16	Providing & Fixing Shera Board Sheets of 8mm thick on wall/ceiling using 50mm x 50mm Aluminum Hollow Pipe 16 gauge including all fittings and fixtures, working platform/stepladder etc all complete as directed by Engineer In-Charge.	10.00	3,411.00	Sqm	34,110.00
11.17	Providing at all heights, levels and locations 0.71 mm thick aluminium sheet, the profile detail width 1044/920 mm, cover width 1000/875 mm. aluminium profile industrial troughed sheet of Alloy 1500/31000/40800, conforming to as per relevant IS code. The sheet shall be fixed using self drilling/self tapping SS screws of size 5.5x65 mm with EPDM seal complete upto required pitch in horizontal, vertical or curved surfaces i/c cutting to size and shape where required as per specifications, detail drawings and direction of Engineer-in-Charge. The rate shall be inclusive of all screws, seal, ridge, labour, working platform/stepladder, machinery for fixing and approved sealant where required.	10.00	1,092.42	Sqm	10,924.20
11.18	Providing and fixing precoated galvanised iron profile sheets 0.50 mm (+ 0.05 %) total coated thickness with zinc coating 120grams per sqm as per relevant IS code, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation. The sheet shall be fixed using self drilling /self tapping screws of size (5.5x 55 mm) with EPDM seal, complete upto anypitch in horizontal excluding the cost of purlins, rafters and trusses and including cutting to size and shape, necessary working platform wherever required etc all complete as directed by Engineer In-Charge.	300.00	699.26	Sqm	2,09,778.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
11.19	Providing fabricating and fixing in position required shape precoated Galvalume with 0.50 mm TCT flashing having 200mm width of Jindal make with required lapping for side of roofing sheet including cutting and fabricating in approved design,fixing the flashing properly as per manufacturers specification including working platform/stepladder etc all complete as directed by Engineer In-Charge.	50.00	613.00	Rmt	30,650.00
11.20	Providing fabricating and fixing in position required shape precoated Galvalume with 0.50 mm TCT flashing having 610mm width of Jindal make with required lapping for side of roofing sheet including cutting and fabricating in approved design,fixing the flashing properly as per manufacturers specification including working platform/stepladder etc all complete as directed by Engineer In-Charge.	50.00	1,078.00	Rmt	53,900.00
11.21	Providing fabricating and fixing in position required shape precoated Galvalume with 0.50 mm TCT gutter having 610mm width of Jindal make with required lapping for side of roofing sheet including cutting and fabricating in approved design,fixing the flashing properly as per manufacturers specification including working platform/stepladder etc all complete as directed by Engineer In-Charge.	50.00	578.00	Rmt	28,900.00
11.22	Providing fabricating and fixing in position required shape precoated Galvalume with 0.50 mm TCT ridge having 610mm width of Jindal make with required lapping for side of roofing sheet including cutting and fabricating in approved design,fixing the flashing properly as per manufacturers specification including working platform/stepladder etc all complete as directed by Engineer In-Charge.	50.00	520.00	Rmt	26,000.00
11.23	Supplying and fixing in position sandwich roofing using color galvalume profile precoated sheet for roofing having thickness 0.5mm TCT and jindal make with required colour at top and bottom sheet including necessary accessories like self drilling and tapping screws with weather cap with all leads and lift and fixing as per manufacturers specification, stiching the lap joints (Minimum 150mm) along the length of the sheet with rivets at a maximum spacing of 450 mm including necessary cutting of sheet wherever required and fixing properly in all respects to make the wall /roof water tight and leak proof, providing and fixing WMVPR RB Glasswool 16 kg/m3 - 50mm thickness between galvalume sheets and G. I. Channel having 50mm depth and 1.5mm thickness and connecting the Z purlins with each other including working platform/stepladder etc all complete as directed by Engineer In-Charge. (No extra payment will be made for overlapping)	100.00	2,677.00	Sqm	2,67,700.00
11.24	Supplying and fixing in position sandwich roofing using above existing sheet in required color galvalume profile precoated sheet for roofing having thickness 0.5mm TCT and jindal make with required colour at top including necessary accessories like self drilling and tapping screws with weather cap with all leads and lift and fixing as per manufacturers specification, stiching the lap joints (Minimum 150mm) along the length of the sheet with rivets at a maximum spacing of 450 mm including necessary cutting of sheet wherever required and fixing properly in all respects to make the wall /roof water tight and leak proof, providing and fixing WMVPR RB Glasswool 16 kg/m3 - 50mm thickness between galvalume sheets and G. I. Channel having 50mm depth and 1.5mm thickness and connecting the Z purlins with each other including working platform/stepladder etc all complete as directed by Engineer In-Charge. (No extra payment will be made for overlapping)	50.00	1,864.00	Sqm	93,200.00
11.25	Providing & fixing co-extruded UV protected Microcell panel System 10mm thick (minimum) Polycarbonated UV installed sheets of Danpalon / SABIC / CE / Tuflite/Rooflite/Neolite/ any approved make of approved colour with antiglare softline colour on one side to prevent glare in curve or plane shape including all fittings and fixtures such as snap on connector with grip lock double tooth locking mechanism, mill finish aluminium U profile end cap, required flashing at the junction of wall/concrete surface and sheets and other required fittings as per manufacturer specifications and including making watertight at junction with working platform wherever required etc. all complete as directed by Engineer In-charge.	50.00	3,612.00	Sqm	1,80,600.00
11.26	Providing & fixing co-extruded UV protected Microcell panel System 12mm thick (minimum) Polycarbonated UV installed sheets of Danpalon / SABIC / CE / Tuflite/Rooflite/Neolite/ any approved make of approved colour with antiglare softline colour on one side to prevent glare in curve or plane shape including all fittings and fixtures such as snap on connector with grip lock double tooth locking mechanism, mill finish aluminium U profile end cap, required flashing at the junction of wall/concrete surface and sheets and other required fittings as per manufacturer specifications and including making watertight at junction with working platform wherever required etc. all complete as directed by Engineer In-charge.	150.00	4,077.00	Sqm	6,11,550.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
11.27	Providing & fixing co-extruded UV protected Microcell panel System 22mm thick (minimum) Polycarbonated UV installed sheets of Danpalon / SABIC / CE / Tuflite/Rooflite/Neolite/ any approved make of approved colour with antiglare softline colour on one side to prevent glare in curve or plane shape including all fittings and fixtures such as snap on connector with grip lock double tooth locking mechanism, mill finish aluminium U profile end cap, required flashing at the junction of wall/concrete surface and sheets and other required fittings as per manufacturer specifications and including making watertight at junction with working platform wherever required etc. all complete as directed by Engineer In-charge.	50.00	5,819.00	Sqm	2,90,950.00
				Total 11	29,13,899.20
12	Finishing work				
12.01	Providing and applying one coat of seal cement primer IITB approved brand, cleaning the surface including covering the floor, window glass with plastic sheet, scrapping the surface, removing nails, socket holes, levelling the entire surface with lambi / palti with the use of working platform/stepladder, removing stains from floor after completion of work etc. all complete as directed by Engineer In-charge. (Make: Asian/Berger/Nerolac/Dulux)	30,000.00	70.01	Sqm	21,00,300.00
12.02	Providing and applying white cement based Birla make wall care putty with uniform thickness over the existing internal cement plaster in proper line / level including preparing the wall surface for the application of wall care putty and working platform/stepladder, covering the floor, window glass with plastic sheet and cleaning etc. all complete as directed by Engineer In-charge.	3,000.00	147.73	Sqm	4,43,190.00
12.03	Providing and applying Acrylic oil bound distemper of IITB approved manufacturer and of desired colour and shade to old / new ceiling & wall surfaces in single coat with uniform finish with the use of working platform/stepladder as per manufactures specification including covering the floor, window glass with plastic sheet and cleaning etc. all complete as directed by Engineer In-charge. (Make: Asian/Berger/Nerolac/Dulux)	5,000.00	35.00	Sqm	1,75,000.00
12.04	Providing and applying Acrylic oil bound distemper of IITB approved manufacturer and of desired colour and shade to old / new ceiling & wall surfaces in two coats with uniform finish with the use of working platform/stepladder as per manufactures specification including covering the floor, window glass with plastic sheet and cleaning etc. all complete as directed by Engineer In-charge. (Make: Asian/Berger/Nerolac/Dulux)	5,000.00	59.36	Sqm	2,96,800.00
12.05	Providing and applying roller finish Acrylic plastic emulsion paint of IITB approved manufacturer and of desired colour and shade to old / new ceiling & wall surfaces in one coat with uniform finish with the use of working platform/stepladder, scrapping, preparing and levelling the surfaces with palti/putty, as per manufactures specification including covering the floor, window glass with plastic sheet and cleaning etc all complete as directed by Engineer In-Charge. (Asian/Berger/Nerolac/Dulux)	5,000.00	87.09	Sqm	4,35,450.00
12.06	Providing and applying roller finish Acrylic plastic emulsion paint of IITB approved manufacturer and of desired colour and shade to old / new ceiling & wall surfaces in two coat with uniform finish with the use of working platform/stepladder, scrapping, preparing and levelling the surfaces with palti/putty, as per manufactures specification including covering the floor, window glass with plastic sheet and cleaning etc all complete as directed by Engineer In-Charge. (Asian/Berger/Nerolac/Dulux)	25,000.00	130.12	Sqm	32,53,000.00
12.07	Providing and applying three coats of white wash on old / new plastered surface for walls and ceiling and asbestos sheet using working platform/stepladder, scrapping and cleaning the surface by sand paper and brooming, adding Robbin blue as required, adding adhesives for bonding, cleaning the floor, filling all cracks, holes etc. with plaster of paris, covering the floor, windows, instruments during painting etc. all complete as directed by Engineer In-charge.	500.00	36.97	Sqm	18,485.00
12.08	Providing and applying one coat of primer of IITB approved brand to steel & wood works including preparing the surface by thoroughly cleaning oil, grease, dirt and other foreign matter, sand papering with use of working platform/stepladder, etc. all complete as directed by Engineer In-charge. (Make: Asian/ Berger/ Nerolac/ Dulux)	2,000.00	63.81	Sqm	1,27,620.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
12.09	Providing and applying two coats of synthetic enamel paint of approved colour and shade to new/old wood work, structural steel work including working platform/stepladder wherever required, cleaning and preparing surfaces by solvent, degreasing and derusting by manual scrapping, etc. all complete as directed by Engineer In-charge. (Make: Asian/ Berger/ Nerolac/ Dulux)	5,000.00	97.32	Sqm	4,86,600.00
12.10	Providing and applying French polishing in two or more coats upto desired finish on wood including knotting, preparing the surface, working platform/stepladder etc. all complete as directed by Engineer In-charge.	100.00	422.46	Sqm	42,246.00
12.11	Providing and applying Melamine polish of required finish to wood work by spray machine including knotting and preparing the surface by scrapping, applying polishing, working platform/stepladder if required etc. all complete as directed by Engineer In-charge.	100.00	1,044.00	Sqm	1,04,400.00
12.12	Providing and applying one coat of acrylic primer and two coats of exterior acrylic paint of approved colour & shade as per manufacturer's specification on old or new plastered surface over concrete / brickwork with the use of working platform/stepladder including cleaning the surface thoroughly with coir brush/ water jet, filling the cracks using appropriate exterior putty, watering the surface etc. complete including covering the floor, window glass with plastic sheet etc. all complete as directed by Engineer In-charge. (Make : Berger (Weathercoat), Asian (Ultima), Nerolac (Excel total).	1,00,000.00	152.04	Sqm	1,52,04,000.00
12.13	Providing and applying one coat of acrylic primer and two coats of Terracotta exterior paint of IITB approved manufacturer and as per manufacturer's specification on old/new Floor surface at any floor , surface crack filing as per manufacturer's specification including cleaning the surface thoroughly with coir brush, watering , the surface, with use of working platform/stepladder etc all complete as directed by Engineer In-charge. (Make: Asian /Berger/ Nerolac/Dulux)	100.00	265.00	Sqm	26,500.00
12.14	Providing & applying one coat of protectomastic self priming high build coating / Concessive ZRi of approved make, solvent borne zinc rich epoxy primer, having thickness as per manufacturer specification including applying one coat of intermediate epoxy high build finish and followed by two coats of an acrylic polyurethane enamel paint applying on to prime surface to obtain thickness as per manufacturer's specification on exposed structural steel members including preparing & cleaning, removing all old surface coating and corrosion, cement plaster residue etc. by using steel wire brushes/chisels, emery/sand papers, compressors/air blowers etc including necessary working platform/stepladder, taking all safety precautionary measures, covering the floor area by plastic, removing stains of paint from floor after completion of work etc all complete as directed by Engineer In-charge. (Make:Berger/Masterseal 260 of BASF/Nerolac/Asian)	200.00	660.00	Sqm	1,32,000.00
12.15	Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth, working platform/stepladder, etc all complete as directed by Engineer In-charge.	500.00	248.69	Sqm	1,24,345.00
12.16	Providing and applying 12 mm thick (average) premixed formulated one coat gypsum lightweight plaster having additives and light weight aggregates as vermiculite/ perlite respectively conforming to as per relevant IS code, applied on hacked / uneven background such as bare brick/ block/ RCC work on walls & ceiling at all floors and locations, finished in smooth line and level etc all complete as directed by Engineer In-charge.	500.00	443.90	Sqm	2,21,950.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
12.17	Providing / applying interior wall finish lustre of Asian/ Berger/ Nerolac/ Dulux Paints make on internal wall surface as detailed below scrapping the surface with emery paper and wipe clean. Applying Asian/ Berger/ Nerolac/ Dulux Paints wall primer with mineral turpentine with brush 8 to 10% and oil 15 to 20% with roller and allowing to dry for a period 6 to 8 hours. Applying Asian/ Berger/ Nerolac/ Dulux Paints Acrylic wall putty with appropriate proportion of water allowing to dry for period 4 to 6 hours. Scrapping with emery paper 180 and wipe clean. Applying Asian/ Berger/ Nerolac/ Dulux Paints wall primer with brush with mineral turpentine 8 to 10% and oil 15 to 20% with roller scrapping emery paper 320 and wipe clean, Applying Asian/ Berger/ Nerolac/ Dulux Paints interior wall finish lustre 1st coat with brush/ rubber/ sprary with mineral turpentine 7 to 9% and oil with roller 19 to 21% after 8 hours of activity and applying 2nd coat with of Asian/ Berger/ Nerolac/ Dulux Paints interior wall finish lustre with mineral turpentine 7 to 9% with brush and oil with roller 19 to 21% after allowing dry for the period of 6 to 8 hours activity, including working platform/stepladder etc all complete as directed by Engineer In-Charge.	100.00	224.00	Sqm	22,400.00
12.18	Providing/ applying interior wall finish Royal Paint of Asian/ Berger/ Nerolac/ Dulux Paints on internal wall surface as detailed below: scrapping the surface with emery paper and wipe clean. Applying wall primer and allowing to dry for a period 6 to 8 hours. Scrapping with emery paper 100 & 120 and wipe clean. Applying wall primer 2nd Coat, scrapping emery paper 150 and wipe clean, Applying Asian Berger/ Nerolac/ Dulux Paints or equivalent interior wall finish Royal 1st coat with brush/ Roller after 8 hours of activity and applying 2nd coat with of interior wall finish Royal after allowing dry for the period of 6 to 8 hours activity all complete as directed by Engineer-in-charge.	100.00	230.00	Sqm	23,000.00
12.19	Providing and applying interior texture paint of IIT-approved manufacturer of desired colour and shade to wall surfaces in two coats with the use of a stepladder, scrapping the existing paint, preparing the base by scrapping the surface, applying putty etc. including priming coat etc. complete as directed by Engineer In-charge. (Make: Asian/Berger/Nerolac/Dulux)	50.00	741.00	Sqm	37,050.00
12.20	Providing & applying Deco Paint of SD or ICI Paints or equivalent make on surface as detailed below 1) scrapping the surface with emery paper and wipe clean. 2) Applying Aster (primer) with Lambi coat & scrapping with emery paper no. 150,180 ,200 and wipe clean. 3) Applying 2nd coat of Aster with Lambi. 4) Scrapping with emery paper no. 800 & 1000 and wipe clean, 5) Applying 1st coat of Deco Paints of SD or ICI Paints or equivalent Spray machine and allow it to dry for 08 hours. 6) Applying 2nd coat of deco paint with spray and allow it to dry for 8 hours. 7) Apply top gloss coat/ final coat using Rubbing & Polishing all complete as directed by Engineer-in-charge.	10.00	6,170.00	Sqm	61,700.00
12.21	Providing & Pasting new wall paper of make Splendor, Royal, STC (Imported) of approved design with required adhesive including removing existing wallpaper from wall carefully if any without damaging the wall plaster all complete as directed by Engineer In-charge.	50.00	1,625.00	Sqm	81,250.00
12.22	Providing & fixing 3M Vinyl flouted paper on wall of approved colour and pattern over ceiling, furniture with required adhesive etc including cutting and pasting, removing existing wallpaper from wall carefully if any without damaging the wall plaster etc. all complete as directed by Engineer In-charge.	20.00	3,313.00	Sqm	66,260.00
				Total 12	2,34,83,546.00
13	Aluminium work				
13.01	Providing and fixing 3mm thick aluminium composite sheet of approved colour and pattern in partition, paneling and any other work with fixing the panels using 3M tape, filling the joints using 789 grade silicon sealant with all required fittings and fixtures, screws, hardware, etc complete as directed by Engineer In-charge.	20.00	898.00	Sqm	17,960.00
13.02	Providing and fixing 4mm thick aluminium composite sheet of approved colour and pattern in partition, paneling and any other work with fixing the panels using 3M tape, filling the joints using 789 grade silicon sealant with all required fittings and fixtures, screws, hardware, etc complete as directed by Engineer In-charge.	20.00	1,096.00	Sqm	21,920.00
13.03	Providing and fixing 5mm thick aluminium composite sheet of approved colour and pattern in partition, paneling and any other work with fixing the panels using 3M tape, filling the joints using 789 grade silicon sealant with all required fittings and fixtures, screws, hardware, etc complete as directed by Engineer In-charge.	20.00	1,859.00	Sqm	37,180.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
13.04	Providing and fixing 6mm thick transparent acrylic sheet in partition, paneling and any other work with all required fittings and fixtures, screws, hardware, etc complete as directed by Engineer In-charge.	20.00	787.00	Sqm	15,740.00
13.05	Providing and fixing 6mm thick opaque acrylic sheet in partition, paneling and any other work with all required fittings and fixtures, screws, hardware, etc complete as directed by Engineer In-charge. .	20.00	1,002.00	Sqm	20,040.00
13.06	Providing and fixing without anodising or powder coating aluminium section for door frame, windows, partitions and any other required work etc. of required size including fixing with required fittings such as screws and other required fittings including fixing in proper alignment, rectifying all damaged, P/F wood inside frame for fixing hinges, working platform etc. all complete as directed by Engineer In-charge.	500.00	476.00	Kg	2,38,000.00
13.07	Providing and fixing 15 micron anodized/ powder coated aluminium section for door frame, windows, partitions and any other required work etc. of required size including fixing with required fittings such as screws and other required fittings including fixing in proper alignment, rectifying all damaged, P/F wood inside frame for fixing hinges, working platform etc. all complete as directed by Engineer In-charge.	500.00	534.00	Kg	2,67,000.00
13.08	Providing and fixing aluminum decorative type ornamental grills 50mm x 50mm opening size and 10mm thick on an anodized aluminum outer frame 50 x 25 x 17 gauge thick and intermediate members of hollow type box section, providing U / F type channels of required size around the grill including working platform wherever required etc. all complete as directed by Engineer In-charge.	200.00	3,802.00	Sqm	7,60,400.00
13.09	Providing and fixing Aluminium fly proof mesh fixed in frame made of Aluminum section of 37mmx18mmx1.2mm including all necessary fitting and fixtures with proper locking arrangement and working platform etc. all complete as directed by Engineer In-charge.(Note: All aluminium sections should be 15 micron anodized/ powder coated).	10.00	3,270.00	Sqm	32,700.00
13.10	Carefully removing the existing aluminium sliding window with frame and shutter and refixing the same with proper modification like cutting the frames, glass, fixing new S.S. 304 flyproof mesh for mosquito for a new height after window granite work including necessary fittings and fixtures, stepladder etc. all complete as directed by Engineer In-charge.	5.00	3,311.00	Nos	16,555.00
13.11	Silicone sealants around window frames / window frame joints and drill holes for water outlet when the rain water on the glass fall into the channel and overflows (wherever required) including stepladder/working platform etc all complete as directed by Engineer In-charge.	2,000.00	69.00	Rmt	1,38,000.00
13.12	Providing and fixing in position two track aluminium sliding windows using drain bottom section of size 61 mm x 45 mm x 1.3 mm thick(1.055kg/Rmt) for bottom, sections of size 61 mm x 31mm x 1.3 mm thick(0.659Kg/Rmt) for sides and top. The shutter should be of bearing bottom of size 40 mm x18 mm x 1.25 mm thick(0.417Kg/Rmt) , top member of size 40 mm x 18 mm x 1.20 mm thick(0.475Kg/Rmt), Interlocking section size of 43 mm x 27 mm x 1.30 mm thick(0.558Kg/Rmt) and handle section of size 43mm x 18 mm x 1.30 mm thick(0.424Kg/Rmt) including providing and fixing 5mm thk. glass in the shutter using rubber gasket, approved quality minimum two nos.PVC rollers for each shutter, necessary locks, handles, PVC lining and other required fittings, etc. complete as directed by Engineer in charge.(Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	10.00	6078.00	Sqm	60,780.00
13.13	Providing and fixing in position two track aluminium sliding windows using sections of size 61 mm x 31mm x 1.3 mm (not less than 0.659kg/mtr) thick for bottom, sides and top. The shutter should be of bearing bottom of size 40 mm x18 mm x 1.25 mm (not less than 0.417kg/mtr) thick , top member of size 40 mm x 18 mm x 1.20 mm (not less than 0.475kg/mtr) thick, Interlocking section size of 43 mm x 27 mm x 1.30 mm (not less than 0.558kg/mtr) thick and handle section of size 43mm x 18 mm x 1.30 mm (not less than 0.424kg/mtr) thick including providing and fixing 5mm thk. glass in the shutter using rubber gasket, approved quality minimum two nos. PVC rollers for each shutter, necessary locks, handles, PVC lining and other required fittingsetc. complete as directed by Engineer in charge.(Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	10.00	5,932.00	Sqm	59,320.00
13.14	Providing and fixing in position two track aluminium sliding windows using sections of size 61 mm x 31mm x 1.3 mm (not less than 0.659kg/mtr) thick for bottom, sides and top. The shutter should be of bearing bottom of size 40 mm x18 mm x 1.25 mm (not less than 0.417kg/mtr) thick , top member of size 40 mm x 18 mm x 1.20 mm (not less than 0.475kg/mtr) thick, Interlocking section size of 43 mm x 27 mm x 1.30 mm (not less than 0.558kg/mtr) thick and handle section of size 43mm x 18 mm x 1.30 mm (not less than 0.424kg/mtr) thick including providing and fixing 304 grade stainless steel mosquito proof mesh in the shutter, approved quality minimum two nos. PVC rollers for each shutter, necessary locks, handles, PVC lining and other required fittings, provision for fixing A.C. units (if required) etc. complete as directed by Engineer in charge.(Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	30.00	5,516.00	Sqm	1,65,480.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
13.15	Providing and fixing in position aluminium two track sliding double glass window in heavy anodized section 15 micron with including frame work of aluminium hollow pipe section 75mm x 25mm size with 14 gauge thick weight of 1.036kg/m , aluminium sliding track of size 66.5x50mm of weight 1.329kg/m with shutter section of size 66x26mm of weight 0.774kg/m including gazing clip of size 38.7x 28.5 mm of weight 0.303kg/m including making holes for draining of water fixing 5mm thick clear double glass shutter with rubber gasket, concealed lock, approved make heavy quality bearing including all necessary fittings required for double glass window, providing silicon sealent if required etc. all complete as directed by Engineer In-charge. (Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	5.00	12,008.00	Sqm	60,040.00
13.16	Providing and fixing in position Two track aluminium Sliding window using Domal sections of 66.5mm x 50mm for bottom, sides and top. (not less than 1.329 kg/mtr) The shutter should be of Handle Interlocking, bearing bottom of size 27 x 65 mm (not less than 0.91 kg/mtr) Domal Clip (not less than 0.41 kg/mtr) , including providing and fixing 5mm thk.glass in the shutter using rubber gasket, approved quality minimum two nos. PVC rollers for each shutter, necessary locks, handles, PVC lining and other required fittings, etc. complete as directed by Engineer in charge.(Note: All aluminium sections 15 micron anodized/ powder coated).	20.00	7,852.00	Sqm	1,57,040.00
13.17	Providing and fixing in position Two track aluminium Domal Sliding Double Glass window using sections of 66.5mm x 50mm for bottom, sides and top. (not less than 1.329 kg/mtr) The shutter should be of Handle Interlocking, bearing bottom of size 27 x 65 mm (not less than 0.91 kg/mtr) Domal Clip (not less than 0.41 kg/mtr) , including providing and fixing 5+5mm Glass (presser patti,double tap,Silca gel etc.) rubber gasket, approved quality minimum two nos. PVC rollers for each shutter, locks, handles, PVC lining and other required fittings, etc. complete as directed by Engineer in charge.(Note: All aluminium sections 15 micron anodized/ powder coated).	5.00	10,894.00	Sqm	54,470.00
13.18	Providing and fixing in position three track aluminium sliding windows using drain bottom section of size 92 mm x 45 mm x 1.05 mm (1.659kg/mtr) thick for bottom, sections of size 92 mm x 31mm x 1.3 mm (0.933kg/mtr) thick for sides and top. The shutter comprising of bottom and top member of size 40 mm x 18 mm x 1.25 mm (0.417kg/mtr) thick , interlocking section of size 40 mm x 18 mm x 1.10 mm (0.469kg/mtr) thick and handle section of size 40mm x 18 mm x 1.25 mm (0.417kg/mtr) thick including providing and fixing 5mm thk. glass in the shutter using rubber gasket, approved quality minimum two nos. PVC rollers for each shutter, necessary locks, handles, PVC lining and other required fittings,pump filled structural silicon sealent & hardware, making window watertight, provision for fixing A.C. units (if required) etc. all complete as directed by Engineer In-charge.(Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	30.00	6,139.00	Sqm	1,84,170.00
13.19	Providing and fixing in position three track aluminium sliding windows using drain bottom section of size 92 mm x 45 mm x 1.05 mm (1.659kg/mtr) thick for bottom, sections of size 92 mm x 31mm x 1.3 mm (0.933kg/mtr) thick for sides and top. The shutter comprising of bottom and top member of size 40 mm x 18 mm x 1.25 mm (0.417kg/mtr) thick , interlocking section of size 40 mm x 18 mm x 1.10 mm (0.469kg/mtr) thick and handle section of size 40mm x 18 mm x 1.25 mm (0.417kg/mtr) thick including providing and fixing 5 mm thk. tinted / plain glass in two shutters and SS mosquito net in one shutter using rubber gasket, approved quality minimum two nos.PVC rollers for each shutter, necessary locks, handles, PVC lining and other required fittings,pump filled structural silicon sealent & hardware, making window watertight, provision for fixing A.C. units (if required) etc. all complete as directed by Engineer In-charge.(Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	50.00	6,364.00	Sqm	3,18,200.00
13.20	Providing and fixing in position three track aluminium sliding windows using sections of size 92 mm x 31mm x 1.30 mm (0.933kg/mtr) thick for bottom, sections of size 92 mm x 31mm x 1.30 mm (0.933kg/mtr) thick for sides and top. The shutter comprising of bottom and top member of size 40 mm x 18 mm x 1.25 mm (0.417kg/mtr) thick , interlocking section of size 40 mm x 18 mm x 1.10 mm (0.469kg/mtr) thick and handle section of size 40mm x 18 mm x 1.25 mm (0.417kg/mtr) thick including providing and fixing 5mm thk. glass in the shutter using rubber gaskek with require fittings such as approved quality minimum two nos.PVC rollers for each shutter, necessary locks, handles, PVC lining and other required fittings, etc. complete as directed by Engineer in charge.(Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	20.00	6,142.00	Sqm	1,22,840.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
13.21	Providing and fixing in position three track aluminium sliding windows using sections of size 92 mm x 31mm x 1.3 mm (0.933kg/mtr) thick for bottom, sides and top. The shutter comprising of bottom and top member of size 40 mm x18 mm x 1.25 mm (0.417kg/mtr) thick , interlocking section of size 40 mm x 18 mm x 1.10 mm (0.469kg/mtr) thick and handle section of size 40mm x 18 mm x 1.25 mm (0.417kg/mtr) thick including providing and fixing 5 mm thk. tinted / plain glass in two shutters and SS mosquito net in one shutter using rubber gasket, approved quality minimum two nos.PVC rollers for each shutter, necessary locks, handles, PVC lining and other required fittings,pump filled structural silicon sealent & hardware, making window watertight, provision for fixing A.C. units (if required) etc. all complete as directed by Engineer In-charge.(Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	50.00	6,329.00	Sqm	3,16,450.00
13.22	Providing and fixing in position three track aluminium sliding windows of six shutter using aluminium section of drain bottom of size 116mm x 25mm x 1.35 mm (1.160kg/mtr) thick ,for sides and top section of size 116mm x 25mm x 1.4 mm (1.005kg/mtr) thick . The shutter comprising of bearing bottom section of 60mm x25mm x1.45mm (0.781kg/rmt) and handle aluminium section member of size 50 mm x25mm x 1.5 mm (0.717kg/mtr) thick , interlocking aluminium section with both side interlocking arrangement 44.5mmx25mmx1.06mm(0.637kg/m) and interlocking section with one interlocking arrangement of 45mmx25mmx1.2mm(0.595kg/m) and for central locking providing F section of 40mm x25mm x1.5mm (0.545kg/rmt) including providing and fixing S.S 304 grade flyproof mesh in two shutter using ,aluminium U clip & 6mm toughen glass in four shutter using rubber gasket,. Heavy type of PVC rollers for each shutter, necessary sliding shutter latch, handles, PVC lining and other required fittings etc. complete as directed by Engineer in charge.(Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	5.00	6,234.00	Sqm	31,170.00
13.23	Providing and fixing in position Three track (2 + 1) aluminium Domal Sliding window using sections of (27 x 65 Domal Section) 101.5mm x 50mm for bottom, sides and top. (not less than 1.82 kg/mtr) The shutter should be of Handle Interlocking, bearing bottom of size 27 x 65 mm (not less than 0.90 kg/mtr) Domal Clip (not less than 0.315 kg/mtr) , including providing and fixing 5mm thk. glass in the 2 no shutters using rubber gasket and mosquito mesh in 1no shutter in approved quality, minimum two nos PVC rollers for each shutter, necessary locks, handles, PVC lining and other required fittings, etc. complete as directed by Enqineer in charge. Note: 1) All aluminium sections 15 micron anodized/ powder coated.2) Upto 10% variation in the running meter weight of the sections is allowable only.	5.00	9,300.00	Sqm	46,500.00
13.24	Providing and fixing in position Three track aluminium Domal Double Glass Sliding window using sections of 101.5mm x 50mm for bottom, sides and top. (not less than 1.798 kg/mtr) The shutter should be of Handle Interlocking, bearing bottom of size 27 x 65 mm (not less than 0.91 kg/mtr) Domal Clip (not less than 0.41 kg/mtr) including making holes for draining of water fixing 5+5mm Glass (presser patti,double tap,Silca jail etc.) with rubber gasket, concealed lock, Meeti make heavy quality bearing including all necessary fittings required for double glass window , providing silicon sealent if required all complete as directed. (Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	5.00	12,211.00	Sqm	61,055.00
13.25	Providing and fixing in position Four track (3 + 1) aluminium Domal Sliding window using shutter sections of (27mm x 65mm Domal Section), 136mm x 50mm for bottom, sides and top. (not less than 2.5 kg/mtr) The shutter should be of Handle Interlocking, bearing bottom of size 27mm x 65 mm (not less than 0.90 kg/mtr) Domal Clip (not less than 0.315 kg/mtr) , including providing and fixing 5mm thk. glass in the 3 no shutters using rubber gasket and mosquito mesh in 1no shutter in approved quality minimum two nos. PVC rollers for each shutter, necessary locks, handles, PVC lining and other required fittings, etc. complete as directed by Engineer In-charge. (Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	5.00	10,966.00	Sqm	54,830.00
13.26	Providing and fixing extra shutter of comprising of bottom and top member of size 40 mm x18 mm x 1.25 mm (0.417kg/mtr) thick , interlocking section of size 40 mm x 18 mm x 1.10 mm (0.40kg/mtr) thick and handle section of size 40mm x 18 mm x 1.25 mm (0.417kg/mtr) thick including providing and fixing 5.0mm thick glass (Plain or frosted) in the shutter using neoprene gasket, approved quality minimum two nos.PVC rollers for each shutter, necessary locks, handles, PVC lining and other required fittings, etc. complete as directed by Engineer in charge.(Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	5.00	3,107.00	Sqm	15,535.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
13.27	Providing and fixing in position shutter in sliding window using aluminium section for bottom and top member of size 40 mm x 18 mm x 1.25 mm (0.417kg/mtr) thick , interlocking section of size 40 mm x 18 mm x 1.10 mm (0.469kg/mtr) thick and handle section of size 40mm x 18 mm x 1.25 mm (0.417kg/mtr) thick including providing and fixing 304 grade stainless steel mosquito proof mesh in the shutter using approved quality minimum two nos.PVC rollers, necessary locks, handles and other required fittings, making shutter removable as and when require etc. complete as directed by Engineer in charge.(Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	5.00	3,401.00	Sqm	17,005.00
13.28	Supplying, fabricating and fixing in position fully openable aluminium window using aluminium sections 42 x 30 x 1.5mm (not less than 0.526 kg/mtr) size aluminum single border outer frame of window shutter, 42 x 37 x 1.5mm (not less than 0.724 kg/mtr) size aluminum Z section for window shutter, 28 x 14.5 x 1.5mm size (not less than 0.286 kg/mtr), aluminum clip for window shutter, 45 x 45 x 1.5mm size (not less than 0.764 kg/mtr) Z aluminum center patti for mullion, 37mm x 37mm (not less than 0.820 kg/mtr) angles 2mm thick, 5mm thick plain or frosted glasses with rubber gasket, 3 Nos. S.S. hinges 75mm size (heavy) on each window shutter, aluminum tower bolt 100mm size 1 Nos on each leaf, aluminum stay 200mm to 250mm long 1 No per leaf, aluminum handle 1 Nos. per leaf, etc. all complete as directed by Engineer In-charge. (Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	20.00	6,482.00	Sqm	1,29,640.00
13.29	Supplying, fabricating and fixing in position partly openable and partly fixed aluminium window using aluminium sections 42 x 30 x 1.5mm (not less than 0.526 kg/mtr) size aluminum single border outer frame of window shutter, 42 x 37 x 1.5mm (not less than 0.724 kg/mtr) size aluminum Z section for window shutter, 28 x 14.5 x 1.5mm size (not less than 0.286 kg/mtr), aluminum clip for window shutter, 45 x 45 x 1.5mm size (not less than 0.764 kg/mtr) Z aluminum center patti for mullion, 37mm x 37mm (not less than 0.820 kg/mtr) angles 2mm thick, 5mm thick plain or frosted glasses with rubber gasket, 3 Nos. S.S. hinges 75mm size (heavy) on each window shutter, aluminum tower bolt 100mm size 1 Nos on each leaf, aluminum stay 200mm to 250mm long 1 No per leaf, aluminum handle 1 Nos. per leaf, provision for fixing AC with teak wood members inside box, (if required) including fixing the window shutter on the aluminium single side partition section for outer frame and intermediate section of size 63x38x1.47mm thick (not less than 0.781 kg/mtr) etc. all complete as directed by Engineer In-charge. (Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	10.00	7,829.00	Sqm	78,290.00
13.30	Supplying , fabricating and fixing in position fully glazed aluminium openable glass window (pivoted type window) using 15 micron anodised/ powder coated 52mm domal section for window shutter and border outer frame, Z clip, mulion, aluminium angle, 5mm thick plain/tinted glass with rubber gasket, adjustable hinges 2 Nos. on each shutter, Z handle 1 Nos including pump filled structural silicon sealent & hardware, making watertight etc. all complete as directed by Engineer In-charge. (Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	10.00	8,322.00	Sqm	83,220.00
13.31	Supplying , fabricating and fixing in position fully glazed aluminium openable glass window using 15 micron anodised/ powder coated 52mm domal section for window shutter, border outer frame, clip, & center, aluminium angle, 5 mm thick plain glass with jumbo rubber gasket, adjustable hinges 2 Nos. on each shutter, Z handle 2 Nos, window stay 2 Nos, providing & fixing aluminium outer hollow- box section of 50x25x1.5mm & fixing the shutter on aluminium outer frame etc.complete or as directed by engineer in charge.	10.00	11,628.00	Sqm	1,16,280.00
13.32	Providing and fixing pivoted windows using 'Z' section of size 42 x 32 x 1.5mm (not less than 0.920 kg/mtr), 15 micron anodised,providing and fixing 6mm thk. tinted toughening glass including all necessary fittings such as aluminium Z clips, aluminium pipe, aluminium angle, screws,nails,aluminium pivoted stay 2 nos.,aluminium Z handels 1 no. etc. and other required fittings including EPDM rubber gaskets, pump filled structural silicon sealant & hardware, making window watertight, etc. all complete as directed by Engineer In-charge. (Note: All aluminium sections and fitting are 15 micron anodized/ powder coated and shop drawing will be provided by contractor before execution of work).	10.00	8,827.00	Sqm	88,270.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
13.33	Providing and fixing in position aluminium 15 micron anodized openable window with stainless steel flyproof mesh of 304 grade having aluminium powder coated " L " pipe section 38mm x 25mm (0.45kg/rmt) for frame and shutter frame of 38mm x 18mm (0.45kg/m) aluminium section and fixing the stainless steel mesh with U channel with screws including necessary fitting and fixtures such as two numbers stainless hinges, stainless steel handle one numbers and magnet or tower bolt two number etc. all complete as directed by Engineer In-charge. (Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	10.00	4,052.00	Sqm	40,520.00
13.34	Providing and fixing openable shutter made up of aluminium anodized 15 micron handle section 38mm x 18mm(0.45kg/rmt) or near available sections on top, bottom and sides, P/F 4mm thick ACP sheet of desired shed and pattern, P/F stainless steel hinges 75mmx35mm(2 nos.) for each shutter,1nos. of S.S tower bolt on each shutter,1no handle(S.S) for each shutter, magnet etc. including fixing the shutter over the L pipe section of 38mmx25mmx1.5mm (45kg/rmt) with screws in line and level,rectification of all damages etc. all complete as directed by Engineer In-charge. (Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	5.00	6,092.00	Sqm	30,460.00
13.35	Supplying, fabricating and fixing in position aluminum openable window using aluminum L tube section 24mm x 45mm (0.526 kg/mtr) for window frame,25 mm x 50mm (0.593 kg/mtr) for frame of window shutter fitted with SS mosquito net , including using 2 nos S.S. hinges 75mm long for shutter, 100 mm long aluminum handles 1 nos. for shutter,100 mm long aluminum tower bolts 1 nos , fixing glazing clips/ 'U'/F' channel for border and other necessary fittings including working platform etc all complete as directed by Engineer Incharge. (Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	10.00	6,667.00	Sqm	66,670.00
13.36	Providing and fixing in position fixed glazing partition using 63mm x 38mm x 1.65mm (0.942 kg/rmt) 15 micron / powder coated anodized aluminium partition section for frame with screws and providing 5mm thick clear plate glass fixed to the above frame using glazing clip with rubber gaskets, filling all gaps with appropriate fillers etc. all complete as directed by Engineer In-charge.	10.00	5,286.00	Sqm	52,860.00
13.37	Providing, making and fixing partly glazed partly opaque aluminium partition using 63mm x 38mm x 1.65mm (not less than 0.942kg/mtr)15 micron / powder coated anodized aluminium single groove partition section and 63mm x 38mm x 1.53mm (not less than 0.942kg/mtr) 15 micron / powder coated anodized aluminium double groove partition section for frame and 4mm thick both side colour and designer aluminium composite sheet of approved make of approved colour up to 1200mm height or as per requirment and 5mm thick clear plate glass fixed with glazing clips, rubber gasket etc. all complete as directed by Engineer In-charge. (Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	10.00	4,086.00	Sqm	40,860.00
13.38	Providing, making and fixing fully opaque aluminium partition using 63mm x 38mm x 1.65mm (not less than 0.942kg/mtr)15 micron / powder coated anodized aluminium single groove partition section and 63mm x 38mm x 1.53mm (not less than 0.942kg/mtr) 15 micron / powder coated anodized aluminium double groove partition section for frame, providing and fixing 4mm thick both side colour and designer aluminium composite sheet of approved make of approved colour fixed with glazing clips, rubber gasket etc. all complete as directed by Engineer In-charge.	10.00	4,063.00	Sqm	40,630.00
13.39	Providing, making and fixing fully opaque aluminium partition using 63mm x 38mm x 1.65mm (not less than 0.942kg/mtr)15 micron / powder coated anodized aluminium single groove partition section and 63mm x 38mm x 1.53mm (not less than 0.942kg/mtr) 15 micron / powder coated anodized aluminium double groove partition section for frame, providing and fixing ½" (12mm) thick both side decorative prelaminated three layer flat pressed teakwood particle board (phenol Bonded) of BWP type exterior grade fixed with glazing clips etc. all complete as directed by Engineer In-charge.	10.00	4,054.00	Sqm	40,540.00
13.40	Providing, making and fixing fully glazed aluminium double glass partition using 15micron/ powder coated anodized aluminium section of size 100x37x1.5mm thick (1.90Kg/Rmt), P/F 5mm thick clear plain glass in two layer with all required fittings such as rubber gasket, silica gel, silicon sealant, glazing clips, screws and other required fittings etc. all complete as directed by Engineer In-charge. (Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	10.00	7,345.00	Sqm	73,450.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
13.41	Providing & fixing in position Aluminum partition made using 2.5" x 1.5" Aluminum pipe section at 600mm c/c as frame with 3mm thick one side designer aluminium composite sheet manufacturer by Altobond with approved pattern and colour on inside portion using double tape and silicone sealant, making necessary arrangement of raceway with removable type panels for electrical/ lan/ telephone work, with all required fittings and fixtures, inserting wood packing wherever required etc. all complete as directed by Engineer In-charge. (Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	5.00	3,926.00	Sqm	19,630.00
13.42	Supplying, fabricating and fixing in position fully glazed single /double leaf aluminum anodized openable door shutter using aluminum standard door section 80mm x 40mm (not less than 1.055 kg/mtr) for all verticals, top & bottom members, providing and fixing 5mm thick clear/ bajri glass, glazing clips, rubber gasket including heavy duty hinges, 1' long decorative stainless steel handles 2 nos. for each shutter, lock, vertical aluminium section at side etc. all complete as directed by Engineer In-charge. (Note: All aluminium sections and fitting are 15 micron anodized/ powder coated and fittings should be approved before installation)	5.00	4,245.00	Sqm	21,225.00
13.43	Providing, fabricating and fixing in position partly opaque and partly glazed aluminum anodized openable door in single or double leaf shutter using aluminum standard door section 80mm x 40mm (not less than 1.139kg/mtr) for verticals and middle, 100mm x 40mm (not less than 1.60kg/mtr) for top & bottom members, 12mm thick both side decorative prelaminate particle board (Novapan) of approved colour up to 1200mm height and 5mm thick clear/ bajri glass above opaque panels, glazing clips, rubber gasket including using 3 nos stainless steel hinges 4" long for each shutter, 9" long stainless steel handles 2 nos. for each shutter, lock, stainless steel tower bolt 8" long 1 no for each shutter and other required fittings etc. all complete as directed by Engineer In-charge. (Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	5.00	5,811.00	Sqm	29,055.00
13.44	Providing, fabricating and fixing in position partly opaque and partly glazed aluminum anodized openable door in single or double leaf shutter using aluminum standard door section 80mm x 40mm (not less than 1.139kg/mtr) for verticals and middle, 100mm x 40mm (not less than 1.60kg/mtr) for top & bottom members, 4mm thick both side colour and designer aluminium composite sheet up to 1200mm height or as per plan and 5mm thick clear/ bajri glass above opaque panels, glazing clips, rubber gasket including using 3 nos stainless steel hinges 4" long for each shutter, 9" long stainless steel handles 2 nos. for each shutter, lock, stainless steel tower bolt 8" long 1 no for each shutter and other required fittings etc. all complete as directed by Engineer In-charge. (Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	5.00	5,870.00	Sqm	29,350.00
13.45	Supplying, fabricating and fixing in position fully glazed single/double leaf aluminum anodized sliding door shutter using aluminum standard door section 80mm x 40mm (not less than 1.055 kg/mtr) for all verticals, top & bottom members, providing and fixing 5mm thick clear/ bajri glass, glazing clips, rubber gasket including P/F sliding arrangement for top and bottom of door shutter, handles 2 nos., lock, vertical aluminium section at side etc. all complete as directed by Engineer In-charge. (Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	5.00	4,359.00	Sqm	21,795.00
13.46	Supplying, fabricating and fixing in position partly opaque and partly glazed aluminum anodized sliding door shutter using aluminum standard door section 80mm x 40mm for verticals, 100mm x 40mm for top, middle & bottom members, 12mm thick both side decorative prelaminate particle board (Novapan) of approved colour for opaque panels and 5mm thick clear/ bajri glass above opaque panels, glazing clips, rubber gasket including P/F sliding arrangement for top and bottom of door shutter, handles 2 nos., lock, vertical aluminium section at side etc. all complete as directed by Engineer In-charge. (Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).Width and height of shutter will be measured for payment.	5.00	5,311.00	Sqm	26,555.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
13.47	Supplying, fabricating and fixing in position partly opaque and partly glazed aluminum anodized sliding door shutter using aluminum standard door section 80mm x 40mm for verticals, 100mm x 40mm for top, middle & bottom members, 4mm thick both side colour and designer aluminium composite sheet of approved make and approved colour and 5mm thick clear/ bajri glass above opaque panels, glazing clips, rubber gasket including P/F sliding arrangement for top and bottom of door shutter, handles 2 nos., lock, vertical aluminium section at side etc. all complete as directed by Engineer In-charge. (Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	5.00	5,319.00	Sqm	26,595.00
13.48	Supplying, fabricating and fixing in position aluminum openable door using aluminum L tube section 24mm x 45mm (0.526 kg/mtr) for door chaukhat, 25mm x 50mm (0.593 kg/mtr) for outer frame of door shutter & 25mm x 50mm (0.584 kg/mtr) for intermediate frame of door shutter fitted with aluminum mosquito net , including using 3 nos S.S. hinges 75mm long for shutter, 100 mm long aluminum handles 2 nos. for shutter, 150 mm long aluminum tower bolts 2 nos , fixing glazing clips/ 'U'/F' channel for border and other necessary fittings. etc. all complete as directed by Engineer Incharge.	700.00	3,725.00	Sqm	26,07,500.00
13.49	Providing and fixing of Single glazed modular Profile Partition System VENUS-45 or IITB approved make with 10mm thick toughened glass with a tested sound reduction Value from 28 TO 32 Db Wide Line single glazed partition with 10mm thick toughened glass. The panels are supported by Aluminium section of 45*25*1.2mm fixed to RCC slab with spacing as manufacturer specification. All sections shall be duly anodised up to 15-16 microns with 6063-T5 grade and required accessories ie glass to glass aluminium I sections, T section & 90 degree sections & Glass packing to adjust the floor level. Ceiling profile, Floor profile and wall profile are 25 mm visible face and 100 mm wide with 10mm toughen glass & insertion of Thermoplastic gasket to adhere the airtight as per manufacturer specification. including all necessary Hardware etc. all complete as directed by Engineer In-charge.	5.00	9,471.00	Sqm	47,355.00
13.50	Providing and fixing make 65mm System door as per manufacturer specifications, having size of 65mm x 35mm x 1.5mm thick with approved door profile ie. duly Anodized Aluminium Door Sections having sizes of 65mm x 35mm x 1.5mm thick, 10 mm thick Toughened Glass including Geze/Hafele or IITB approved make Open door closer, Flush Hinges, Dead lock or Mortise lock , DD type or liver handle, door stopper, Door Seal & Gaskets. (All Hardware in approved Shade) Rate to be quoted including all necessary Hardware etc. all complete as directed by Engineer In-charge.	5.00	18,401.00	Sqm	92,005.00
13.51	Providing and fixing 12mm thick Toughen glass openable door shutter including heavy duty decorative stainless steel handles 300mm long (2 Nos.) on each leaf, lock of approved quality and make, heavy duty floor spring having capacity not less than 150kg for each leaf, top and bottom patch fittings, SS top and bottom pivot including making proper adjustment for smooth operation including making necessary excavation in floor for fixing the floor spring and making good the same matching to the existing floor finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. all complete as directed by Engineer In-charge.	5.00	11,734.00	Sqm	58,670.00
13.52	Providing and fixing single/double leaf SS 304 grade stainless steel door 32mm thick with stainless steel frame of required size fabricated in company with 3 nos. 4" long heavy duty S.S Hinges for each shutter, lock, 2 nos. 230mm long S.S Handle for each shutter, 9" long S.S tower bolt for each shutter, providing and fixing vision panel using 5mm thick plain glass with S.S bedding and stainless steel grill in vision panel including fittings such as screws and other required fittings etc. all complete as directed by Engineer In-charge.	5.00	21,562.00	Sqm	1,07,810.00
13.53	Providing and fixing aluminium louvered ventilators using 50mm x 25mm x 16 gauge (not less than 0.593 kg/mtr) aluminium box frame anodized to 15 microns / powder coated for outer frame and intermediate vertical members as directed including 5mm thick plain or frosted glass 125mm wide for louvers at proper inclination including P/F glass on adjustable aluminium louvered of approved size and making provision of fixing exhaust fan etc. all complete as directed by Engineer In-charge.	20.00	6,311.00	Sqm	1,26,220.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
13.54	Providing and fixing anodized 75+20 micron aluminium louvered ventilators in staircase window using 75mm x 25mm x 16 gauge thick aluminium (Jindal make) section for outer frame, 5mm thick frosted glass 100 to 150mm wide panes for louvers at proper inclinations. Providing and fixing U – channels for glasses, filling all joints with proper fillers etc. all complete as directed by Engineer In-charge. Note: contractor will be allowed to take away old window if available and for which 5% deduction will be made of schedule rate of this item	20.00	6,395.00	Sqm	1,27,900.00
13.55	Supplying, fabricating and fixing in position aluminium louvered ventilator using aluminum box section of size 63mmx37mm (not less than 1.054 kg/mtr) for outer frame, aluminium flat of size 25mm x 5mm of weight not less than 0.337 Kg/mtr for fixing louvers of size 79mm x 30.3mm x 2mm of weight not less than 0.599 Kg/m (jindal section 20782), filling all gaps with appropriate fillers, screws, bolts etc. all complete as directed by Engineer In-charge. (Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	50.00	5,792.00	Sqm	2,89,600.00
13.56	Providing, fabrication & fixing structural glazing work using aluminum sections for vertical and horizontal having size 114mm x63mm x2.5mm thick (not less than 2.44 kg/mtr.), providing and fixing 4mm thick designer aluminium composite sheet of approved colour and pattern in the panels with all necessary fittings, fixtures, screws, pump filled structural silicon sealant & hardware, making partition watertight, etc. all complete as directed by Engineer In-charge. (all aluminium sections should be 15 micron anodized/ powder coated and shop drawing will be provided by contractor before execution of work.)	10.00	10,699.00	Sqm	1,06,990.00
13.57	Providing, fabrication & fixing structural glazing work using aluminum sections for vertical and horizontal having size 114mm x63mm x2.5mm thick (not less than 2.44 kg/mtr.), providing and fixing Tinted toughened 6mm thick glass in the panels with all necessary fittings, fixtures, screws, pump filled structural silicon sealant & hardware, making partition watertight, etc. all complete as directed by Engineer In-charge. (all aluminium sections should be 15 micron anodized/ powder coated and shop drawing will be provided by contractor before execution of work.)	10.00	13,060.00	Sqm	1,30,600.00
13.58	Providing, fabrication & fixing structural glazing work using aluminum sections for vertical and horizontal having size 239mm x 50mm x 3mm thick (not less than 5.291 kg/mtr.), Pressure Plate section (not less than 0.404kg/mtr) & cover cap section (not less than 0.318kg/mtr) Site clip section (not less than 0.0108kg/mtr) LOUVRE sections Size of (220.55mm x 31.95mm Section) (not less than 2.54 kg/mtr) providing and fixing Tinted toughening 8mm thick glass in the panels with all necessary fittings, fixtures, screws, pump filled structural silicon sealant & hardware, making partition watertight, etc all complete as directed by Engineer In-Charge. (Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	10.00	21,901.00	Sqm	2,19,010.00
13.59	Providing and fixing aluminium LOUVRE sections Size of (220.55mm x 31.95mm Section) (not less than 2.54 kg/mtr) , including fixing L Angle ,with Screw/Fastner approved quality fittings, etc. complete as directed by Engineer in charge.	10.00	4,505.00	Sqm	45,050.00
13.60	Providing and fixing aluminium Aluminium LOUVRE Door sections vertical and horizontal SUB Frame 50mmx 38mm (not less than 1.393 kg/mtr , vertical and horizontal Door section 80mm x 40mm (not less than 0.65 kg/mtr & LOUVRE sections 60mm Section (not less than 0.27 kg/mtr including fixing L Angle ,with Screw/Fastner approved quality fittings, including scaffolding etc. complete as directed by Engineer in charge. (Aluminium section anodizing)	10.00	12,219.00	Sqm	1,22,190.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
13.61	Design supply & installation of suspended Spider Glazing system designed to withstand the wind pressure as per relevant IS code. The Suspended System held with Spider Fittings of SS-316 Grade Steel of approved manufacturer with glass panel having 12 mm thick clear toughened glass held together with SS-316 Grade Stainless steel Spider & bolt assembly . The assembly shall be connected to floor/ceiling by means of SS- 316 Grade stainless steel brackets & Anchor bolts and at the bottom using SS channel of 50x25x2mm using fastener & anchor bolts, non staining weather sealants of approved make, Teflon/ nylon bushes and separators to prevent bi-metallic contacts, all complete to perform as per specification and approved drawings. The complete system to be designed to accommodate thermal expansion & seismic movements etc. The joints between glass panels (6 to 8 mm) and gaps at the perimeter & in U channel of the assembly to be filled with non staining weather sealant, so as to make the entire system fully water proof & dust proof. The rate shall include all design, Engineering and shop drawing including approval from structural designer, labour, T&P, working platform, other incidental charges including wastage, enabling temporary services all fitting fixers nut bolts, washer, Buffer plates, fastener, anchors, SS channel laminated glass etc all complete as directed by Engineer In-Charge. For the purpose of payment, actual elevation area of Glazing including thickness of joints and the portion of Glass panel inside the SS channel shall be measured.	10.00	8,995.67	Sqm	89,956.70
13.62	Design, supply and installation of ACP work incorporating of 4 mm thick Aluminum Composite Cladding sheet of Altobond or Eurobond make of approved colour, the top and bottom layer of 0.5 mm thick Aluminum Sheet sandwiched with 3 mm thick polyethylene core, supported by M. S. cleat duly black painted. The back up structure will be made of Aluminum 38 mm x 38 mm rectangular tube with all fittings, fixtures, hardware and pump filled 789 grade Silicone Sealant with all fittings and fixtures up to any height including working platform for ACP facade cleaning work etc. all complete as directed by Engineer In-charge.	10.00	4,516.00	Sqm	45,160.00
13.63	Providing ,Fabricating and fixing at all floors, locations and heights stainless steel storage / Service Units / kitchen trolleys below existing granite Kitchen Platform upto depth 24 " to 26" as required made with 304 S.S. (Food grade) Comprising of 19mm square pipes outer frame , sink unit with bottle and bin holders , bottle pull out , utensils and storage unit kit etc. as desired by Engineer incharge and as per approved design consisting of 6mm dia S.S. round bars and 5mm dia distribution S.S. round bars or 1 mm thick perforated S.S. sheet where ever required & fabricated as directed including cost of providing teakwood Frame work , Sliding channel, 18mm waterproof plywood with sunmica facia , handles , screws , nails, cost of materials , transporting , labour, wastage and testing etc. all complete as directed by Engineer In-charge.(weight of the trolley should not be less than 55kg/sqm of elevational area)	3.00	33,451.00	Sqm	1,00,353.00
13.64	Providing and fixing shutter below platform and for cupboard made of aluminium anodized 15 micron or powder coated L type section for frame 38 x 25x1.2mm or near available handle section 40x18x1.2mm for shutter Top & bottom and sides, P/F 4mm thick ACP sheet (Plain/Designer), P/F stainless steel hinges 75mm x 20mm , S.S. Tower bolt and magnet . handle (S.S.) fixing shutter on aluminium frame with screws properly in line and level, etc. all complete as directed by Engineer In-charge.	20.00	3,622.00	Sqm	72,440.00
13.65	Providing & Fixing aluminium Profile shutter section of size 45mmx19mm with 5mm thick glass including auto hinges 03 nos for each shutter all complete.	10.00	7,580.00	Sqm	75,800.00
13.66	Providing and fixing blackout horizontal (Marvell Make) roller blinds water resistant cloth of required size and colour including all necessary accessories and installation at any height etc. all complete as directed by Engineer In-charge.(sample of roller blind should be approved before installation)	10.00	1,500.00	Sqm	15,000.00
13.67	Providing and fixing translucent horizontal (Marvell Make) roller blinds water resistant cloth of required size and colour including all necessary accessories and installation at any height etc. all complete as directed by Engineer In-charge.(sample of roller blind should be approved before installation)	10.00	1,437.00	Sqm	14,370.00
13.68	Providing and fixing sun screen horizontal (Marvell Make) roller blinds water resistant cloth of required size and colour including all necessary accessories and installation at any height etc. all complete as directed by Engineer In-charge.(sample of blind should be approved before installation)	10.00	1,562.00	Sqm	15,620.00
13.69	Providing and fixing 25mm to 50mm wide vertical venetian blinds in aluminium or fabric strips of approved make and colour with all accessories etc. all complete as directed by Engineer In-charge.	10.00	2,198.00	Sqm	21,980.00
13.70	Providing and fixing reflective type sun control film of approved type of Garware make with cutting, fixing etc. all complete as directed by Engineer In-charge.	10.00	978.00	Sqm	9,780.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
13.71	Providing and fixing aluminum sheet of 16 gauge including binding, revetting, brackets, bolts, nuts, hanging rods, washers and other necessary fixture and fittings etc., including making necessary connections with rain water pipes, working platform etc. all complete as directed by Engineer In-charge	10.00	2,761.00	Sqm	27,610.00
13.72	Providing, supplying and fixing new 6 mm thick Toughened glass in facade/ other location of any building at any height including removing the old damaged/broken glass including fixing with lamination sheet as per site requirements including required fittings and fixtures, filling the gaps with silicon sealant etc all complete as directed by Engineer In-charge.	10.00	5,600.00	Sqm	56,000.00
13.73	Providing, supplying and fixing new 8 mm thick Toughened glass in facade/ other location of any building at any height including removing the old damaged/broken glass including fixing with lamination sheet as per site requirements including required fittings and fixtures, filling the gaps with silicon sealant etc all complete as directed by Engineer In-charge.	10.00	7,575.00	Sqm	75,750.00
13.74	Providing, supplying and fixing new 10 mm thick Toughened glass in facade/ other location of any building at any height including removing the old damaged/broken glass including fixing with lamination sheet as per site requirements including required fittings and fixtures, filling the gaps with silicon sealant etc all complete as directed by Engineer In-charge.	10.00	9,317.00	Sqm	93,170.00
13.75	Providing, supplying and fixing new 12 mm thick Toughened glass in facade/ other location of any building at any height including removing the old damaged/broken glass including fixing with lamination sheet as per site requirements including required fittings and fixtures, filling the gaps with silicon sealant etc all complete as directed by Engineer In-charge.	10.00	10,827.00	Sqm	1,08,270.00
13.76	Providing, supplying and fixing new (10+10)mm thick doubled clear Toughened glass in facade/ other location of any building at any height including removing the old damaged/broken glass including fixing with lamination sheet as per site requirements between two (10+10)mm thick doubled glass including required fittings and fixtures, filling the gaps with silicon sealant etc all complete as directed by Engineer Incharge. (Double glass of (10+10)mm will be considered as one Sqm area for payment)	10.00	16,054.00	Sqm	1,60,540.00
13.77	Providing, supplying and fixing new (8+8)mm thick doubled clear Toughened glass in facade/ other location of any building at any height including removing the old damaged/broken glass including fixing with lamination sheet as per site requirements between two (8+8)mm thick doubled glass including required fittings and fixtures, filling the gaps with silicon sealant etc all complete as directed by Engineer Incharge. (Double glass of (8+8)mm will be considered as one Sqm area for payment)	10.00	12,569.00	Sqm	1,25,690.00
13.78	Providing, supplying and fixing new (5+5)mm thick doubled clear Toughened glass in facade/ other location of any building at any height including removing the old damaged/broken glass including fixing with lamination sheet as per site requirements between two (5+5)mm thick doubled glass including required fittings and fixtures, filling the gaps with silicon sealant etc all complete as directed by Engineer Incharge. (Double glass of (5+5)mm will be considered as one Sqm area for payment)	10.00	8,388.00	Sqm	83,880.00
13.79	Providing/fixing toughened laminated thermal insulated glass of 6mm thick having all clean cut and polished edges of IITB approved brand at all heights for balcony/outer railings including fixing it with appropriate D bracket SS 304 including removing old types of glass and cleaning & safely disposing all the glass pieces away etc. all complete as directed by Engineer In-charge.	10.00	10,068.00	Sqm	1,00,680.00
13.80	Providing & Fixing Aluminium L Angle Gripper of size 50 mm wide X 15 mm 'L' having thickness not less than 1 mm for floor carpet Step & Skirting including 15 micron anodizing fitting such as hold fast, screws etc completed as directed.	50.00	198.00	Rmt	9,900.00
				Total 13	97,29,124.70
14	Sanitary works				
14.01	Providing and fixing CP Bib Tap with wall flange (CON-CHR-047KN) 15mm size, jaquar make heavy type including necessary fittings and fixtures etc. all complete as directed by Engineer In-Charge.	200.00	1,754.00	Nos	3,50,800.00
14.02	Providing and fixing CP Bib Tap with wall flange 15mm size, heavy type, weight not less than 400gm of approved make & model including necessary fittings and fixtures etc. all complete as directed by Engineer In-Charge.	20.00	697.00	Nos	13,940.00
14.03	Providing and fixing CP long body bib cock (CON-CHR-107KN) 15 mm size, jaquar make with wall flange 15mm size, heavy type including necessary fittings and fixtures etc. all complete as directed by Engineer In-Charge.	20.00	2,277.00	Nos	45,540.00
14.04	Providing and fixing CP long body bib cock 15 mm size of approved make and model with wall flange 15mm size, heavy type, weight not less than 690gm including necessary fittings and fixtures etc. all complete as directed by Engineer In-Charge.	20.00	790.00	Nos	15,800.00
14.05	Providing and fixing CP Two way Bib tap with wall flange (CON-CHR-041KN) 15mm size, jaquar make heavy type including necessary fittings and fixtures etc. all complete as directed by Engineer In-Charge.	150.00	2,015.00	Nos	3,02,250.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
14.06	Providing and fixing CP Two way Bib tap with wall flange 15mm size, heavy type, weight not less than 400gm including necessary fittings and fixtures etc. all complete as directed by Engineer In-Charge.	50.00	1,429.00	Nos	71,450.00
14.07	Providing & fixing C. P. Pillar tap with aerator of long neck (CON-CHR-021KN) 15 mm size, jaquar make heavy type including necessary fittings and fixtures etc. all complete as directed by Engineer In-Charge.	50.00	2,596.00	Nos	1,29,800.00
14.08	Providing & fixing swan neck C. P. Pillar tap (CQT-CHR-23123) with aerator of 15 mm size, jaquar make heavy type including necessary fittings and fixtures etc. all complete as directed by Engineer In-Charge.	10.00	3,200.00	Nos	32,000.00
14.09	Providing & fixing C. P. Pillar tap 15 mm size, heavy type, weight not less than 400gm including necessary fittings and fixtures etc. all complete as directed by Engineer In-Charge.	20.00	961.00	Nos	19,220.00
14.10	Providing and fixing CP pressmatic aerator pillar tap of auto closing system , jaquar make (PRS-CHR-031) 15mm nominal bore with a self mechanism & water saving type for wash basin including necessary fittings & fixtures tc. all complete as directed by Engineer In-Charge.	50.00	3,438.00	Nos	1,71,900.00
14.11	Providing and fixing CP pressmatic aerator pillar tap of approved model & approved make 15mm nominal bore with a self mechanism & water saving type for wash basin including necessary fittings & fixtures etc. all complete as directed by Engineer In-Charge.	50.00	1,057.00	Nos	52,850.00
14.12	Providing and fixing CP stop cock (ALD-CHR-083FT) 15mm size, jaquar make heavy type, including exposed part kit of Stop Cock (CON-CHR-083FTK), jaquar make with necessary fittings and fixtures etc. all complete as directed by Engineer In-Charge.	10.00	2,114.00	Nos	21,140.00
14.13	Providing and fixing CP stop cock 15mm size, heavy type, weight not less than 400gm with necessary fittings and fixtures etc. all complete as directed by Engineer In-Charge.	50.00	743.00	Nos	37,150.00
14.14	Providing and fixing CP angular stop cock with wall flange (FLR-CHR-5053N) 15mm size, Jaquar make heavy type including necessary fittings and fixtures etc. all complete as directed by Engineer In-Charge.	50.00	1,696.00	Nos	84,800.00
14.15	Providing and fixing CP angular stop cock with wall flange 15mm size, of approved make, heavy type, weight not less than 400gm including necessary fittings and fixtures etc. all complete as directed by Engineer In-Charge.	50.00	534.00	Nos	26,700.00
14.16	Providing & fixing ISI approved heavy type Angle Cock (Cavier make Rienza series) including extension Pipe, C.P Double nippal and removing old fittings (if any) depositing it in Estate store etc. all complete as directed by Engineer In-Charge.	50.00	1,353.00	Nos	67,650.00
14.17	Providing and fixing push cock / urinal valve auto closing system with built-in control cock & wall flange, (PRS-CHR-077), jaquar make including necessary fittings etc. all complete as directed by Engineer In-Charge.	50.00	3,525.00	Nos	1,76,250.00
14.18	Providing and fixing push cock of approved make including necessary fittings etc. all complete as directed by Engineer In-Charge.	20.00	825.00	Nos	16,500.00
14.19	Providing and fixing CP Sink Cock with Raised 'J' Shaped Swinging Spout Wall Mounted Model (CON-CHR-357KN) of jaquar make including all necessary fitting & fixture and removing old fittings (if any) depositing it in Estate store etc. all complete as directed by Engineer In-Charge.	5.00	2,654.00	Nos	13,270.00
14.20	Providing and fixing chromium plated stainless steel towel rail (ACN-CHR-1111SM) jaquar make, 600mm long with all necessary screws etc. all complete as directed by Engineer In-Charge.	20.00	1,911.00	Nos	38,220.00
14.21	Providing and fixing chromium plated towel rod 20 mm dia and 60 cm. in length with proper alignment, level including all necessary accessories etc. all complete as directed by Engineer In-Charge.	200.00	402.00	Nos	80,400.00
14.22	Providing and fixing 100 mm dia rotating type brass shower rose of 15mm dia including necessary bend and socket etc. all complete as directed by Engineer In-Charge.	100.00	720.00	Nos	72,000.00
14.23	Providing and fixing 75 mm dia rotating type brass shower rose of 15mm dia including necessary bend and socket etc. all complete as directed by Engineer In-Charge.	50.00	546.00	Nos	27,300.00
14.24	Providing and fixing 100 mm dia overhead shower (OHS-CHR-1661) jaquar make with shower arm (SHA-CHR-479L300S) 20mm dia & 300mm long with 90 degree bend for wall etc. all complete as directed by Engineer In-Charge.	50.00	3,148.00	Nos	1,57,400.00
14.25	Providing and fixing heavy duty jet spray set of approved brand with necessary pipe and brass chromium plated sprayers for western & indian type water closets etc. all complete as directed by Engineer In-Charge.	150.00	738.00	Nos	1,10,700.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
14.26	Providing and fixing Jet spray/Hand Shower (ALD-CHR-563) jaquar make, 1m long PVC tube & wall hook for western & indian type water closets etc. all complete as directed by Engineer In-Charge.	50.00	1,667.00	Nos	83,350.00
14.27	Providing and fixing Jet spray/Hand Shower with ABS Body (ALD-CHR-587) jaquar make, with 8mm dia & 1.20m long spirochrome flex tube & wall hook for western & indian type water closets etc. all complete as directed by Engineer In-Charge.	50.00	1,609.00	Nos	80,450.00
14.28	Providing and fixing white glazed earthenware wash hand basin of 55cm x 40cm size including one cold water pillar tap of jaquar make, brackets, stop tap of jaquar make and necessary pipe connection including PVC pipe upto trap etc. all complete as directed by Engineer In-Charge.	20.00	5,134.00	Nos	1,02,680.00
14.29	Providing & fixing Cera make Platform top wash hand basin of size 602mm x 433mm including vertical pillar cock of jaquar make, stop cock jaquar make, waste coupling, waste Pipe, Connection Pipe, etc. all complete as directed by Engineer In-Charge.	5.00	11,270.00	Nos	56,350.00
14.30	Providing & fixing below counter wash hand basin of size 550mm x 445mm (IITB approved brand) including one cold water pillar tap of jaquar make, brackets, stop tap of jaquar make and necessary pipe connection including PVC pipe upto trap etc. all complete as directed by Engineer In-Charge.	150.00	6,093.00	Nos	9,13,950.00
14.31	Providing and fixing white vitreous china flat back half stall urinal size 500mm X 290mm X 250mm of approved model including necessary fittings and fixtures such as L shaped hooks, S.S spreader and 40/50mm dia P.V.C outlet pipe with C.P waste-coupling etc. all complete as directed by Engineer In-Charge.	200.00	6,675.00	Nos	13,35,000.00
14.32	Providing and fixing white vitreous china Starwhite pastel urinal size 640mm X 370mm X 310mm of Hindware make (Model - new magnum), including necessary fittings and fixtures such as L-shaped hooks, S.S spreader and 40/50mm dia P.V.C outlet pipe with C.P waste-coupling etc. all complete as directed by Engineer In-Charge.	10.00	19,046.00	Nos	1,90,460.00
14.33	Providing and fixing white vitreous china flat back half stall urinal of hindware, Kohler, Jaguar make with sensor system including necessary fittings and fixtures such as L shaped hooks, S.S spreader and 40/50mm dia P.V.C outlet pipe with C.P waste-coupling including making cut out in walls and concealed outlet pipe up to the urinal pot with all required fittings and fixtures etc. all complete as directed by Engineer In-Charge.	5.00	24,608.00	Nos	1,23,040.00
14.34	Providing and fixing urinal sensor flush valve electrically or battery operated of Askon, hindware, Kohler, Jaguar make including making cut out in walls and concealed outlet pipe up to the urinal pot with all required fittings and fixtures etc. completed as directed by Engineer In-charge.	5.00	11,560.00	Nos	57,800.00
14.35	Providing and fixing 12mm thick frosted toughen glass or FRP partition/ High Pressure Laminates (HPL) Compact Board of greenlam/merino for urinal partition including making edge molding and polishing, fixing the glass over D type stainless steel hooks of approved quality, making necessary holes in glass etc. completed as directed by Engineer In-charge.	100.00	5,730.00	Nos	5,73,000.00
14.36	Providing and fixing European type wall mounted white glazed earthenware water closet pan of approved model including seat cover, cast iron soil and vent pipes upto the outside face of wall, 10 litres approved low level PVC flushing tank with all fittings and stop tap, brackets for fixing the low level flushing cistern, 32mm dia PVC heavy type flush pipe with fittings and clamps, cutting and making good walls and floors etc. all complete as directed by Engineer In-Charge.	50.00	8,575.00	Nos	4,28,750.00
14.37	Providing and fixing white vitreous china extended wall mounting water closet of size 780x370x690 mm of approved model including seat cover, providing & fixing white vitreous china cistern with dual flush fitting, of flushing capacity 3 litre/ 6 litre (adjustable to 4 litre/ 8 litres), including seat cover, and cistern fittings, nuts, bolts and gasket etc. all complete as directed by Engineer In-Charge.	20.00	14,199.36	Nos	2,83,987.20

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
14.38	Providing and fixing white vitreous china pedestal type water closet (European type) of approved model with ISI marked solid plastic seat cover and lid, 10 liter low level white P.V.C. flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required etc. all complete as directed by Engineer In-Charge.	20.00	6,168.13	Nos	1,23,362.60
14.39	Providing and fixing Orrisa type white glazed earthenware 580mm x 450mm water closet pan of approved model & colour including trap, cast iron upto the outside face of the wall including 100mm. diameter cast iron pipe / PVC plug bend, cement concrete bedding, 10 litres capacity approved low level PVC flushing tank with fittings, inlet pipe with stop tap, brackets, 32mm. diameter PVC flush pipe with fittings and clamps, making good the walls and floorsetc. all complete as directed by Engineer In-Charge. . (excluding waterproof brick bat coba)	100.00	6,406.55	Nos	6,40,655.00
14.40	Providing and fixing white color Low level 10 liters capacity PVC Dual flushing cistern with all fittings of approved model & inlet G.I. pipe with stop tap, brass chromium plated waste coupling and providing and fixing 32mm or required heavy duty PVC outlet bend pipe from flushing cistern upto the pan, 12mm dia PVC connection to the tank etc. all complete as directed by Engineer In-Charge.	50.00	3,133.00	Nos	1,56,650.00
14.41	Providing and fixing PVC low/high level flushing cistern with all fittings as approved by IITB inlet G.I. pipe with stop tap, providing and fixing 32mm or required heavy duty PVC outlet bend pipe from flushing cistern upto the w.c. pan, 15mm dia PVC connection to the tank etc. all complete as directed by Engineer In-Charge.	20.00	1,745.00	Nos	34,900.00
14.42	Providing and fixing bottle trap(ALD-CHR-769L300x190), jaquar make, 32mm size with 300mm & 190mm long wall connection pipes & wall flange & in proper allignment with washbasin outlet, leak proof joints including with all necessary washers etc. all complete as directed by Engineer In-Charge.	20.00	2,683.00	Nos	53,660.00
14.43	Providing and fixing Premium Soap Dish Holder of jaquar make, as per existing model, heavy type including necessary fittings and fixtures, removing the old damaged soap dish holder and cleaning the site etc. all complete as directed by Engineer In-Charge.	20.00	1,079.00	Nos	21,580.00
14.44	Providing and fixing Premium toilet paper holder of jaquar make (CPA-CHR-1153), heavy type including necessary fittings and fixtures, removing the old damaged soap dish holder and cleaning the site etc. all complete as directed by Engineer In-Charge.	20.00	1,828.00	Nos	36,560.00
14.45	Providing and fixing 600x120x5 mm glass shelf with edges round off, supported on anodised aluminium angle frame with C.P. brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc. all complete as directed by Engineer In-Charge.	10.00	1,025.73	Nos	10,257.30
14.46	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink with drain board of size 510x1040 mm bowl depth 250 mm with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required etc. all complete as directed by Engineer In-Charge.	5.00	6,575.25	Nos	32,876.25
14.47	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink without drain board of size 610x510 mm bowl depth 200 mm with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required etc. all complete as directed by Engineer In-Charge.	5.00	4,677.35	Nos	23,386.75
14.48	Providing and fixing stainless steel sink having bowl size 560 x410x254mm of nirali make inside platform or on brackets including UPVC waste coupling pipe upto outlet pipe, steel waste coupling etc. all complete as directed by Engineer In-Charge.	5.00	5,837.00	Nos	29,185.00
14.49	Providing and fixing 10cm dia P.V.C. nahani trap fixed with S.S grating and rim, P.V.C. plug bend and piece of P.V.C. pipe upto plug bend etc. all complete as directed by Engineer In-Charge.	50.00	327.00	Nos	16,350.00
14.50	Providing and fixing 10cm cast iron nahani trap with SS jali, plug bend and piece of pipe upto plug bend etc. all complete as directed by Engineer In-Charge.	300.00	1,030.00	Nos	3,09,000.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
14.51	Providing and fixing 15cm x10cm Salt Glazed Stoneware Gully Trap in cement concrete 1:1.5:3 outside the building including connecting to PVC waste water pipe ,brick masonry chamber with cast iron lid grating for the gully trap etc. all complete as directed by Engineer In-Charge.	30.00	2,588.41	Nos	77,652.30
14.52	Providing and fixing stainless steel 304 grade cockroach trap of approved pattern, quality and make with all required fittings and fixtures etc. all complete as directed by Engineer In-Charge.	100.00	616.00	Nos	61,600.00
14.53	Providing and fixing P.V.C. soil / waste water pipes of 40mm ('A' class- 4kgf) including with P.V.C. plug bend, tees, single/double sockets and necessary fittings including fixing the pipe on wall or in the ground using approved M.S cleats projecting from face of wall and fixing with clips of approved quality and number, filling the joints including necessary scaffolding etc. all complete as directed by Engineer In-charge. (Make-Finolex/Kissan/Prince)	200.00	290.00	Rmt	58,000.00
14.54	Providing and fixing P.V.C. soil / waste water pipes of 50mm ('A' class- 4kgf) including with P.V.C. plug bend, tees, single/double sockets and necessary fittings including fixing the pipe on wall or in the ground using approved M.S cleats projecting from face of wall and fixing with clips of approved quality and number, filling the joints including necessary scaffolding etc. all complete as directed by Engineer In-charge. (Make-Finolex/Kissan/Prince)	300.00	334.00	Rmt	1,00,200.00
14.55	Providing and fixing P.V.C. soil / waste water pipes of 75mm ('A' class- 4kgf) including with P.V.C. plug bend, tees, single/double sockets and necessary fittings including fixing the pipe on wall or in the ground using approved M.S cleats projecting from face of wall and fixing with clips of approved quality and number, filling the joints including necessary scaffolding etc. all complete as directed by Engineer In-charge. (Make-Finolex/Kissan/Prince)	500.00	425.00	Rmt	2,12,500.00
14.56	Providing and fixing P.V.C. soil / waste water pipes of 100mm ('A' class-4kgf) including with P.V.C. plug bend, tees, single/double sockets and necessary fittings including fixing the pipe on wall or in the ground using approved M.S cleats projecting from face of wall and fixing with clips of approved quality and number, filling the joints including necessary scaffolding etc. all complete as directed by Engineer In-charge. (Make-Finolex/Kissan/Prince)	500.00	547.00	Rmt	2,73,500.00
14.57	Providing and fixing P.V.C. rain water pipes 160mm outer dia. conforming to I.S. including proper rain water receiving recess with P.V.C. plug bend, necessary fittings such as offsets, shoes including fixing the pipe on wall using approved M.S brackets projecting 25mm to 40mm from face of wall , filling the joints using rubber gasket with solvent cement and properly resting the shoe of pipes on C.C. or masonry blocks, including necessary working platform, and maintenance for 3 years for any type of leakages or dislocation of pipes. All the PVC fittings and additional two piece socket clips shall be got approved from Engineer In-charge etc. all complete as directed by Engineer In-Charge. (Make-Finolex/Kissan/Prince)	200.00	667.00	Rmt	1,33,400.00
14.58	Providing hoisting and fixing in position ISI mark plastic storage water tank of BMC approved plastic (Syntex/ Infra / any approved make) overhead tank on roof of mess/ kitchen/buildings at any height with all fitting & fixtures, fixing the MS ladder with concrete foundation & steel covers with locking arrangement as per BMC approved B.M.C pattern, copper ball float of 1" size, connecting the tank (inlet and outlet) with the existing water line, providing and fixing over flow pipe 25mm dia with mosquito proof brass coupling using required fitting / fixtures etc. all complete as directed by Engineer In-Charge.(The capacity of tanks will be of 1000/2000/3000/5000L)	10,000.00	14.00	per litre	1,40,000.00
14.59	Providing & fixing C. P. Three way taps heavy type, weight not less than 400gm including necessary fittings and fixtures etc. all complete as directed by Engineer In-Charge.	5.00	1,699.00	Nos	8,495.00
14.60	Providing and fixing Towel Rack 600mm Long with Lower Hangers, Stainless Steel of jaquar make, heavy type including necessary fittings and fixtures etc. all complete as directed by Engineer In-charge.	10.00	3,455.00	Nos	34,550.00
14.61	Providing and fixing Towel ring, Stainless Steel of jaquar make, heavy type including necessary fittings and fixtures etc. all complete as directed by Engineer In-charge.	10.00	1,509.00	Nos	15,090.00
14.62	Providing and fixing ISI approved wall mixer (Jaquar/Hindware) system as per existing model including all fitting and fixtures etc. all complete as directed by Engineer In-Charge.	50.00	6,504.00	Nos	3,25,200.00
14.63	Providing & fixing granite counter wash basin of size upto 900 X 450 for counter including oval shape wash basin of size 22" x 16" with Jaquar make Pillar tap, CP bottle trap, connector, angle cock complete including kaddpa supports, moulding, fascia patti etc. all complete as directed by Engineer In-Charge.	1.00	21,092.00	Nos	21,092.00
14.64	Providing & fixing 35 mm dia 300mm long -steel grab bar (ACN-CHR-1101S) for Differently abled toilets including necessary fittings and fixtures etc. all complete as directed by Engineer In-charge.	20.00	2,160.00	Nos	43,200.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
14.65	Providing and fixing toilet partition of Make MERINO ATHENA LITE SERIES SS 2 I05MM as per following specification: Thickness of Compact Laminate : 12mm, Color of HPL Boards: Single Standard Compact Color enclosed panel with shoe box Size of Cubicle : As per Drawing, ENCLOSED UNIT Door Size : 1820mm (H) x 900-600mm (W) with required size divider Size Including bottom Gap of 150mm. Accessories: Standard - Merino Make Stainless Steel - 304 Gracie accessories) a) SS "U" Channel, b) SS Door Stopper Channel ,c) Aluminum H Section Top Rail and MS Wall Bracket cl) SS Coat Hook, e) SS Privacy Thumb turn c/w Occupancy Indicator, f) SS Door Knob, g) SS Spring Loaded Butt Hinges with Cover, h) Rubber Lining for Door Stopper, i) Screws & Wall Plugs NOTE - Anodized Parts Visual Inspection Criteria is "From 3 Meter Distance" As per EN STD. - 12373-SPECIAL NOTE - Warpage Criteria is 3.0 mm/1000mm for MRS panels as per EN standard- 438 all complete as per manufacturers specification including necessary tools,plants & transportation etc. all complete as directed by Engineer In-charge.	5.00	49,115.00	Nos	2,45,575.00
14.66	Providing and fixing in position doors made of anti-virus, anti-bacterial, heat, water, chemical, scratch and impact resistant 12mm thick solid compact laminate panels of approved make with test certificates. Finish of the compact laminate shall be suede, finished with approved texture/shade as per the detail drawings and as per IS 2046. This also includes providing and fixing in position necessary hardware of aluminum, nylon polyamide as per approved manufacturer's specifications and Architect's instructions like (1) Aluminum "D-Post" Channel, (2) Nylon Coat Hook, (3) Nylon WC Lock set c/w Occupancy Indicator (4) Nylon Door Knob (5) Nylon Gravity Hinges Left/Right -Gravity to Close (6) Nylon D-Post End Cap (7) Rubber Lining for Door Stopper (8) Screws & wall plugs etc. All screws will of 316 Grade in stainless steel with satin finish. All complete as per approved manufacturer's specifications and directions of the Engineer in charge.	20.00	15,069.00	Sqm	3,01,380.00
14.67	Providing and fixing 6 x 6 inch floor drain channel of approved make in line and level including necessary fittings and fixtures etc. all complete as directed by Engineer In-charge.	5.00	2,486.00	Nos	12,430.00
14.68	Providing and fixing Floor drain channel of 4 inch width of approved make as per requirement length including necessary fittings & fixtures etc. all complete as directed by Engineer In-charge.	10.00	6,694.00	Rmt	66,940.00
				Total 14	99,83,074.40
15	Drainage works				
15.01	Providing and fixing precast RCC cover (heavy) with RCC frame for manhole/inspection chamber/drain cover etc. Manufactured by K.K. Industries or as approved including removing the existing damaged cover and taking away the same out of IIT campus etc. All complete as directed by Engineer In-charge.	2,000.00	50.00	Kg	1,00,000.00
15.02	Providing and fixing FRP inspection chamber cover (heavy duty) with frame of clear opening size not less than 900mm X 600mm, manufactured by KKManholes or approved make including removing the existing damaged cover and taking away the same out of IIT campus and making all necessary arrangements to make the area accessible for work and taking all necessary safety precautions during execution of work etc all complete as directed by Engineer In-charge.	5.00	15,702.00	Nos	78,510.00
15.03	Providing and fixing FRP inspection chamber cover (heavy duty) with frame of clear opening size not less than 600mm X 450mm, manufactured by KK Manholes or approved make including removing the existing damaged cover and taking away the same out of IIT campus and making all necessary arrangements to make the area accessible for work and taking all necessary safety precautions during execution of work etc all complete as directed by Engineer In-charge.	5.00	9,882.00	Nos	49,410.00
15.04	Providing and fixing FRP inspection chamber cover (heavy duty) with frame of clear opening size not less than 900mm X 450mm, manufactured by K.K.Manholes or approved make including removing the existing damaged cover and taking away the same out of IIT campus and making all necessary arrangements to make the area accessible for work and taking all necessary safety precautions during execution of work etc all complete as directed by Engineer In-charge.	5.00	13,134.00	Nos	65,670.00
15.05	Providing and fixing FRP Manhole cover (heavy duty) with frame of clear opening size not less than 22 inches dia., manufactured by K.K.Manholes or approved make including removing the existing damaged cover and taking away the same out of IIT campus and making all necessary arrangements to make the area accessible for work and taking all necessary safety precautions during execution of work etc all complete as directed by Engineer In-charge.	5.00	11,328.00	Nos	56,640.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
15.06	Providing and fixing 600mm x 600mm rectangular Heavy duty FRP grating covers with frame for inspection chamber / manhole / gulley trap/ over storm water drain and other required places manufactured by M/s.KK or IITB approved make including closing the gaps between frame and surface with cement mortar all complete as directed.	5.00	17,741.00	Nos	88,705.00
15.07	Providing and fixing 900mm x 450mm rectangular Heavy duty FRP grating covers with frame for inspection chamber / manhole / gulley trap/ over storm water drain and other required places manufactured by M/s.KK or IITB approved make including closing the gaps between frame and surface with cement mortar all complete as directed.	5.00	18,593.00	No.	92,965.00
15.08	Providing lowering, and laying 300mm dia NP2 class R.C.C. spun pipes conforming to as per relevant IS code of 300 mm dia (n.b) with necessary collars, laid to correct grade, alignment and levels at all depth including cutting to required length, jointing with hemp yarn and cement mortar 1:2 caulking the joints, finishing, curing etc all complete as directed by Engineer In-Charge.	10.00	941.28	Rmt	9,412.80
15.09	Providing lowering, and laying NP2 class R.C.C. spun pipes conforming to as per relevant IS code of 450 mm dia (n.b) with necessary collars, laid to correct grade, alignment and levels at all depth including cutting to required length, providing and applying a coat of black bituminous paint to inside surface, water tight jointing with hemp yarn and cement mortar 1:1 caulking the joints, finishing, curing, testing the joints hydraulically etc all complete as directed by Engineer In-Charge.	10.00	1,534.52	Rmt	15,345.20
15.10	Providing lowering, and laying NP2 class R.C.C. spun pipes conforming to as per relevant IS code of 600 mm dia (n.b) with necessary collars, laid to correct grade, alignment and levels at all depth including cutting to required length, providing and applying a coat of black bituminous paint to inside surface, water tight jointing with hemp yarn and cement mortar 1:1 caulking the joints, finishing, curing, testing the joints hydraulically etc. complete as directed by Engineer In-charge.	10.00	2,123.78	Rmt	21,237.80
15.11	Providing lowering, and laying NP2 class R.C.C. spun pipes conforming to IS 458 of 900 mm dia (n.b) with necessary collars, laid to correct grade, alignment and levels at all depth including cutting to required length, providing and applying a coat of black bituminous paint to inside surface, water tight jointing with hemp yarn and cement mortar 1:1 caulking the joints, finishing, curing, testing the joints hydraulically etc. complete as directed.	10.00	4,497.53	Rmt	44,975.30
15.12	Providing and fixing PE 100 & PN 6 having 100mm(ID) dia. ISI approved HDPE pipes manufactured by ARHAM Engineering/ BERLIA /NOCIL / PIL with wall thickness of 6 mm to 8mm for taking sewage waste water with all required fittings such as bend, elbows etc. with proper line and gradient connecting all joints with fusion butt welding by using suitable welding machine or hot plate, testing the line & joint as per manufacturer specification etc. all complete as directed by Engineer In-charge.	10.00	1,039.00	Rmt	10,390.00
15.13	Providing and fixing PE 100 & PN 6 having 150 mm dia.(ID) ISI approved HDPE pipes ARHAM Engineering/ BERLIA /NOCIL / PIL with wall thickness of 6 mm to 8mm for taking sewage waste water with all required fittings such as bend, elbows etc. with proper line and gradient connecting all joints with fusion butt welding by using suitable welding machine or hot plate, testing the line & joint as per manufacturer specification etc. all complete as directed by Engineer In-charge.	50.00	1,054.00	Rmt	52,700.00
15.14	Providing and fixing PE 100 & PN 6 having 225mm dia.(OD) ISI approved HDPE pipes manufactured by ARHAM Engineering/ BERLIA /NOCIL / PIL with wall thickness of 15mm for drainage pipe line with all required fittings etc. with proper line and gradient connecting all joints with fusion butt welding by using suitable welding machine or hot plate etc, testing the line & joints as per manufacturer specification or as per direction of Engineer In-charge etc. all complete as directed by Engineer In-charge.	100.00	1,833.00	Rmt	1,83,300.00
15.15	Providing and fixing PE 100 & PN 6 having 315mm dia.(OD) ISI approved HDPE pipes manufactured by ARHAM Engineering/ BERLIA /NOCIL / PIL with wall thickness of 15mm for drainage pipe line with all required fittings etc. with proper line and gradient connecting all joints with fusion butt welding by using suitable welding machine or hot plate etc, testing the line & joints as per manufacturer specification or as per direction of Engineer In-charge etc. all complete as directed by Engineer In-charge.	20.00	3,170.00	Rmt	63,400.00
15.16	Providing and constructing Brick Masonry Inspection Chamber 90 cm x 45 cm and 45 cm to 90 cm in depth including necessary excavation, cement concrete in M-20 foundation, 23 cm thick channels, brick masonry, plastering from inside and outside as required in cement mortar 1:3 and airtight RCC cover with frame work fixed in cement concrete 1:1.5:3 etc all complete as directed by Engineer In-charge.	10.00	11,268.00	Nos	1,12,680.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
15.17	Providing and constructing Brick Masonry Inspection Chamber 90 cm x 45 cm and 90 cm to 150 cm in depth including necessary excavation, cement concrete in M-20 foundation, 23 cm thick channels, brick masonry, plastering from inside and outside as required in cement mortar 1:3 and airtight RCC cover with frame work fixed in cement concrete 1:1.5:3 etc all complete as directed by Engineer In-charge.	10.00	15,553.00	Nos	1,55,530.00
15.18	Constructing conical manhole of size 900mm internal diameter at bottom and 525mm internal diameter at top up to depth 1500 mm with brick masonry circular wall 340mm thick in cement mortar 1:6 over a bed of 230mm thick cement concrete M-20 (1:1½:3) foundation square shape in plan with 150mm minimum offset beyond masonry wall plastering with cement mortar 1:4, 20mm thick on internal, external and all exposed faces, finished with floating coat of neat cement, including necessary cement concrete M-20 (1:1½:3) for forming benching and channel, providing and fixing C.I. steps weighing not less than 3.50 Kg. fixing top one at 450mm from top level and remaining steps at 300mm vertical spacing in staggered fashion, including providing and fixing precast R.C.C. frame and cover of thickness 100/150mm, heavy duty, manufactured by K.K.Manholes or approved make as approved by Engineer Incharge and fixing with cement concrete coping M-20 (1:1½ :3) and plastering complete including necessary dewatering etc.all complete as directed by Engineer In-charge.	5.00	30,379.00	Nos	1,51,895.00
15.19	Extra for depth beyond 1500mm in cylindrical shape of 900mm diameter with 340mm thick brick masonry wall in cement mortar 1:6 providing and fixing C.I. steps, plastering, finishing, dewatering etc.all complete as directed by Engineer In-charge.	5.00	12,855.00	Rmt	64,275.00
15.20	Constructing conical manhole of size 1500mm internal diameter at bottom and 525mm internal diameter at top in conical shape upto 1500mm depth with brick masonry circular wall 340mm thick and below 1500mm to 1800mm depth in cylindrical shape wall with 450mm thick in cement mortar 1:6 over abed of 230mm thick cement concrete M-20 (1:1½:3) foundation square shape in plan with 150mm minimum offset beyond masonry wall plastering with cement mortar 1:4, 20mm thick on internal, external and all exposed faces, finished with floating coat of neat cement, including necessary cement concrete M-20 (1:1½ :3) for forming benching and channel, providing and fixing C.I. steps weighing not less than 3.50 Kg. fixing top one at 450mm from top level and remaining steps at 300mm vertical spacing in staggered fashion, including providing and fixing precast R.C.C. frame and cover of thickness 100/150mm, heavy duty, manufactured by K.K.Manholes or approved make as approved by Engineer Incharge and fixing with cement concrete coping M-20 (1:1½ :3) and plastering complete including necessary dewatering etc.all complete as directed by Engineer In-charge. for Man holes of depth up to 1800mm.	5.00	49,197.00	Nos	2,45,985.00
15.21	Extra for depth beyond 1500mm in cylindrical shape of 1500mm diameter with 450mm thick brick masonry wall in cement mortar 1:6 providing and fixing C.I. steps, plastering, finishing, dewatering etc. all complete as directed by Engineer In-charge.	5.00	28,346.00	Rmt	1,41,730.00
15.22	Making necessary connection / disconnection to existing chamber / branch line / tank or as specified etc. with making necessary hole / cutting etc. & remaking the same etc.all competed as directed by Engineer In-charge.	10.00	944.00	Nos	9,440.00
15.23	Raising rectangular manhole/chamber cover and frame of any size slab to required level including dismantling existing slab and making good the damage as required etc complete as directed by Engineer In-charge.	5.00	2,485.50	Nos	12,427.50
15.24	Raising circular manhole cover and frame of any size slab to required level including dismantling existing slab and making good the damage as required etc complete as directed by Engineer In-charge.	5.00	3,674.53	Nos	18,372.65
15.25	Cleaning and removing of sludge by manually or by hiring suction truck from Manholes/septic tank at Hostel Area up to 4.0m depth including removal of dirt,sludge including making arrangements for disposing the sludge in low lying area/at suitable location by excavating pit ,disposing sludge in the pit and backfilling of soil in excavated pit etc. complete as directed by Engineer In-charge.	5.00	10,000.00	Nos	50,000.00
				Total 15	18,94,996.25
16	Watersupply works				

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
16.01	Providing and laying 15 mm dia nominal bore I.S.I. approved 'C class galvanized iron pipes having weight as per IS specification to walls, ceilings, floors and in trenches in open /concelaed manner with screwed sockets, back nuts, elbows, tees, reducers, enlargers, plugs, clamps etc. including necessary drilling in holes in walls / slabs etc. and remaking good the demolished portion to restore the same in original condition neatly and applying zinc primer and two coats of synthetic enamel paint painting including necessary backfilling, working platform etc. all complete as directed by Engineer In-charge. (Make: TATA / Jindal)	1,500.00	346.86	Rmt	5,20,290.00
16.02	Providing and laying 20 mm dia nominal bore I.S.I. approved 'C class galvanized iron pipes having weight as per IS specification to walls, ceilings, floors and in trenches in open /concelaed manner with screwed sockets, back nuts, elbows, tees, reducers, enlargers, plugs, clamps etc. including necessary drilling in holes in walls / slabs etc. and remaking good the demolished portion to restore the same in original condition neatly and applying zinc primer and two coats of synthetic enamel paint including necessary working platform etc. all complete as directed by Engineer In-charge. (Make: TATA / Jindal)	300.00	413.98	Rmt	1,24,194.00
16.03	Providing and laying 25 mm dia nominal bore I.S.I. approved 'C class galvanized iron pipes having weight as per IS specification to walls, ceilings, floors etc in open/concelaed manner with screwed sockets, back nuts, elbows, tees, reducers, enlargers, plugs, clamps etc. including necessary drilling in holes in walls / slabs etc. and remaking good the demolished portion to restore the same in original condition neatly and applying zinc primer and two coats of synthetic enamel paint including necessary backfilling, working platform etc. all complete as directed by Engineer In-charge. (Make: TATA / Jindal)	1,000.00	522.28	Rmt	5,22,280.00
16.04	Providing and laying 32 mm dia nominal bore I.S.I. approved 'C class galvanized iron pipes having weight as per IS specification to walls, ceilings, floors and in trenches in open/concelaed manner with screwed sockets, back nuts, elbows, tees, reducers, enlargers, plugs, clamps etc. including necessary drilling in holes in walls / slabs etc. and remaking good the demolished portion to restore the same in original condition neatly and applying zinc primer and two coats of synthetic enamel paint including necessary backfilling working platform etc. all complete as directed by Engineer In-charge. (Make: TATA / Jindal)	50.00	631.43	Rmt	31,571.50
16.05	Providing and laying 40 mm dia nominal bore I.S.I. approved 'C class galvanized iron pipes having weight as per IS specification to walls, ceilings, floors and in trenches in open/concelaed manner with screwed sockets, back nuts, elbows, tees, reducers, enlargers, plugs, clamps etc. including necessary drilling in holes in walls / slabs etc. and remaking good the demolished portion to restore the same in original condition neatly and applying zinc primer and two coats of synthetic enamel paint including necessary backfilling working platform etc. all complete as directed by Engineer In-charge. (Make: TATA / Jindal)	100.00	768.61	Rmt	76,861.00
16.06	Providing and laying 50 mm dia nominal bore I.S.I. approved 'C class galvanized iron pipes having weight as per IS specification to walls, ceilings, floors and in trenches in open/concelaed manner with screwed sockets, back nuts, elbows, tees, reducers, enlargers, plugs, clamps etc. including necessary drilling in holes in walls / slabs etc. and remaking good the demolished portion to restore the same in original condition neatly and applying zinc primer and two coats of synthetic enamel paint including necessary backfilling, working platform etc. all complete as directed by Engineer In-charge. (Make: TATA / Jindal)	150.00	992.45	Rmt	1,48,867.50
16.07	Providing and laying 65 mm dia nominal bore I.S.I. approved 'C class galvanized iron pipes having weight as per IS specification to walls, ceilings, floors and in trenches in open/concelaed manner with screwed sockets, back nuts, elbows, tees, reducers, enlargers, plugs, clamps etc. including necessary drilling in holes in walls / slabs etc. and remaking good the demolished portion to restore the same in original condition neatly and applying zinc primer and two coats of synthetic enamel paint including necessary backfiiling, working platform etc. all complete as directed by Engineer In-charge. (Make: TATA / Jindal)	10.00	848.79	Rmt	8,487.90

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
16.08	Providing and laying 80 mm dia nominal bore I.S.I. approved 'C' class galvanized iron pipes having weight as per IS specification to walls, ceilings, floors and in trenches in open/concealed manner with screwed sockets, back nuts, elbows, tees, reducers, enlargers, plugs, clamps etc. including necessary drilling in holes in walls / slabs etc. and remaking good the demolished portion to restore the same in original condition neatly and applying zinc primer and two coats of synthetic enamel paint including necessary backfilling, working platform etc. all complete as directed by Engineer In-charge. (Make: TATA / Jindal)	200.00	986.15	Rmt	1,97,230.00
16.09	Providing and fixing concealed G.I. Pipes 15 mm dia nominal bore complete with G.I. fittings and clamps, making good the walls etc. including painting with anti corrosive bitumastic paint, cutting chases and making good the wall etc. all complete as directed by Engineer In-charge. (Make: TATA / Jindal)	50.00	549.50	Rmt	27,475.00
16.10	Providing and fixing concealed G.I. Pipes 20 mm dia nominal bore complete with G.I. fittings and clamps, making good the walls etc including painting with anti corrosive bitumastic paint, cutting chases and making good the wall etc. all complete as directed by Engineer In-charge. (Make: TATA / Jindal)	50.00	601.33	Rmt	30,066.50
16.11	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes 15mm nominal dia. exposed/concealed, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement, chase cutting/ trenching, refiling, making good & testing of joints, including fixing the pipe with clamps at 1.00 m spacing, working platform etc complete as per direction of Engineer in Charge. (price is inclusive of all accessories such as brass/plain socket, elbow, tee, union, etc but excluding valves)	200.00	271.51	Rmt	54,302.00
16.12	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes 20mm nominal dia. exposed/concealed, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement, chase cutting/ trenching, refiling, making good & testing of joints, including fixing the pipe with clamps at 1.00 m spacing, working platform etc complete as per direction of Engineer in Charge. (price is inclusive of all accessories such as brass/plain socket, elbow, tee, union, etc but excluding valves)	50.00	317.14	Rmt	15,857.00
16.13	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes 25mm nominal dia. exposed/concealed, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement, chase cutting/ trenching, refiling, making good & testing of joints, including fixing the pipe with clamps at 1.00 m spacing, working platform etc complete as per direction of Engineer in Charge. (price is inclusive of all accessories such as brass/plain socket, elbow, tee, union, etc but excluding valves)	200.00	380.14	Rmt	76,028.00
16.14	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes 32mm nominal dia. exposed/concealed, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement, chase cutting/ trenching, refiling, making good & testing of joints, including fixing the pipe with clamps at 1.00 m spacing, working platform etc complete as per direction of Engineer in Charge. (price is inclusive of all accessories such as brass/plain socket, elbow, tee, union, etc but excluding valves)	100.00	491.09	Rmt	49,109.00
16.15	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes 40mm nominal dia. exposed/concealed, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement, chase cutting/ trenching, refiling, making good & testing of joints, including fixing the pipe with clamps at 1.00 m spacing, working platform, etc complete as per direction of Engineer in Charge. (price is inclusive of all accessories such as brass/plain socket, elbow, tee, union, etc but excluding valves)	50.00	665.47	Rmt	33,273.50
16.16	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes 50mm nominal dia. exposed/concealed, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement, chase cutting/ trenching, refiling, making good & testing of joints, including fixing the pipe with clamps at 1.00 m spacing, working platform, etc complete as per direction of Engineer in Charge. (price is inclusive of all accessories such as brass/plain socket, elbow, tee, union, etc but excluding valves)	100.00	884.34	Rmt	88,434.00
16.17	Providing and fixing 15mm dia. nominal bore gun metal gate valve with C.I. wheel of approved quality (screwed end) including necessary socket union/nut etc all complete as directed by Engineer In-charge.	100.00	581.00	Nos	58,100.00
16.18	Providing and fixing 20mm dia. nominal bore gun metal gate valve with C.I. wheel of approved quality (screwed end) including necessary socket union/nut etc all complete as directed by Engineer In-charge.	30.00	511.16	Nos	15,334.80
16.19	Providing and fixing 25mm dia. nominal bore gun metal gate valve with C.I. wheel of approved quality (screwed end) including necessary socket union/nut etc all complete as directed by Engineer In-charge.	150.00	589.21	Nos	88,381.50

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
16.20	Providing and fixing 32mm dia. nominal bore gun metal gate valve with C.I. wheel of approved quality (screwed end) including necessary socket union/nut etc all complete as directed by Engineer In-charge.	50.00	652.83	Nos	32,641.50
16.21	Providing and fixing 40mm dia. nominal bore gun metal gate valve with C.I. wheel of approved quality (screwed end) including necessary socket union/nut etc all complete as directed by Engineer In-charge.	50.00	782.05	Nos	39,102.50
16.22	Providing and fixing 50mm dia. nominal bore gun metal gate valve with C.I. wheel of approved quality (screwed end) including necessary socket union/nut etc all complete as directed by Engineer In-charge.	50.00	971.91	Nos	48,595.50
16.23	Providing and fixing 65mm dia. nominal bore gun metal gate valve with C.I. wheel of approved quality (screwed end) including necessary socket union/nut etc all complete as directed by Engineer In-charge.	50.00	1,649.26	Nos	82,463.00
16.24	Providing and fixing 80mm dia. nominal bore gun metal gate valve with C.I. wheel of approved quality (screwed end) including necessary socket union/nut etc all complete as directed by Engineer In-charge.	50.00	2,465.67	Nos	1,23,283.50
16.25	Providing and fixing 15 mm dia nominal bore brass stop cock of approved quality with required fittings and fixtures etc all complete as directed by Engineer In-charge.	200.00	334.41	Nos	66,882.00
16.26	Providing and fixing 20 mm dia nominal bore brass stop cock of approved quality with required fittings and fixtures etc all complete as directed by Engineer In-charge.	50.00	358.98	Nos	17,949.00
16.27	Providing and fixing 25mm dia. gun metal pressure reducing valve I.S.I. approved heavy type including removing existing pressure reducing valve , with all required fittings etc. all complete as directed by Engineer In-charge.	5.00	4,288.00	Nos	21,440.00
16.28	Providing and fixing 32mm dia. gun metal pressure reducing valve I.S.I. approved heavy type including removing existing pressure reducing valve , with all required fittings etc. all complete as directed by Engineer In-charge.	5.00	4,840.00	Nos	24,200.00
16.29	Providing and laying temporary loop connection in any type of building to main water supply inlet and outlet of water tank using 'C' class GI pipes of any dia. With all fittings like elbows, tees, reducers, plugs, clamps etc. including other connections and commissioning the water supply line including working platform if required and remaking to original connections after repair etc. all complete as directed by Engineer In-charge.	5.00	6,019.00	per job	30,095.00
16.30	Providing and laying temporary loop connection to main water supply inlet and outlet of water tank with CPVC pipe of any dia elbows, tees, reducers, plugs, clamps etc. including other connections and commissioning the water supply line including working platform if required and remaking to original connections after repair etc. all complete as directed by Engineer In-charge.	5.00	4,130.00	per job	20,650.00
16.31	Providing and fixing 15mm dia ball valve of ISI mark (Brass) including necessary socket union/nut etc all complete as directed by Engineer In-charge.	100.00	385.16	Nos	38,516.00
16.32	Providing and fixing 20mm dia ball valve of ISI mark (Brass) including necessary socket union/nut etc all complete as directed by Engineer In-charge.	50.00	437.84	Nos	21,892.00
16.33	Providing and fixing 25mm dia ball valve of ISI mark (Brass) including necessary socket union/nut etc all complete as directed by Engineer In-charge.	100.00	439.31	Nos	43,931.00
16.34	Providing and fixing 40mm dia ball valve of ISI mark (Brass) including necessary socket union/nut etc all complete as directed by Engineer In-charge.	30.00	2,985.00	Nos	89,550.00
16.35	Providing and fixing 50mm dia ball valve of ISI mark (Brass) including necessary socket union/nut etc all complete as directed by Engineer In-charge.	50.00	3,566.00	Nos	1,78,300.00
16.36	Providing and fixing 25mm dia. nominal bore gun metal non-return valve (Horizontal / Vertical) with C.I. wheel of approved quality (screwed end) including necessary socket, union/nut etc all complete as directed by Engineer In-charge.	10.00	590.82	Nos	5,908.20
16.37	Providing and fixing 32mm dia. nominal bore gun metal non-return valve (Horizontal / Vertical) with C.I. wheel of approved quality (screwed end) including necessary socket, union/nut etc all complete as directed by Engineer In-charge.	10.00	804.91	Nos	8,049.10
16.38	Providing and fixing 40mm dia. nominal bore gun metal non-return valve (Horizontal / Vertical) with C.I. wheel of approved quality (screwed end) including necessary socket, union/nut etc all complete as directed by Engineer In-charge.	5.00	1,074.20	Nos	5,371.00
16.39	Providing and fixing 50mm dia. nominal bore gun metal non-return valve (Horizontal / Vertical) with C.I. wheel of approved quality (screwed end) including necessary socket, union/nut etc all complete as directed by Engineer In-charge.	5.00	1,368.09	Nos	6,840.45
16.40	Providing and fixing 65mm dia. nominal bore gun metal non-return valve (Horizontal / Vertical) with C.I. wheel of approved quality (screwed end) including necessary socket, union/nut etc all complete as directed by Engineer In-charge.	5.00	2,169.36	Nos	10,846.80
16.41	Providing and fixing 80mm dia. nominal bore gun metal non-return valve (Horizontal / Vertical) with C.I. wheel of approved quality (screwed end) including necessary socket, union/nut etc all complete as directed by Engineer In-charge.	5.00	3,649.82	Nos	18,249.10
				Total 16	31,00,898.85
17	Waterproofing works				

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
17.01	Providing waterproof bedding for flooring of bath and W.C. 25mm thick in cement mortar 1:3 using waterproofing compound 2% by weight of cement or as per manufacturer's specification including leveling, curing etc. all complete as directed by Engineer In-charge.	1,000.00	433.00	Sqm	4,33,000.00
17.02	Providing waterproof plaster in WC 20mm thick for in cement mortar 1:3 with neat finishing, floating using waterproofing compound at the rate of 2% by weight of cement or as per manufacturer's specifications including leveling, curing etc. all complete as directed by Engineer In-charge.	1,000.00	563.00	Sqm	5,63,000.00
17.03	Providing and laying water proofing cement concrete flooring to terrace upto any height to average 50mm thick with 1:2:3 cement concrete laid to proper level and slope using silt free clear river sand including compaction, filling joints, adding recommended waterproofing admixtures @ 2% by weight of cement or as per manufacturer's specification, finishing the top surfaces with broken china mosaic (broken piece of glazed tiled) of approved colour & pattern including neat cement float, testing the roof by ponding with water for 14 days, providing waterproofing guarantee/warranty for 3 (three) years in requisite (Rs. 500/-) non judicial stamp paper in favour of IITB etc. all complete as directed by Engineer In-charge.	100.00	1,141.00	Sqm	1,14,100.00
17.04	Providing and laying waterproofing cement concrete (IPS) at any level, over inside slab, etc., as directed, to average 50mm thick with 1:1.5:2 cement concrete laid to proper level and slope using silt free clear river sand including compaction, filling joints, adding recommended waterproofing admixtures as per manufacturer's specifications, marking false marks as directed to give appearances of tiles of 30cm x 30cm or other approved size laid diagonally / square, finishing with extra cement in any colour as directed, testing the treatment by ponding with water for 14 days, providing waterproofing guarantee/warranty for 5 (five) years in requisite (Rs. 500/-) non judicial stamp paper in favor of IITB including all lead and lift etc. all complete as directed by Engineer In-charge.	100.00	999.83	Sqm	99,983.00
17.05	Providing and laying integral cement based treatment for waterproofing on horizontal surface at all depth below ground level for under ground structures as directed by Engineer-in-Charge and consisting of : i) 1st layer of 22mm to 25mm thick approved and specified shahabad stone slab over a 25mm thick base of cement mortar 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound 2% by weight of cement in the recommended proportion over the leveling course (leveling course to be paid separately). Joints sealed and grouted with cement slurry mixed with water proofing compound. ii) 2nd layer of 25mm thick cement mortar 1:3 (1cement: 3 coarsesand) mixed with water proofing compound in recommended proportionsetc. all complete as directed by Engineer In-charge.	50.00	1,434.79	Sqm	71,739.50
17.06	Providing and laying integral cement based treatment for waterproofing on vertical surface by fixing rough shahabad stone slab 22mm to 25mm thick with cement slurry mixed with water proofing compound in recommended proportion with a gap of 20mm (minimum) between stone slabs and the receiving surfaces and filling the gaps with neat cement slurry mixed with water proofing compound and finishing the exterior of stone slab with cement mortar 1:3 (1 Cement : 3 coarse sand) 20mm thick with neat cement punning mixed with waterproofing compound in recommended proportion including working platform etc. at all levels and as directed by Engineer in charge.	50.00	1,916.74	Sqm	95,837.00
17.07	Providing and laying waterproofing treatment of 120mm av. thickness consisting of 12mm thick layer in cement mortar 1:3 with water proofing compound 2% by weight of cement or as per manufacturer's specifications as base, constructing and laying brick bat coba in cement mortar 1:5 with waterproofing compound at the rate of 2% by weight of cement or as per manufacturer's specifications and having average thickness of 80mm and finishing with 20mm thick cement plaster layer in cement mortar 1:3 with water proofing compound 2% by weight of cement or as per manufacturer's specifications including all lead, lifts and laid to proper slope to drain off water entirely including water at the junction of parapet and work upto a height of 300mm or as directed and including finishing the top layer of water proofing treatment with false marking of 30cm x 30cm or as directed and covering the whole treatment with 10 (ten) years' guarantee/warranty on requisite (Rs. 500/-) non-judicial stamp paper etc. all complete as directed by Engineer In-charge.	100.00	1,594.77	Sqm	1,59,477.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
17.08	Providing & laying cement based water proofing treatment to terrace / toilet block as required brick bats laid in required slope to drain the water for any span after cleaning the base surface. Applying a coat of cement slurry admixed with approved water proofing compound and laying the brick bats on bottom layer in C.M 1:5 admixed with approved water proofing compound filling up to half depth of brick bats, curing this layer 3 days, applying cement slurry over this layer joints of brick bats with C.M. 1:3 admixed with approved water proofing compound and finally top finishing with average 20mm thick layer of same mortar finishing the surface smooth with cement slurry admixed with approved water proofing compound including all leads, lifts, curing etc. Covering 10 (ten) years' guarantee/warranty on requisite (Rs. 500/-) non-judicial stamp paper etc. all complete as directed by Engineer In-charge.	250.00	6,722.00	Cum	16,80,500.00
17.09	Providing and applying waterproofing treatment for horizontal surfaces using ROOF 540 waterproofing system manufacturer by Perfect Seal or Mastersealroof- 3500 waterproofing system manufacturer by BASF or CHRYSO PROOF ACRYLIC Five Layer System. The waterproofing treatment should be carry out as per manufacturers specifications with all lead, lift, polymer coating on entire surface etc. and covering the whole treatment with 05 (five) years guarantee/warranty on requisite (Rs. 500/-) non judicial stamp paper etc. all complete as directed by Engineer In-charge.	50.00	839.00	Sqm	41,950.00
17.10	Providing and applying waterproofing treatment for vertical surfaces using ROOF 540 waterproofing system manufacturer by Perfect Seal or Mastersealroof- 3500 waterproofing system manufacturer by BASF or Chryso Proof Acrylic five layer system manufactured by M/s Chryso. The waterproofing treatment should carry out as per manufacturers specifications with all lead, lift, polymer coating on entire surface including working platform etc. and covering the whole treatment with 05 (five) years guarantee/warranty on requisite (Rs. 500/-) non judicial stamp paper etc. all complete as directed by Engineer In-charge.	50.00	738.00	Sqm	36,900.00
17.11	Providing and applying three coats of Dr. Fixit Roof seal coating including preparing surface by pressure washing the surface to remove all algae, mould, dirt, dust, chalking and waste products. All visible hairline cracks more than 0.50mm and not giving hollow sound on the IPS/screed or at the junctions of flat roof & vertical parapet wall, pipe joints, should be cut and widen V shape with mechanical cutter in the size (6mm W x 6mm D) and fill with Dr. Fixit PU Sealant covering the entire area uniformly with suitable gun. Allow sealant to cure a minimum 24 hours. Apply minimum 50mm - 100 mm width 45 GSM Glass Fibre Mesh / non-woven geo textile fleece with the coat of Dr. Fixit Roofseal Select along the length of crack. Apply one coat of Dr. Fixit Primeseal primer dilute with water in the ratio 2:1. Allow it to dry for 2 to 3 hours. Apply 1st coat of Dr. Fixit Roofseal Select at the rate of 2.0 sqmt / litre / coat. An open 45 Gsm glass fibre mesh of 2.5 mm x 2.5 mm must be sandwiched between the first and second coat. While the 1st coat is still wet, place the fibre mesh on it. Allow the first coat to dry for 6-8 hours. Apply second coat of Dr. Fixit Roofseal Select with the same application coverage. Application direction of second coat should be perpendicular to that of the first coat. Allow second coat to dry for 6-8 hours. Apply third coat of Dr. Fixit Roofseal Select at an application direction that is perpendicular to that of the second coat with same application coverage rate. Check to see no void surface is left untreated / uncoated. Allow the system to air cure for 7 days minimum. A total thickness of 1 mm must be achieved when Dr. Fixit Roofseal Select is dry. Work Shall be got executed through certified applicator of the product manufacturing company only and work shall be guarantee/warranty for 03 years by the contractor on requisite (Rs. 500/-) non judicial stamp paper including submitting written guarantee/warranty from said certified applicator etc. all complete as directed by Engineer In-charge.	1,000.00	475.00	Sqm	4,75,000.00
17.12	Providing and applying one coat of Prime seal of Dr.Fixit over plaster masonry or RCC surface as per manufacturer specification including preparing the surface by thoroughly cleaning laitance, loose material, oil, grease and other foreign matter with wire brush and vacuum cleaner or water jet. Fine hair line cracks more than 0.50 mm must be widened up to 5 mm minimum in V shape and then fill cracks with Dr. Fixit Crack-X Paste on masonry plaster surface. Apply primer coat prepared with Dr. Fixit Crack-X Paste and water in 1:1 proportion over the crack. Fill Dr. Fixit Crack-X Paste when the surface is tacky and not dried completely. Press Dr. Fixit Crack-X Paste firmly into the crack with a spatula or putty knives and level with the surface. Care must be taken to avoid formation of cavities or bubbles during application. Allow it to set for 24 hours and then apply another coat of Dr. Fixit Crack-X Paste with use of stepladder/ working platform etc. all complete as directed by Engineer In-charge.	1,500.00	73.00	Sqm	1,09,500.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
17.13	Providing and applying one or more coat of Dr. Fixit Raincoat Universal Base Coat over plaster, masonry or RCC surface of any height without any dilution at a spreading rate of 3.5 -4.0 sq mtr per litre to achieve about 120-150 microns DFT as per manufacturer specification including preparing the surface by thoroughly cleaning laitance, loose material, oil, grease and other foreign matter with wire brush and vacuum cleaning or jet cleaning, filling the cracks using appropriate exterior putty with use of stepladder/ working platform and covering the floor and wall, window glass with plastic sheet during work and cleaning after work etc. all complete as directed by Engineer In-charge.(For vertical surface)	1,500.00	149.00	Sqm	2,23,500.00
17.14	Providing and applying one or more coat with uniform finish of Dr. Fixit Raincoat select Top coat to be apply with interval of 6-8 hours without any dilution at spreading rate of 6.5 sq mtr per litre to achieve about 60 microns DFT. Achieving total DFT of 180 to 210 microns same as existing colour/shade as per manufacturer's specification on plastered surface over concrete / brickwork of any height with use of stepladder/ working platform including cleaning the surface thoroughly, watering the surface etc. Complete including covering the floor and wall, window glass with plastic sheet and cleaning after work. Work Shall be got executed through certified applicator of the product manufacturing company only and covering the whole treatment with 03 years guarantee/warranty on requisite (Rs. 500/-) non-judicial stamp paper including submitting written guarantee/warranty from said certified applicator etc. all complete as directed by Engineer In-charge.	1,500.00	144.00	Sqm	2,16,000.00
17.15	Providing and laying APP (Atactic Polypropylene Polymer) modified prefabricated five layer 3 mm thick water proofing membrane, black finished reinforced with non-woven polyester matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 litre/sqm by the same membrane manufacture of density at 25°C, 0.87-0.89 kg/ litre and viscosity 70-160 cps. Over the primer coat the layer of membrane shall be laid using Butane Torch and sealing all joints etc, and preparing the surface complete. The vital physical and chemical parameters of the membrane shall be as under : Joint strength in longitudinal and transverse direction at 23°C as 650/ 450N/ 5cm. Tear strength in longitudinal and transverse direction as 300/ 250N. Softening point of membrane not less than 150°C. Cold flexibility shall be upto -2°C when tested in accordance with relevant code. The laying of membrane shall be got done through the authorised applicator of the manufacturer of membrane (NILOBIT/ STP/ Pedilite/Asian or approved) including repairing the damaged rainwater spouts on terraces on existing membrane and patchwork with bitumen coating, removing the existing tarfelt treatment without causing damages to the existing structure, cleaning the surface neatly and finishing the surface with heat reflective bitumen based silver paint @0.10 ltr/sqm with overlapping of 75mm along length and 100mm along width of any height including, removing loose mortar from the terrace slab and covering the whole treatment with with 05 years' guarantee/warranty on requisite (Rs. 500/-) non-judicial stamp paper etc. all complete as directed by Engineer In-charge.	100.00	531.04	Sqm	53,104.00
17.16	Providing and applying waterproofing treatment for vertical & horizontal construction joint using Masterseal NP1 sealant waterproofing system manufactured by BASF or CHRYSO Polyband system by Chryso India Ltd. The waterproofing treatment should be carry out as per manufacturers specifications with all lead, lift etc. with use of working platform and covering the whole treatment with 05 years guarantee/warranty on requisite (Rs. 500/-) non judicial stamp paper. Work Shall be got executed through certified applicator of the product manufacturing company only including submitting written guarantee/warranty from said certified applicator. etc all complete as directed by Engineer In-Charge.	50.00	2,272.00	Rmt	1,13,600.00
17.17	Providing and applying Dr.Fixit Dampguard Classic(Base + Hardener) as per manufactures specification including scrapping applying first coat of Dampguard Classic over that applying Damguard Classic Putty followed by Scrapping and after that applying final coat of Damgurad Classic with use of working platform etc. all complete as directed by Engineer In-charge.	50.00	484.00	Sqm	24,200.00
17.18	Providing and applying one coat of Walgard Prime followed by 2 coats of Walgard WB PU coating as per manufactures specification.(Apurva India Pvt.Ldt Make/any approved make) with use of working platform etc. all complete as directed by Engineer In-charge.	50.00	447.00	Sqm	22,350.00
				Total	45,33,740.50
18	Road works				

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
18.01	Providing and laying, spreading and compacting Grade -I Metal (size range 63 to 45mm (2) using Screening Type-A (13.2mm agg.) stone aggregates to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with 3 wheeled steel / vibratory roller 8- 10 tonnes capacity in stages to proper grade and camber, applying and brooming requisite type of screening/ binding materials to fill up the interstices of coarse aggregate, watering and compacting to the required density etc. all complete as directed by Engineer In-Charge. (compacted thickness will be taken for payment)	20.00	4,338.00	Cum	86,760.00
18.02	Providing and laying, spreading and compacting Grade -II Metal (size range 53 to 22.40mm)(2) using Screening Type-B (11.2mm agg.) stone aggregates to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with 3 wheeled steel / vibratory roller 8- 10 tonnes capacity in stages to proper grade and camber, applying and brooming requisite type of screening/ binding materials to fill up the interstices of coarse aggregate, watering and compacting to the required density etc. all complete as directed by Engineer In-Charge. (compacted thickness will be taken for payment)	20.00	4,582.00	Cum	91,640.00
18.03	Construction of granular sub-base (grade I) by providing close graded material conforming to specifications, mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads & lifts, spreading in uniform layers of specified thickness on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications etc. all complete as directed by Engineer In-Charge. (Compacted thickness will be taken for payment.)	50.00	2,635.55	Cum	1,31,777.50
18.04	Construction of granular sub-base (grade II) by providing close graded material conforming to specifications, mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads & lifts, spreading in uniform layers of specified thickness on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications etc. all complete as directed by Engineer In-Charge. (Compacted thickness will be taken for payment.)	50.00	2,768.89	Cum	1,38,444.50
18.05	Providing, laying, spreading and compacting graded stone aggregate having gradation as per MORTH Table 400-13 (size range 53 mm to 0.075 mm) to wet mix macadam (WMM) specification including premixing the material with water at OMC in for all leads & lifts, laying in uniform layers with mechanical paver finisher in sub- base / base course on well prepared surface and compacting with vibratory roller of 8 to 10 tonne capacity to achieve the desired density, complete as per specifications etc. all complete as directed by Engineer In-Charge.(Compacted thickness will be taken for payment.)	20.00	2,758.90	Cum	55,178.00
18.06	Providing and fixing 600mm x 600mm square Heavy duty Composite FRP grating covers with frame for inspection chamber / manhole / gulley trap/ over storm water drain and other required places manufactured by K.K.Manholes or approved make etc. all complete as directed by Engineer In-Charge.	10.00	10,075.00	Nos	1,00,750.00
18.07	Providing and fixing factory made kerbstone of size 500 x 400 x 150 mm in M-25 grade of concrete using design mix minimum cement content as per relevant IS code for the moderate exposure condition excluding P.C.C (1:11/2:3) 100mm thick bedding, fixing the kerb stone over P.C.C bedding and grouting the joints with 1:3 cement mortar to the required line, level, curing, one coat of primer and two coat of synthetic enamel paint, excluding excavation etc. all complete as directed by Engineer In-Charge.(Note : Length of finished kerb edging shall be measured for payment).	50.00	691.00	Rmt	34,550.00
18.08	Providing and laying factory made chamfered edge Cement Concrete paver blocks in foot path, driveway & traffic parking etc. of any colour & 80mm thick of M-30 grade, approved design & pattern laid in required pattern over 50mm thick compacted bed of coarse sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand, all complete as per manufacturer's specifications & direction of Engineer In-Charge.	50.00	1,033.30	Sqm	51,665.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
18.09	Providing and laying factory made chamfered edge Cement Concrete paver blocks in foot path, driveway & traffic parking etc. of any colour & 60 mm thick of M-35 grade, approved design & pattern laid in required pattern over 50mm thick compacted bed of course sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand, all complete as per manufacturer's specifications & direction of Engineer In-Charge.	50.00	989.89	Sqm	49,494.50
18.10	Providing and Laying Lacquer finish coloured paver blocks in specified patten 60mm thick for floor and step etc. With compressive strength not less than 45N/sqmm and including 50mm thick compacted bed of line sand in specified decorative designs with block of different colour and patten including filling the joint with fine sand and cleaning completed as directed by Engineer In-charge.	50.00	1,251.00	Sqm	62,550.00
18.11	Providing and laying Lacquer finish coloured paver blocks in specified pattern 80mm thick for floor and steps etc. with compressive strength not less than 45 N/sqmm and including 50mm thick compacted bed of fine sand in specified decorative designs with blocks of different colour and pattern including fiiling the joints with fine sand and cleaning completed as directed by Engineer In-charge.	50.00	1,501.00	Sqm	75,050.00
18.12	Relaying old available paver blocks in specified pattern for floor and steps etc. including 50mm thick compacted bed of crushed sand in specified decorative designs with blocks of available colour and pattern including filling the joints with crushed sand, compacting blocks with mechanical means after laying and cleaning including shifting within campus etc. all complete as directed by Engineer In-charge.	200.00	381.46	Sqm	76,292.00
18.13	Providing and applying 2.5 mm thick road marking strips (retroreflective) of specified shade/ colour using hot thermoplastic material by fully/ semi automatic thermoplastic paint applicator machine fitted with profile shoe, glass beads dispenser, propane tank heater and profile shoe heater, driven by experienced operator on road surface including cost of material, labour, T&P, cleaning the road surface of all dirt, seals, oil, grease and foreign material etc. complete as per direction of Engineer-In-charge and accordance with applicable Specifications.	100.00	707.93	Sqm	70,793.00
18.14	Painting road surface marking with two or more nos of coats to give uniform finish with ready mixed road marking paint conforming to as per relevant IS code, on bituminous surface in white/ yellow shade, including cleaning the surface of all dirt, scales, oil, grease and foreign material etc. all complete as directed by Engineer In-Charge.	100.00	273.50	Sqm	27,350.00
18.15	Providing and fixing signboards with 3mm thick ACP sheet & radium sticker background including pasting, computerized designing & radium sticker cutting and pasting, fixing etc. all complete as directed by Engineer In-Charge.	20.00	4,973.00	Sqm	99,460.00
				Total 18	11,51,754.50
19	Hiring charges				
19.01	Hire charges for providing poclain for cutting and leveling the heaps of soil, for desilting / widening/deepening the kachha nallah /drains including necessary labour, operator, fuel etc. excavating, shifting, spreading and leveling the soil / debris at low lying area along the alignment of the proposed path using the machinery etc. all complete as directed by Engineer In-charge.	20.00	3,627.00	Per Hr.	72,540.00
19.02	Hire charges for providing J.C.B for cutting and leveling the heaps of soil, for desilting / widening/deepening the kachha nallah /drains including necessary labour, operator, fuel etc. excavating, shifting, spreading and leveling the soil / debris at low lying area using the machinery etc. all complete as directed by Engineer In-charge.	150.00	1,304.00	Per Hr.	1,95,600.00
19.03	Hiring charge of roller 8 to 10 ton capacity for rolling and levelling in various locations in IITB campus. The hiring charges are inclusive of wages of roller driver, cleaner, diesel/ oil, incidentals etc, payment will be given for the actual period of roller operated and no breaks will be considered for payment etc. all complete as directed by Engineer In-charge.	20.00	1,188.00	Per Hr.	23,760.00
19.04	Hire charges for crane for shifting material as per the requirement and condition including necessary labour, operator, fuel etc. without damaging the lifted material etc. all complete as directed by Engineer In-charge.	10.00	1,885.00	Per Hr.	18,850.00
19.05	Providing and erecting Mechanical lift upto 6 storey building ,shifting material and lowering down debris on hire basis with steel tubular H – frame double scaffolding with bracings to all heights till completion of entire work as directed by engineer in charge and removing the same as per directions of Engineer In-Charge after completion of work.	1.00	51,429.00	Per month	51,429.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
19.06	Providing and erecting Mechanical lift for building 7 to 16 storey building ,shifting material and lowering down debris on hire basis with steel tubular H – frame double scaffolding with bracings to all heights till completion of entire work as directed by engineer in charge and removing the same as per directions of Engineer In-Charge after completion of work.	1.00	64,816.00	Per month	64,816.00
19.07	Providing and Erecting electric operated suspension construction cradle (Gandola) for a period of one month at any height as per site requirement for maintenance and repair works by well trained operators / workers with proper safety precautions including transportation, lifting, shifting, third party testing and operator cost etc all complete as directed by Engineer Incharge.	5.00	1,01,051.00	Per month	5,05,255.00
				Total 19	9,32,250.00
20	Miscellaneous /special items				
20.01	Providing and erecting 2.00 metre high temporary barricading at site; each panel of size 2.50mx2.00m made of 40x40x6mm angle iron or 50x50x3mm hollow MS tube posts/horizontal members/bracings covered with 1.63mm thick MS sheet. The sheet shall be fixed with 30x5mm MS flat by suitable welding/riveting. The panels shall be made so that gap of 50cm above the ground is available making overall height as 2.5m. MS channel ISLC 75 @ 5.70 kg/m, 50cm long shall be provided at the bottom having oval shaped holes of size 50x25mm at both ends with 50cm long MS angle 40x40x6mm bracing. Suitable arrangement shall be made to fix the barricading to avoid from overturning by providing 250mm long expansion fasteners at both ends. The work shall be executed as per drawing/direction of Engineer-in-Charge which includes writing and painting, arrangement for traffic diversion such as traffic signals during construction at site for day and night, glow lamps, reflective signs, marking, flags, caution tape as directed by the Engineer-in-Charge. The barricading provided shall be retained in position at site continuously i/c shifting of barricading from one location to another location as many times as required during the execution of the entire work till its completion. Rate include its maintenance for damages, painting, all incidentals, labour materials, equipments and works required to execute the job. The barricading shall not be removed without prior approval of Engineerin-Charge. (Note :- One time payment shall be made for providing barricading from start of work till completion of work i/c shifting. The barricading provided shall remain to be the property of the contractor on completion of the work)	20.00	3,256.10	Rmt	65,122.00
20.02	Fixing temporary partition during execution of work at site made up of plywood/ GI sheet including vertical support of props/teakwood/ plywood, transportion, lead, lift, removing the partition after completion of work etc. completed as directed by Engineer In-charge.	200.00	337.00	Sqm	67,400.00
20.03	Removing the Electrical fittings, wires and electrical conduit pipes from the ceiling surface and Staircases area during the repairing works and keeping aside with proper screws, nuts and bolts and Re-fixing the same with proper fittings with screws and anchor bolts after the completion of repairing works etc. all complete as directed by Engineer In-charge.	150.00	427.00	Nos	64,050.00
20.04	Providing Holes/Sleeve in wall 75 m dia for Air conditioning pipes PVC pipe of 75 mm to be inserted in the said hole. End caps on both sides to be provided.A minimal slope to be maintained towards outside to prevent any leakage etc. all complete as directed by Engineer In-charge.	10.00	2,038.00	Nos	20,380.00
20.05	Providing and fixing 200mm x200mm SS 304 grade mosquito proof/flyproof wire mesh in double layer to the water tank overflow pipes/vent pipes ,fixing the same with M.S. wires properly etc.including removing the existing damaged mosquito mesh and taking away the same out of IIT Campus etc all complete as directed by Engineer In-charge.	10.00	98.00	Nos	980.00
20.06	Providing and fixing HDPE green Braided, Knotted construcion safety net of 6mm thickness with mesh size of 3 – 4 inch square to ceiling in various class rooms, With inner lay mesh of Delux Mono Knitted net, Border / Tie cord rope shall be of 12 mm dia Polypropflene (PP) (rope of M/s. Kwaliti Nets Mfg Company or approved make of specified type) The safety net to be fixed as per the size required at site. The cost includes all supplying & fixing the materials with labourers , fixing hooks, scaffolding & ropes required for tying / fixing etc all complete as directed by Engineer-In-charge.	100.00	359.00	Sqm	35,900.00
20.07	Providing stainless steel signboard and name board plate (18 gauge) and fixing the same over walls and doors using stainless steel stud of approved quality etc. completed as directed by Engineer-In-charge.	1.00	28,647.00	Sqm	28,647.00
20.08	Providing and covering the floor with protection rubber mat of required size 12mm thickness and taking away after completion of work etc. all complete as directed by Engineer In-charge.	100.00	348.00	Sqm	34,800.00
20.09	Providing core cutting of any size and depth in reinforcement concrete or any other materials etc. all complete as directed by Engineer In-charge.	30.00	2,000.00	Nos	60,000.00
20.10	Dewatering the excavated trenches and pools of water in the building area by using pumps and other devices, including disposing of the water to a safe distance etc. all complete as directed by Engineer In-charge.	100.00	279.00	Per Hr.	27,900.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
20.11	Lowering down the debris of the existing waterproofing treatment from the terrace by head load without causing dust nuisance and damages to structure, stacking the same upto 50m beyond the building area as and where directed including cleaning the site etc. all complete as directed by Engineer In-charge.	100.00	376.00	Cum	37,600.00
20.12	Providing and fixing FRP grills of approved brand, design and required size, manufactured by Ravalson FRP Industries or equivalent brand for multi storied building upto 16 th story high, work includes removing the existing damaged grills lowering down and stacking aside at ground floor, fixing the new grills in position (duct area) with all tools & required fixtures, bonding additive, working platform etc. all complete as directed by Engineer In-charge.	10.00	3,550.00	Sqm	35,500.00
20.13	Providing and fixing waterproof tarpaulin sheet not less than 300GSM on hiring basis for covering various buildings from roof top or over wall to protect from rain water during monsoon period (for 5 months) including providing and fixing bamboo and wooden balli as vertical post frame work and for roof bamboos 300mm c/c along the rafter direction and 1200mm c/c along purlin direction, fixing and tying the bamboos and tarpaulin with suitable over lap without any open joints, without any sagging leads to collection of rain water, making the arrangement leak proof, making necessary arrangement for access for opening of overhead tank covers in case of any plumbing issues etc. all complete as directed by Engineer In charge. Penalty of Rs,5000/- per day will be imposed on the agency if sagging of tarpaulin sheet and water stagnation occurred on the sheet. (80% payment will be released after virtual completion of work and balance 20% will be released after removal of waterproofing materials and expiry of the scheduled completion time period NOTE : The contractor has to visit the site as and when required for inspection of tarpaulin work but not more than 15 days of interval in between consecutive two visits.	2500.00	427.00	Sqm	10,67,500.00
20.14	Providing and laying waterproof tarpaulin sheet not less than 300GSM on hiring basis for covering to various building from roof top and over side walls to protect from rain water during monsoon period (for 5 months) vertically or horizontally with necessary tying making the arrangement leak proof etc. all complete as directed by Engineer Incharge. Penalty of Rs,5000/- per day will be imposed on the agency if sagging of tarpaulin sheet and water stagnation occurred on the sheet.(80% payment will be released after virtual completion of work and balance 20% will be released after removal of waterproofing materials and expiry of the scheduled completion time period. NOTE : The contractor has to visit the site as and when required for inspection of tarpaulin work but not more than 15 days of interval in between consecutive two visits.	1500.00	246.00	Sqm	3,69,000.00
20.15	Providing and placing glasswool of 50mm thickness of density not less than 48 Kg/m3 wrapped in 200G virgin polyethene bags placed in panelling, false ceiling frame held in position by criss cross GI wire including all lead, lift, etc. all complete as directed by Engineer In-charge.	100.00	531.00	Sqm	53,100.00
20.16	Carefully removing the bird net/safety net/pigeon net of the building including fittings and fixtures and refixing the same with new fittings and fixtures as per site requirement etc. all complete as directed by Engineer In-charge.	100.00	33.00	Sqm	3,300.00
20.17	Providing and fixing heavy duty bird net of approved make as per existing pattern to the building including necessary fittings and fixtures etc. all complete as directed by Engineer In-charge.	200.00	258.00	Sqm	51,600.00
20.18	Replacing the damaged cloth of the chair matching to the existing pattern with necessary fixtures and fittings, taking away old and damaged material outside campus etc. complete as directed by Engineer In-charge.	300.00	3,875.00	Nos	11,62,500.00
20.19	Providing, making & fixing 25mm thick foam for ceiling fabric, chair fabric of IITB approved make over existing aluminium frame or Ply as per drawing with necessary teak .nails, screws, adhesive including scaffolding etc. all complete as directed by Engineer In-charge.	100.00	1,194.00	Sqm	1,19,400.00
20.20	Providing & fixing in position white writing board of 15"(W) x 30"(H) and fixing it on existing wall panelling using required adhesive, etc. all complete as directed by Engineer In-charge.	10.00	3,044.00	Nos	30,440.00
20.21	Providing and fixing in position 6 mm thick customised back painted glass board approved colour and make including necessary edge polish and studs for fixing etc. all complete as directed by Engineer In-charge.	10.00	4,596.00	Sqm	45,960.00
20.22	Providing and fixing aluminium stair nosing with anti-slip rubber/uPVC strip inserted on top including fixing with screws and adhesive material at bottom in straight and curved surface as per directed by Engineer In-charge.	50.00	719.00	Rmt	35,950.00

Sr. No.	Schedule / Description of work	Qty	Rate	Unit	Amount
20.23	Providing and fixing wooden Texture Flout panel of 8mm thick of approved make Green apple décor in slat form including levelling the surface including pasting with glue, fixing the panel in proper line & level, etc. all complete as directed by Engineer In-charge.	50.00	4,842.00	Sqm	2,42,100.00
20.24	Providing and fixing 6 mm thick corian of approved colour and Merino/Greenlam/Green Apple make including necessary edge polish and joint filler, with all required fitting etc. All complete as directed by Engineer In-charge.	50.00	4,596.00	Sqm	2,29,800.00
20.25	Providing and fixing 4mm thick FRP chajja of required colour, shape and size with 25mm X 5mm MS flats for framing inside chajja and making inbuilt holes in frame for fixing with S.S. wedge fasteners etc. complete as directed by Engineer In-charge.	50.00	19,073.00	Sqm	9,53,650.00
20.26	Providing and fixing cycle stand (5 cycles) of specification:- 1) MS round pipe 20mm 18G 2) MS square pipe 25X25mm 18G 3) all the section should be powder coated anti rust weather resistant includes all hardware of heavy tensile strength etc. all complete as directed by Engineer In-charge.	200.00	3,050.00	Nos	6,10,000.00
20.27	Providing & fixing stainless steel (Grade 304) Corner Guards for edge protection in tiles, walls, columns etc. of size 50 mm x 50 mm x 1mm thick/ as per required size & length including fixing in position as per site requirements including all necessary fitting & fixtures all complete as directed by Engineer In-charge.	50.00	829.00	Rmt	41,450.00
20.28	Providing, fabricating & fixing Stainless Steel (Grade 304) perforated jali for kitchen drain as per required size and required design as per site requirements including fixing in position and welding as necessary as per site requirement etc. all complete as directed by Engineer In-charge.(Note :-Weight of jali should not be less than 3.20 kg per sqm).	20.00	4,298.00	Sqm	85,960.00
20.29	Supply, installing and fixing Honey Fun-n-thrill VVIP benches (PABE04) of size 2.3m x 2.0m as per manufacturer guidelines.etc all complete as directed by Engineer In-charge. Note :- General material specifications, indicative warranty and safety advice has to be followed as per manufacturing specifications and terms and conditions.	10.00	20,500.00	Nos	2,05,000.00
				Total 20	57,84,989.00
Total Amount (1 to 20 sections)					16,85,39,661.70
Say Rs.					16,85,39,662.00
(In words, _____) % (In figures.....%) Above					
(In words, _____) % (In figures.....%) Below					
Amount after above/below					
Add 9% CGST					
Add 9% SGST					
Amount afterwith GST					
Say Rs.					

Amount in words _____

Special Condition :

1. Recovery of scrap material will be done in respective items at the rates mention below -

- A) Wood scrap – Rs. 25.00 per kg
- B) Aluminium scrap – Rs. 150.00 per kg
- C) MS Steel / Tor steel & structural steel – Rs. 28.00 per kg
- D) Kitchen trolley – Rs. 45.00 per kg
- E) GI / CI Pipe – Rs. 25.00 per kg
- F) Brass taps of all types – Rs. 120.00 per kg

2. List of material manufacturers & brands enclosed herewith & it should be approved from the Engineer In-charge/ his representatives before commencement of the work

3. Safety precautions should be strictly followed while repair construction work

4. Agency should have carried out atleast one major retrofitting work

Notes:

- i) This work is to be executed as per the the clauses mentioned in the tender document signed by you. In addition to the existing safety clause of the tender documents a penalty of Rs. 5,000/- (per case) will be recovered from the bills of the particular work, in case any safety violations are noticed.
- ii) Tender will be rejected if white ink applied for correction in the schedule of work.

sd/-

Dy. Superintending Engineer

Signature and Stamp of the Contractor

**INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
ESTATE OFFICE**

TENDER DOCUMENT

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ABOUT CONTRACT

1. This is a percentage rate tender in two cover system (Eligibility and Financial bid) under an Umbrella contract for entire campus of IIT Bombay.
2. Superintending Engineer is the Head of the Estate Office and Engineer-in-Charge.
3. The works in entire campus under Estate Office are divided into two Divisions. Executive Engineer is the divisional Head. Further each Divisions are divided into three Sub-divisions as under and Assistant Engineer / Assistant Executive Engineers are Sub-divisional Head.
4. The entire Campus under Estate Office is divided as under;
 - a. Academic Sub-Division
 - b. Workshop & Infrastructure Sub-Division
 - c. Central & Lake side Residential Sub-Division
 - d. Hostel Area Sub-Division
 - e. Hill side, Hospital & Guest House Sub-Division
5. The tenderers are requested to enter their percentage above / below in the prescribed cell in the BOQ.
6. The percentage rate quoted by the tenderers shall be the same for all the five Sub-Divisions and quoted as a single percentage in the prescribed cell.
7. If the lowest percentage quoted is not within the justified limit, negotiation will be conducted with the Lowest (L1) tenderer.
8. The work will be awarded to the L1 contractor. After the award of work, work will be executed with separate Agreements for each Sub-Division. Agreements will be drawn with the contractor for the following Sub-Divisions:

Division-I

- a. Academic Sub-Division
- b. Workshop, Infrastructure Sub-Division
- c. Central & Lake side Residential areas Sub-Division

Division-II

- d. Hostel Area Sub-Division
- e. Hill side, Hospital & Guest House Sub-Division

Under the Sub Divisional agreements, the works would be executed through separate Work Order as per the requirement. The work would be certified by the respective Junior Engineers, Assistant Engineers/ Assistant Executive Engineer and put up for final certification of the Executive Engineer.

9. The rate quoted shall be inclusive of all applicable taxes including GST prevailing on the date of tender. However, the rate of tax prevailing at the date of billing will only be paid based on submission of tax invoice as per GST rules.
10. The rates considered by IIT Bombay is inclusive of 18% GST. Any reduction in the rates of GST from the quoted rates in the BOQ during the currency of the contract commensurate reduction in the quoted rates in BOQ will be effected and payment will be made accordingly.

11. All the tenderers should ensure that they are GST compliant and the quoted rates are as per GST Law. The Tenderer should submit their GST registration certificate while uploading the tender document.
12. If the tenderer fails to upload GST Registration certificate, the tender will be summarily rejected.
13. Construction labour shall **not be permitted** to stay inside the campus and no labour camp shall be allowed to be set up inside the campus.
14. The work should be executed during day time only. If the work is required to be carried out in the night, necessary permission of the Engineer-in-charge shall be obtained. Contractor will make his own arrangement for lighting the area and no extra amount for carrying out the work during night is payable. To the extent possible engaging women labour in the night shift should be avoided.
15. Any error in description, quantity or rate in schedule of Quantities or any omission there from shall not vitiate the contract or release the contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the contract. All such variations, errors, additions, substitutions etc shall be decided as per the terms of the contract.
16. The building work shall be carried out complying in all respects with the requirements of relevant bye-laws of the local body under the jurisdiction of which the work is to be executed or as directed by the Engineer-in-Charge and nothing extra will be paid on this account.
17. Where CPWD specifications are not available for fittings and fixtures, the same should conform to bye-laws and specification of the local Body. The contractor should engage licensed plumbers for the work.
18. The tenderer shall comply with all legal orders and directions of the local or public authority or municipality and abide by them.
19. The tenderer shall give a performance test of the installation(s) as per specifications before the work is finally accepted and nothing extra whatsoever shall be payable to the tenderer for the test.
20. Any cement slurry added over base surface (or) for continuation of concreting to obtain better bond between old and new concrete is deemed to have been included in the items and nothing extra shall be payable or extra cement considered in consumption on this account.
21. The rate for Centering & shuttering under concrete items will be the same for Centering & shuttering in curves & arches also unless specified otherwise in the BOQ.
22. The contractor should construct proper mortar bands of lean mix with adequate depth & size over the roof for flooding with water & proper curing. In case of Arches, wet gunny bags shall be used for a period of two weeks.
23. Holes and chase for water supply and drainage, etc, shall be provided as directed during progress of work without any claim for extra for finishing.
24. The rate quoted for tiling on walls shall include providing the bevel edges for the corners or the PVC corner strips. No additional payment shall be payable on this account.
25. Sample of all materials, fixtures, flooring tiles, wall tiles, doors, windows, sanitary fittings, roofing sheets, fittings etc, shall be got approved in advance from the Engineer-in- Charge before taking up the respective work. The contractor shall produce all the materials in advance so that there is sufficient time for testing and approving

the materials and clearance of the same before their use in work.

26. The contractor shall be furnished, free of cost one certified copy of the contract documents except Standard Specifications, Schedule of Rates and such other printed and published documents, together with all drawings as may be forming part of the tender papers. None of these documents shall be used for any purpose other than that of this contract.

27. For any dispute arising out of this agreement, the legal jurisdiction will be at Mumbai in Maharashtra only.

28. Other agencies related to this contract will also simultaneously execute their part of works and the contractor shall cooperate and allow smooth working of all such agencies. The contractor shall leave such holes, openings etc, for laying / burying of pipes, cable, conduits, clamps, boxes and hooks for fans etc. as may be required for other agencies. The rates quoted for the items of work are deemed to include charges for coordinating with all such agencies and nothing extra is payable on this account.

29. The few events/ activities will take place in the Campus which may hinder the progress of work.

30. The completion time stipulated in the contract is deemed to have included the above, if they happen during the duration of the contract with additional provisions and resources.

31. The work is to be carried out by skilled workers conversant with existing system in the campus. If the contractor is associating any sub-contractor for execution, the sub contractor so associated shall have the full knowledge of the existing system in the campus and such association shall be got approved by IIT Bombay.

32. The contractor has to bring the container for site office as well as the storage of materials at his own cost. The location for site office will be identified by the Engineer-in-charge.

33. Help desk to be provided with sufficient man power to receive all the request through IVRS, Phone call, oral, etc by the contractor. Proper record and registrar shall be maintained and follow ups by the efficient staffs from the Contractor side under this contract.

34. In clause 25, a Dispute Redressal Committee has been constituted by IIT Bombay. The procedure for inviting Dispute Redressal Committee is to be done as per Clause 25.

35. Any reduction in the rates of GST from the quoted rates in the BOQ during the currency of the contract, commensurate reduction in the quoted rates in BOQ will be effected and payment will be made accordingly. The market rate analysis adopted by IIT Bombay for calculating the reduction in GST will be final and binding on the contractor.

TENDERS

I / We have read and examined the notice inviting tender, schedule of items specification 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 documents for the work.

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

We agree to keep the tender open for One Hundred Eighty (180) days from the due date of its opening / ninety days from the date of opening of financial bid in case tenders are invited on 2/3 envelop system (Strike out as the case may be) and not to make any modification in its terms and conditions.

A sum equal to 2% estimated value of work is hereby forwarded in demand draft of a scheduled bank / Pay Order issued by a scheduled bank as earnest money.

EMD submitted by the bidders will be released after preparation of comparative statement except for the bidder who stood lowest. EMD of lowest / selected bidder will be released on application from the bidder after the commencement of work.

I / We agree that IIT Bombay 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 IIT Bombay shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money 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 those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 of the tender form. Further, I/We agree that in case of forfeiture of Earnest money as aforesaid. I/We shall be debarred for participation in the re-tendering process of the work.

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

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

Dated :

Signature of Contractor

Witness :

Postal Address

Address :

Occupation :

ACCEPTANCE

The above tender (as modified by you as provided in the letter mentioned hereunder) is accepted by Director for and on behalf of the Indian Institute of Technology, Bombay

for a sum of Rs

(Rupees.....)

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

- a)
- b)
- c)

Signature.....

Designation.....

Dated :

GENERAL RULES & DIRECTIONS

1) All work proposed for execution by contract will be notified in a form of invitation to tender to enlisted contractors of IIT Bombay or by publication in News papers as the case may be.

This form will state the work to be carried out, as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of earnest money to be deposited with the tender, and the amount of the security deposit to be deposited by the successful tender and the percentage, if any, to be deducted from bills. Copies of the specifications, designs and drawings and any other documents required in connection with the work signed for the purpose of identification by the officer inviting tender shall also be open for inspection by the contractor at the office of officer inviting tender during office hours.

2. In the event of the tender being submitted by a firm, it must be signed separately by each partner there of or in the event of the absence of any partner, it must be signed on this behalf by a person holding a power of attorney authorizing him to do so, such power of attorney to be produced with the tender, and it must disclose that the firm is duly registered under the Indian Partnership Act, 1932.

3. Receipt for payment made on account of work, when executed by a firm must also be signed by all the partners, except where contractor are described in their tender as a firm, in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having due authority to give effectual receipts for the firm.

4 Applicable For Item Rate Tender

Any person who submits a tender shall fill up the usual printed form stating at what rate he is willing to undertake each item of the work. Tenders, which proposed any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort, including conditional rebates, will be summarily rejected. No single tender shall include more than one work, but contractors who wish to tender for two or more works shall submit separate tender for each. Tender shall have the name and number of the works to which they refer, written on the envelopes.

The rate(s) must be quoted in decimal coinage. Amounts must be quoted in full rupees by ignoring fifty paisa and considering more than fifty paisa as rupee one.

5.Applicable for Percentage Rate Tender Only

In case of Percentage Rate Tenders, tenderer shall fill up the usual printed form, stating at what percentage below / above (in figures as well as in words) the total estimated cost given in schedule of Quantities at schedule-A, he will be willing to execute the work. **The tender submitted shall be treated as invalid if :**

- (i) The Contractor does not quote percentage above / below / at par on the total amount of tender or any section / sub head of the tender.

(ii) The percentage above /below is not quoted in figures & words both on the total amount or any section / sub head of the tender.

(iii) The percentage quoted above / below is different in figures & words on the total amount of tender or any section / sub head of the tender :

Tenders, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort including conditional rebates, will be summarily rejected. No single tender shall include more than one work, but contractors who wish to tender for two or more works shall submit separate tender for each. Tender shall have the name and number of the works to which they refer, written on the envelopes.

6) In case the lowest tendered amount (estimated cost + amount worked on the basis of percentage above / below) of two or more contractors is same, such lowest contractors will be asked to submit rebate over the quoted amount in sealed envelope. The lowest tender shall be decided on the basis of rebate offered.

If the revised amount of two more contractors after the rebate offer is again found to be equal, the lowest tender, among such contractors, shall be decided by draw of lots in the presence of Superintending Engineer/Executive Engineer.

7) The officer inviting tender or his duly authorized assistance will open tenders in the presence of any intending contractors who may be present at the time, and will enter the amounts of the several tenders in a comparative statements in a suitable form. In the event of a tender being rejected, the earnest money shall thereupon be returned to the contractor remitting the same, without any interest.

8) The officer inviting tenders shall have the right of rejecting all or any of the tenders and will not be bound to accept the lowest or any other tender.

9) The tenders shall sign a declaration under the officials secret Act 1923, for maintaining secrecy of the tender documents drawings or other records connected with the work given to them.

10) Use of correcting fluid, anywhere in tender document is not permitted. Such tender is liable for rejection.

11) (Applicable for item rate tender only)

In the case of Item rate tenders, only rates quoted shall be considered. Any tender containing percentage below / above the rates quoted is liable to be rejected. Rates quoted by the contractor in item rate tender in figures and words shall be accurately filled in so that there is no discrepancy in the rates written in figures and words. However, if a discrepancy is found, the rates which correspond with the amount worked out by the contractor shall unless otherwise proved be taken as correct. If the amount of an item is not worked out by the contractor or it does not correspond with the rates written either in figures or in words, then the rates quoted by the contractor in words shall be taken as correct. Where the rates quoted by the contractor in figure and in words tally, but the amount is not worked out

correctly, the rates quoted by the contractor will unless otherwise proved be taken as correct and not the amount. In event no rate has been quoted for any item(s), leaving space both in figure(s), words(s), and amount blank, it will be presumed that the contractor has included the cost of this / these item(s) in other items and rate for such item(s) will be considered as zero and work will be required to be executed accordingly.

12) In case of Percentage rate tenders only percentage quoted shall be considered. Any tender containing item rates is liable to be rejected. Percentage quoted by the contractor in percentage rate tender shall be accurately filled in figures and words, so that there is no discrepancy

13) In the case of any tender where unit rate of any item / items appear unrealistic, such tender will be considered as unbalanced and in case the tenderer is unable to provide satisfactory explanation, such a tender is liable to be disqualified and rejected.

14. (Applicable for item rate tender only)

All rates shall be quoted on the tender form. The amount for each item should be worked out and requisite totals given. Special care should be taken to write the rates in figures as well as in words and the amount in figures only, in such a way that interpolation is not possible. The total amount should be written both in figure and in words. In case of figures, the word 'Rs.' should be written before the figure of rupees and word 'P' after the decimal figures, e.g 'Rs'. 2.15P' and in case of words, the word, 'Rupees' should precede and the word 'Paise' should be written at the end. Unless the rate is in whole rupees and followed by the word 'only' it should in variably be upto two decimal places. While quoting the rate in schedule of quantities, the word 'only' should be written closely following the amount and it should not be written in the next line.

15. (Applicable for percentage rate tender only)

In percentage Rate Tender, the tenderer shall quote percentage below / above (in figures as well as in words) at which he will be willing to execute the work. He shall also work out the total amount of his offer and the same should be written in figures as well as in words in such a way that no interpolation is possible. In case of figures, the word 'Rs' should be written before the figure of rupees and word 'P' after the decimal figures, e/e Rs. 2.15p and in case of words, the word 'Rupees' should precede and the word ' Paisa' would be written at the end.

16. Completed tenders along with all the specified documents in a sealed cover, superscribed with the name of work and work number shall be put in the tender box kept in Estate Office within the prescribed time.

17. On acceptance of the tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instruction from the Engineer-in-charges shall be communicated in writing to the Engineer-in-charge.

18. GST (except service tax), purchase tax, turnover tax or any other tax applicable in respect of this contract shall be payable by the Contractor and IIT Bombay will not entertain any claim whatsoever in respect of the same. However, in respect of service tax, same shall be paid by the contractor to the

concerned department on demand and it will be reimbursed to him by the Engineer-in-Charge after satisfying that it has been actually and genuinely paid by the contractor.

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

20. The particular specification for certain items in the Financial bid – Volume – II – Part 1 – Civil work - Bill of Quantity (BOQ) is enclosed as Annexure 1 and the same shall be read in conjunction with the corresponding specification given in the BOQ.

21. Necessary site barricading details and material yard layout may be obtained from Engineer-in-charge.

22. Spillover of any construction materials / earth on the road surface should be cleared immediately.

23. No trees and vegetation shall be cut by the tenderer.

24. All construction activities and labour movements should be restricted within the area earmarked for these purpose.

25. No labour camp is allowed inside IIT Bombay campus.

26. Firewood collection is strictly prohibited.

27. All debris generated in the site premises / material yard should be removed and disposed outside IIT Bombay campus. Necessary approval from local authority shall be obtained by the tenderer. No additional charges will be paid for the same.

28. IIT Bombay traffic regulation and speed limit should be followed without any violation.

29. In case of violation of any rules by the tenderer, penalty will be levied by IIT Bombay at the following rate:

Sr. No.	Operations	Penalty per day
1	Construction labour shed without approval from Engineer-in-charge	Rs.5000/- per shed per day
2	Labour wander in to the nearby areas / buildings / forests.	Rs.500/-per person
3	Thrown food items / waste / package item inside or outside the site premises.	Rs.1000/- per day
4	If water stagnation inside the construction site.	Rs.500/- per day
5	Dumping of debris and storage of materials outside the barricaded area.	Rs.25000/- per day

6	Improper maintenance of barricade.	Rs.5000/- per day
7	Improper sanitation of labour toilets	Rs.1000/- per day
8	Collection of firewood	Rs.2500/- per day
9	Work without safety barricading / Signage	Rs.5000/- per day
10	Execution of work without any safety precaution	Rs.5000/- per day

30. Emergency complaints:

Attending to any safety related issues, clearing garbage, pipe line leakage, broken pipe line, damaged plumbing / sanitary fittings, drainage blockages, over flow of water / drainage, easing of door and lock repair etc. and specified by Engineer-in charge as per the emergency requirements are classified as emergency complaints. The contractor shall complete the emergency complaints within 12 hours from actual date of complaint / issue of job card or through any other communication.

If any unjustified delay occurs beyond this period penalty will be imposed and the same will be deducted from the subsequent running account bill as per the following.

- 1) If the number of emergency complaints attended with unjustified delay is less than 2% of the total number of emergency complaints for the particular month, no penalty will be imposed.
- 2) For each unjustifiably delayed emergency complaint attended beyond this limit of 2%, penalty of Rs5000 will be imposed.

31. Routine Maintenance complaints:

Penalty for unjustified delay in completion of day-to-day routine maintenance and minor complaints including preventive maintenance (other than emergency complaints):

The contractor shall complete the day-to-day routine maintenance and minor complaints including preventive maintenance (other than emergency complaints) within 7 days from actual date of complaint / issue of job card or through any other communication.

For unjustified delay in attending to and completing the day-to-day routine maintenance and minor complaints including preventive maintenance (other than emergency complaints) penalty will be imposed and the same will be deducted from the subsequent running account bill as per the following.

- 1) If the number of unjustified delays in attending to day-to-day routine maintenance and minor complaints including preventive maintenance (other than emergency complaints) is less than 3% of the total number of routine complaints for the particular month, no penalty will be imposed.
- 2) For each unjustifiably delayed complaint beyond this limit of 3%, penalty at the rate of Rs5000 will be levied.
- 3) Penalty for preventive maintenance will be calculated based on number of individual delayed jobs indicated in the preventive maintenance list.

sd/-

Superintending Engineer

CONDITIONS OF CONTRACT

Definitions

1. The contract means the documents forming the tender and acceptance thereof and the formal the contractor, together with the documents referred to there in including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-in-Charge and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another.
2. In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them :-
 - i) The expression works or work shall, unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed whether temporary or permanent, and whether original, altered, substituted or additional.
 - ii) The site shall mean the land / or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street through which work is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract.
 - iii) The contractor shall mean the individual, firm or company, whether incorporated or not, undertaking the works and shall include the legal personal representative of such individual or the persons composing such firm or company, or the successors of such firm or company and the permitted assignees of such individual, firm or company.
 - iv) Institute means Indian Institute Of Technology, Bombay.
 - v) The Engineer-in-charge means the Engineer Officer who shall supervise and be in charge of the work.
 - vi) Accepting Authority shall mean the authorized authority of the Institute.
 - vii) Excepted Risk are risks due to riots (other than those on account of contractor's employees), war (whether declared or not) invasion, act of foreign enemies, hostilities, civil war, rebellion revolution, insurrection, military or usurped power, any acts of Government, damages from aircraft, acts of God, such as earthquake, lightening and unprecedented floods, and other causes over which the contractor has no control and accepted as such by the Accepting Authority or causes solely due to use or occupation by Institute of the part of the works in respect of which a certificate of completion has been issued or a cause solely due to Institute faulty design of works.
 - viii) Market Rate shall be the rate as decided by the Engineer-in-charge on the basis of the cost of materials and labour at the site where the work is to be executed plus all overheads and profits.

- ix) Schedule(s) referred to in these conditions shall mean the relevant schedule(s) annexed to the tender papers, with the amendments thereto issued upto the date of receipt of the tender.
- x) Tendered value means the value of the entire work as stipulated in the letter of award.
- xii) Date of commencement of work : The date of commencement of work shall be 15th day from date of issue of work order or the first date of handing over of the site or as mentioned in the work order, whichever is later, in accordance with the phasing if any, as indicated in the tender document.
- xii) 'Department' means Estate Office, IIT Bombay which invites the tenders.
- xiii) 'District specification' means the specifications followed by the state of Maharashtra in the area where the work is to be executed.
- xiv) 'Tendered value' means the value of the entire work as stipulated in the letter of award.
- xv) Employer means IIT Bombay.
- xvi) Wherever the expression "Divisional Officer" appears in the Clauses, it should be substituted by the expression "Executive Engineer (Civil)"

Scope And Performance

- 3) Where the context so requires, words imparting the singular only also include the plural and vice versa. Any reference to masculine gender shall whenever required include feminine gender and vice versa.
- 4) Headings and Marginal notes to these General Conditions of Contract shall not be deemed to form part thereof or be taken into consideration in the interpretation or construction thereof or of the contract.
- 5) The contractor shall be furnished, free of cost one certified copy of the contract documents, schedule of Rates and such other printed and published documents, together with all drawings as may be forming part of the tender papers. None of these documents shall be used for any purpose other than that of his contract.

Works to be carried out

- 6) The work to be carried out under the contract shall, except as otherwise provided in these conditions, include all labour, materials, tools, plants, equipment and transport which may be required in preparation of and for and in the full and entire execution and completion of the works. The descriptions given in the Schedule of Quantities (Schedule – A) shall, unless otherwise stated, be held to include wastage on materials, carriage and cartage, carrying and return of empties, hoisting, setting, fitting and fixing in position and all other labours necessary

in and for the full and entire execution and completion of the work as aforesaid in accordance with good practice and recognized principles.

Sufficiency of Tender

- 7) The contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices quoted in the Schedule of Quantities, which rates and prices shall, except as otherwise provided, cover all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the works.

Discrepancies and Adjustment of Errors

- 8) The several documents forming the contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scale and special conditions in preference to scale and special conditions in preference to General Conditions.

8.1 In the case of discrepancy between the schedule of Quantities, the Specification and / or the Drawings, the following order of preference shall be observed : -

- i) Description of Schedule of Quantities
- ii) Particular Specification and Special Condition, If any.
- iii) Drawings.
- iv) CPWD Specification.
- v) Indian Standard Specification of B.I.S

8.2 If there are varying or conflicting provisions made in any one document forming part of the contract, the Accepting Authority Shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on the contractor.

8.3 Any error in description, quantity or rate in schedule of quantities or any omission therefrom shall not vitiate the contract or release the contractor from the execution of the whole or any part of the works comprised therein according to drawings and specification or from any of his obligations under the contract.

Signing of Contract

9. The successful tenderer / contractor, on acceptance of his tender by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work, sign the contract consisting of : -

- i) The notice inviting tender, all the documents including drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
- ii) Standard form consisting of:

- a) Various standard clauses with correction up to the date stipulated along with annexures thereto.
- b) Special Conditions
- c) Safety Code.
- d) Model Rules for the protection of health, sanitary arrangement for workers employed by Contractors.
- e) Signed Article of agreement (given as Annexure-I) on Rs. 100/- stamp paper for work costing more than Rs.20.00 lakhs.

iii) No payment for the work done will be made unless contract is signed by the contractor.

10. Agreement for each work costing more than Rs. 20.00 Lakhs will be executed on stamp paper of Rs. 100/- for the works valuing less than Rs. 20.00 Lakhs, the tender document and the work order will be treated as the agreement.

11. The notice inviting e-tender, the financial bid and all other the documents including drawings, if any, forming the tender as issued at the time of invitation of e-tender and acceptance thereof together with any correspondence leading thereto.

12. Decisions taken in the Pre-bid meeting if conducted.

13. IIT Bombay reserves its right to verify all the credentials, quality, quantity, workmanship, other required details etc. of the contractors with his clients along with ongoing projects and other sources before finalization and award of work. IIT Bombay reserve its right to award any quantity of works to any other contractor/agencies at his own risk and cost.

sd/-

Superintending Engineer

Signature of Contractor

CLAUSES OF CONTRACT

CLAUSE 1

Recovery of Security Deposit

The person / persons whose tender(s) may be accepted (hereinafter called the contractor) shall permit Institute at the time of making any payment to him for work done under the contract to deduct a sum at the rate of 05% of the gross amount of each running bill till the sum along with the sum already deposited as earnest money, will amount to security deposit of 5% of the actual value of work. Such deductions will be made and held the Institute by way of Security Deposit unless he / they has / have deposited the amount of security at the rate mentioned above in cash or in the form of Government Securities.

The Security deposit thus recovered will be released after a period of 24 months (Defect liability period) from the date of completion of work subject to the condition that no defects are noticed and reported during this period .Defect liability period will be rectified by the Contractor through their own cost and arrangement. In case the Contractor failed to do the rectification within the prescribed time frame, penal actions including cancellation of empanelment and black listing of the Contractor will be initiated.

All compensation or the other sums of money payable by the contractor under the terms of this contract may be deducted from, or paid by the sale of a sufficient part of his security deposit or from the interest arising there from, or from any sums which may be due to or may become due to the contractor by Government on any account whatsoever and in the event of his security deposit being reduced by reason of any such deductions or sale as aforesaid, the contractor shall within 10 days make good in cash any sum or sums which may have been deducted from, or raised by sale of his security deposit or any part thereof. The security deposit shall be collected from the running bills of the contractor at the rates mentioned above.

The security deposit as deducted above can be released against bank guarantee issued by a schedule bank, on its accumulations to a minimum of Rs. 5 Lakh subject to the condition that amount of such bank guarantee, except last one, shall not be less than Rs. 5 Lakh. Provided further that the validity of bank guarantee including the one given against the earnest money shall be in conformity with provisions contained in Clause 17 which shall be extended from time to time depending upon extension of contract granted under provision of clause 2 and 5.

CLAUSE 2**Compensation for delay**

If the contractor fails to maintain the required progress in terms of clause 5 or to complete the work and clear the site on or before the contract or extended date of completion, he shall, without prejudice to any other right or remedy available under the law to the Government on account of such breach, pay as agreed compensation the amount calculated at the rates stipulated below may decide on the amount of balance value of the work remains incomplete on stipulated / extended date of completion.

This will also apply to items or group of items for which a separate period of completion has been specified.

i) Compensation for delay of work : @1.00% per month of delay to be computed on per day basis.

Provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 10% of the Actual value of work or of the actual value of the item or group of items of work for which a separate period of completion is originally given. The amount of compensation may be adjusted or set-off against any sum payable to the contractor under this or any other contract with the Institute.

CLAUSE 3

Subject to other provisions contained in this clause, the Engineer-in-charge may, without prejudice to his any other rights or remedy against the contractor in respect of any delay, inferior workmanship, any claims for damages and / or any other provisions of this contract or otherwise, and whether the date of completion has or has not elapsed, by notice in writing absolutely determine the contract in any of the following cases :

- i) If the contractor having been given by the Engineer-in-Charge a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or unworkman like manner shall omit to comply with the requirement of such notice for a period of seven days thereafter.
- ii) If the contractor has, without reasonable cause, suspended the progress of the work or has failed to proceed with the work with due diligence so that in the opinion of the Engineer-in-Charge (Which shall be final and binding) he will be unable to secure completion of the work by the date for completion and continuous to so after a notice in writing of seven days from the Engineer-in-charge.
- iii) If the contractor fails to complete the work withing the stipulated date or items of work with individual date of completion, if any stipulated, on or before such date(s) of completion and does not complete them within the period specified in a notice given in writing in that behalf by the Engineer-in-charge.

- iv) If the contractor persistently neglects to carry out his obligation under the contract and / or commits default in complying with any of the terms and conditions of the contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by Engineer-in-Charge.
- v) If the contractor shall offer or given or agree to give to any person in the Institute service or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other contract for Government.
- vi) If the contractor shall enter into a contract with Institute in connection with which commission has been paid or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to the Engineer-in-Charge.
- vii) If the contractor shall obtain a contract with the Institute as a result of wrong tendering or other non- bonafide methods of competitive tendering.
- viii) If the contractor being an individual, or if a firm, any partner thereof shall at any time be adjudged insolvent or have a receiving order or order for administration of his estate made against him or shall take any proceedings for liquidation or composition (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) under any insolvency Act for the time being in force or make any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors or purport so to do, or if any application be made under any insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be executed by him for benefit of his creditors.
- ix) If the contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed or if circumstances shall arise which entitle the court or the creditor to appoint a receiver or a manager or which entitle the court to make a winding up order.
- x) If the contractor shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 Days.
- xi) If the contractor assigns, transfers, sublets (engagement of labour on a piece-work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be subletting) or otherwise parts with or attempts to assign, transfer, sublet or otherwise parts with the entire works or any portion thereof without the prior written approval of the Engineer-in-Charge.

When the contractor has made himself liable for action under any of the cases aforesaid, the Engineer-in-Charge on behalf of the Institute shall have powers :

- a) To determine the contract as aforesaid (of which termination notice in writing to the contractor under the hand of the Engineer-in-charge shall be conclusive evidence). Upon such determination, the Earnest Money Deposit, Security Deposit already recovered and performance Guarantee under the contract shall be liable to be forfeited and shall be absolutely at the disposal of the Government.

b) After giving notice to the contractor to measure up the work of the contractor and to take such whole, or the balance or part thereof, as shall be un-executed out of his hands and to give it to another contractor to complete the work. The contractor, whose contract is determined as above, shall not be allowed to participate in the tendering process for the balance work.

In the event of above course being adopted by the Engineer-in-charge, the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the contract. And in case action is taken under any of the provision aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Engineer-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

CLAUSE 3A

In Case, the work cannot be started due to reasons not within the control of the contractor within the stipulated time for completion of work, either party may close the contract. In such eventuality, the Earnest Money Deposit of the contractor shall be refunded, but no payment on account of interest, loss of profit or damages etc shall be payable at all.

CLAUSE 4

Contractor liable to pay Compensation even if action not taken under Clause 3

In any case in which any of the power conferred upon the Engineer-in-charge by Clause – 3 thereof, shall have become exercisable and the same are not exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any future case of default by the contractor and the liability of contractor for compensation shall remain unaffected. In event of the Engineer-in-charge putting in force all or any of the powers vested in him under the preceding clause he may, if he so desires after giving a notice in writing to the contractor, take possession of (or at the sole discretion of the Engineer-in-Charge which shall be final and binding on the contractor) use as on hire(the amount of the hire money being also in the final determination of the Engineer-in-charge) all or any tools, plant, materials and stores, in or upon the works, or the site thereof belonging to the contractor, or procured by the contractor and intended to be used for the execution of the work / or any part thereof, paying or allowing for the same in account at the contract rates, or, in the case of these not being applicable, at current market rates to be certified by the Engineer-in-Charge, whose certificate thereof shall be final, and binding on the contractor, clerk of the works, foreman or other authorized agent to remove such tools, plant, materials, or stores from the premises (withing a time to be specified in such notice) in the event of the contractor failing to comply with any such requisition, the Engineer-in-charge may remove them at the contractors expense or sell them by auction or private sale on account of the contractor and his risk in all respects and the certificate of the Engineer-in-Charge as to the expenses of any such removal and the amount of the proceed and expense of any such sale shall be final and conclusive against the contractor.

CLAUSE 5**Time and Extension for Delay**

The time allowed for execution of the works as specified in work order or the extended time in accordance with these conditions shall be the essence of the contract. The execution of the works shall commence from such time period as mentioned in work order or from the date of handing over of the site whichever is later. If the contractor commits default in commencing the execution of the work as aforesaid, Government shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the earnest money & performance guarantee absolutely.

5.1 As soon as possible after the contract is concluded, the contractor shall submit a Time and Progress chart for each mile stone and get it approved by the Department. The Chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the work.

5.2 If the work(s) be delayed by :-

- i) force majeure, or
- ii) abnormally bad weather, or
- iii) serious loss or damage by fire, or
- iv) civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or
- v) delay on the part of other contractors or tradesmen engaged by Engineer-in-charge in executing work not forming part of the contract, or
- vi) non-availability of stores, which are the responsibility of Government to supply or
- vii) non-availability or break down of tools and plant to be supplied or supplied by Government or
- viii) any other cause which, in the absolute discretion of the Engineer-in-charge is beyond the contractor's control.

Then upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the authority as indicated in the work order but shall nevertheless use constantly his best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-charge to proceed with the works.

5.3 Request for rescheduling of Mile stone and extension of time, to be eligible for consideration, shall be made by the Contractor in writing within fourteen days of the happening of the event causing delay on the prescribed form to the Institute. The contractor may also, if practicable, indicate in such a request the period for which extension is desired.

5.4 In any such case the Institute may give a fair and reasonable extension of time and reschedule the mile stones for completion of work. Non application by the contractor for extension of time shall not be a bar for giving a fair and reasonable extension by the Institute and this shall be binding on the contractor.

CLAUSE 6

Computerized Measurement Book

Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement the value of work done in accordance with the contract. All measurement of all items having financial value shall be entered by the contractor and compile in the shape of the Computerized Measurement Book having pages of A-4 size as per the format of the department so that a complete record is obtained of all the items of works performed under the contract.

All such measurement and levels recorded by the contractor or his authorized representative from time to time, during the progress of the work, shall be got checked by the contractor from the Engineer-in-charge or his authorized representative as per interval or program fixed in consultation with Engineer-in-Charge , or his authorized representative. After the necessary correction made by Engineer-In-Charge, the measurement sheets shall be returned to the contractor for incorporating the corrections and for resubmission to the Engineer -in-Charge for the dated signatures by the Engineer-in-charge and the contractor or their representatives in token of their acceptance.

Whenever bill is due for payment, the contractor would initially submit draft computerized measurement sheets and these measurements would be got checked / test checked from the Engineer-in-Charge and / or his authorized representative. The contractor will, thereafter, incorporate such changes as may be done during these checks / test checks in his draft computerized measurement, and submit to the department a computerized measurement book, with its pages numbered. The Engineer-in-charge and / or his authorized representative would thereafter check this MB, and record the necessary certificates for their checks / test checks.

The contractor shall also submit to the department separately his computerized abstract of cost and the bill based on these measurements, duly bound, and its pages numbered along with two spare copies of the “bill”. Thereafter, this bill will be processed.

The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for checking of measurements / levels by the Engineer-in-Charge or his representative.

Except where any general or detailed description of the work expressly shows to the contrary, measurement shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant standard Method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of India standards and if for any item no such standard is available then a mutually agreed method shall be followed.

The Contractor shall give not less than seven days' notice to the Engineer-in-charge or his authorized representative in charge of the work before covering up or otherwise placing beyond the reach of checking and / or test checking the measurement of any work in order that the same may be checked and / or test checked and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of checking and / or test checking measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-Charge or his authorized representative in charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of checking and / or test checking measurements without such notice having been given or the Engineer-in-Charge's consent being obtained in writing the same shall be uncovered at the contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

Engineer-in-Charge or his authorized representative may cause either themselves or through another officer of the department to check the measurements recorded by contractor and all provision stipulated herein above shall be applicable to such checking of measurements or levels.

It is also a term of this contract that checking and / or test checking the measurement of any item of work in the measurement book and / or its payment in the interim, on account of final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

CLAUSE 7

Payment on Intermediate Certificate to be Regarded as Advance

No payment shall be made for work, estimated to cost Rs. Twenty thousand or less till after the whole of the work shall have been completed. For works estimated to cost over Rs. Twenty Thousand, the interim or running account bills shall be submitted by the contractor for the work executed on the basis of such recorded measurements on the format of the Institute in triplicate on or before the date of every month fixed for the same by the Engineer-in-Charge. The contractor shall not be entitled to be paid any such interim payment if the gross work done together with net payment / adjustment of advances for material collected, if any, since the last such payment is less than the amount specified in Project Schedule, if any, in which case the interim bill shall be prepared on the appointed date of the month after the requisite progress is achieved. Engineer-in-charge shall arrange to have the bill verified by taking or causing to be taken, where necessary, the requisite measurement of the work. In the event of the failure of the contractor to submit the bills, Engineer – Incharge shall prepared or cause to be prepared such bills in which event no claims, whatsoever due to delays on payment including that of interest shall be payable to the contractor. Payment on account of amount admissible shall be made by the Engineer-in-Charge certifying the sum to which the contractor is considered entitled by way of interim payment at such rates as decided by the Engineer-in-Charge.

All such interim payments shall be regarded as payment by way of advances against final payment only and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be rejected, remove, taken away and reconstructed or re-erected. Any certificate given by the Engineer-in-Charge relating to the work done or materials delivered forming part of such payment, may be modified or

corrected by any subsequent such certificate (s) or by the final certificate and shall not by itself be conclusive evidence that any work or materials to which it relates is / are in accordance with the contract and specification. Any such interim payment, or any part thereof shall not in any respect conclude, determine or affect in any way powers of the Engineer-in-Charge under the contract or any of such payments be treated as final settlement and adjustment of accounts or in any way vary or affect the contract.

Pending consideration of extension of date of completion, interim payment shall continue to be made as herein provided without prejudice to the right of the department to take action under the terms of this contract for delay in the completion of work, if the extension of date of completion is not granted by the competent authority.

Payment in Composite Contracts

In case of composite tenders, running payment for the major component shall be made by EE of major discipline to the main contractor. Running payment for minor component shall be made by the Engineer-in-Charge of the discipline of minor component directly to the main contractor.

In case main contractor fails to make the payment to the contractor associated by him within 15 days of receipt of each running account payment, then on the written complaint of contractor associated for such minor component, Engineer-in-Charge of minor component shall serve the show cause to the main contractor and if reply of main contractor either not received or found unsatisfactory, he may make the payment directly to the contractor associated for minor component as per the terms and conditions of the agreement drawn between main contractor and associate contractor fixed by him. Such payment made to the associate contractor shall be recovered by Engineer-in-Charge of major or minor component from the next R/A/ Final bill due to main contractor as the case may be.

CLAUSE 8

Completion Certificate and Completion Plans

Within ten days of the completion of the work, the contractor shall give notice of such completion to the Engineer-in-Charge and within thirty days of the receipt of such notice, the Engineer-in-charge shall inspect the work and if there is no defect in the work, shall process the final bill other wise the defects are to be rectified by the contractor and / or for which payment will be made at reduced rates. But no final certificate of completion shall be issued, nor shall the work be considered to be complete until the contractor shall have removed from the premises on which the work shall be executed all scaffolding, surplus material, rubbish and all huts and sanitary arrangement required for his / their work people on the site in connection with the execution of the works as shall have been erected or constructed by the Contractor(s) and cleaned off the dirt from all wood work, doors, windows, walls, floor or other parts of the building, in, upon, or about which the work is to be executed or of which he may have had possession for the purpose of the execution; thereof, and not until the work shall have been measured by the Engineer-in-Charge. If the contractor shall fail to comply with the requirement of this clause as to removal of scaffolding, surplus materials and rubbish and all huts and sanitary arrangements as aforesaid and cleaning off dirt on or before the date fixed for the completion of work,

the Engineer-in-Charge may at the expense of the contractor remove such scaffolding, surplus materials and rubbish etc., and dispose of the same as he thinks fit and clean off such dirt as aforesaid, and the contractor shall have no claim in respect of scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

CLAUSE 8A

Contractor to Keep Site Clean

When the annual repairs and maintenance of works are carried out, the splashes and droppings from white washing, colour washing, painting etc., on walls, floor, windows, etc shall be removed and the surface cleaned simultaneously with the completion of these items of work in the individual rooms, quarters or premises etc. where the work is done without waiting for the actual completion of all the other items of work in the contract. In case the contractor fails to comply with the requirements of this clause, the Engineer-in-Charge shall have the right to get this work done at the cost of the contractor either departmentally or through any other agency. If the contractor fails to remove debris from the work site within 72 hrs of its generation, penalty as decided by Engineer-In-Charge upto a maximum of 10% of contract sum will be recovered and the final bill will not be processed and repeated offenders name will be removed from enlistment without giving any further notice. Contractors shall not throw out debris any where in the campus. They shall take out the debris as per schedule of items and contract conditions. If the contractor fails to hand over the site neat and clean, a penalty of minimum Rs. 1,000/- and 4 times actual cleaning charges will be recovered.

CLAUSE 9

Payment of Final Bill

The final bill shall be submitted by the contractor in the same manner as specified in interim bills within three months of physical completion of the work. No further claims shall be made by the contractor after submission of the final bill and these shall be deemed to have been waived and extinguished.

CLAUSE 10

Material to be provided by the contractor

The contractor shall, at his own expense, provide all materials, required for the works other than those which are stipulated to be supplied by the Government.

The contractor shall, at his own expense and without delay, supply to the Engineer-in-Charge samples of materials to be used on the work and shall get these approved in advance. All such materials to be provided by the contractor shall be in conformity with the specification laid down or referred to in the contract. The contractor shall, if requested by the Engineer-in-Charge furnish proof, to the satisfaction

of the Engineer-in-Charge, that the materials so comply. The Engineer-in-Charge shall within fifteen days of supply of samples or within such further period as he may require intimate to the contractor in writing whether samples are approved by him or not. If samples are not approved, the contractor shall forthwith arrange to supply to the Engineer-in-Charge for his approval, fresh samples complying with the specifications laid down in the contract. When materials are required to be tested in accordance with specification, approval of the Engineer-in-Charge shall be issued after the test results are received.

The contractor shall at his risk and cost submit the samples of materials to be tested or analyzed and shall not make use of or incorporate in the work any materials represented by the samples until the required tests or analysis have been made and materials finally accepted by Engineer – In- charge. The contractor shall not be eligible for any claim or compensation either arising out of any delay in the work or due to any corrective measures required to be taken on account of and as a result of testing of materials.

The contractor shall, at his risk and cost, make all arrangements and shall provide all facilities as the Engineer-in-Charge may require for collecting, and preparing the required number of samples for such tests at such time and arrange to get it tested and obtaining test certificate from Labs mentioned below and bear all charges and cost of testing unless specifically provided for otherwise elsewhere in the contract or specifications. The Engineer-in-Charge or his authorized representative shall at all times have access to the works and to all workshops and places where work is being prepared or from where materials, manufactured articles or machinery are being obtained for the works and the contractor shall afford every facility and every assistance in obtaining the right to such access.

i) Labs of IIT Bombay (ii) Labs of VJTI (iii) Labs of SPCE (iv) Labs of Structwell Consultant & Engineers.

The Engineer-in-Charge shall have full powers to require the removal from the premises of all materials which in his opinion are not in accordance with the specifications and in case of default, the Engineer-in-Charge shall be at liberty to employ at the expense of the contractor, other persons to remove the same without being answerable or accountable for any loss or damage that may happen or arise to such materials. The Engineer-in-Charge shall also have full powers to require other proper material to be substituted thereof and in case of default, the Engineer-in-Charge may cause the same to be supplied and all costs which may attend such removal and substitution shall be borne by the contractor.

CLAUSE 10 A

Secured Advance on Non-perishable Material

The contractor, on signing an indenture in the form to be specified by the Engineer-in-charge, shall be entitled to be paid during the progress of the execution of the work up to 90% of the assessed value of any materials which are in the opinion of the Engineer-in-Charge non perishable, non fragile and non-combustible and are in accordance with the contract and which have been brought on the site in connection therewith and are adequately stored and / or protected against damage by weather or other causes but which have not at the time of advance been incorporated in the works. When materials on account of which an advance has been made under this sub-clause are incorporated in the work, the

amount of such advance shall be recovered / deducted from the next payment made under any of the clause or clauses of this contract.

CLAUSE 10 B

Dismantled Material Govt Property

The contractor shall treat all materials obtained during dismantling of a structure, excavation of the site for a work, etc as Institute's property and such materials shall be disposed off to the best advantage of the Institute according to the instructions in writing issued by Engineer-in-Charge.

CLAUSE 11

Work to be Executed in Accordance with Specifications, Drawings, Orders etc.

The contractor shall execute the whole and every part of the work in the most substantial and workman like manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect of the work signed by the Engineer-in-Charge and the contractor shall be furnished free of charge one copy of the contract documents together with specifications, designs, drawings and instructions.

The contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The contractor shall take full responsibility for adequacy, suitability and safety of all the works and methods of construction.

CLAUSE 12

Deviations / Variations Extent and Pricing

The Engineer-in-Charge shall have power (i) to make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineer-in-charge and such alterations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work except as hereafter provided.

The Contractor shall bound to do execute additional quantities upto 25 % of work order quantity in the same rate agreed up on as per tender if required as per site condition and as decided by Engineer

Incharge. In exceptional cases, if the item of work to be executed needs to be exceeded beyond 25% of work order quantity, a mutually agreeable rate, either the work order rate or rate derived by the Engineer Incharge based on current market rate or CPWD schedule rate shall be considered.

12.1 The time for completion of the works shall, in the event of any deviations resulting in additional cost over the tendered value sum being ordered, be extended, if requested by the contractor, as follows :

- i) In the proportion which the additional cost of the altered, additional or substituted work, bears to the original tendered value plus.
- ii) 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the Engineer-in-Charge.

Deviation, Extra Items and Pricing

12.2 In the case of extra item(s) (items) that are completely new, and are in addition to the items contained in the contract), the contractor may within fifteen days of receipt of order or occurrence of the item (s) claim rates, supported by proper analysis, for the work and the engineer-in-charge shall within 15 days of the receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.

In the case of substituted items (items that are taken up with partial substitution or in lieu of items of work in the contract), the rate for the agreement item (to be substituted) and substituted item shall also be determined in the manner as mentioned in the following para.

Deviation, Substitute Items and Pricing.

(a) If the market rate for the substituted item so determined is more than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so increased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).

(b) If the market rate for the substituted item so determined is less than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item(to be substituted) so decreased to the extent of the difference between the market rates of substituted item and the agreement items (to be substituted).

CLAUSE 13

Foreclosure of contract due to abandonment or reduction in scope of work.

If at any time after acceptance of the tender, Institute shall decide to abandon or reduce the scope of the works for any reason whatsoever and hence not required the whole or any part of the works to be carried out, the Engineer-in-Charge shall give notice in writing to that effect to the contractor and the contractor shall act accordingly in the matter. The contractor shall have no claim to any payment of

compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the works in full but which he did not derive in consequence of the foreclosure of the whole or part of the works.

The contractor shall be paid at contract rates, full amount for works executed at site and, in addition, the cost of material arranged by the Contractor for the work as certified by the Engineer-in-Charge which could not be utilized on the work to the full extent in view of the foreclosure will be paid as mentioned below;

(i) Institute shall have the option to take over contractor's materials or any part thereof either brought to site or of which the contractor is legally bound to accept delivery from suppliers (for incorporation in or incidental to the work) provided, however Institute shall be bound to take over the materials or such portions thereof as the contractor does not desire to retain. For materials taken over or to be taken over by Institute, cost of such materials as detailed by Engineer-in-Charge shall be paid. The cost shall, however, take into account purchase price and cost of transportation.

CLAUSE 14

Carrying out part work at risk & cost of contractor

If Contractor :

- (i) At any time makes default during currency of work or does not execute any part of the work with due diligence and continues to do so even after a notice in writing of 7 days in this respect from the Engineer-in-Charge; or
- (ii) Commits default in complying with any of the terms and conditions of the contract and does not remedy it or takes effective steps to remedy it within 7 days even after a notice in writing is given in that behalf by the Engineer-in-Charge; or

Fails to complete the work(s) or items of work with individual dates of completion, on or before the date(s) so determined, and does not complete them within the period specified in the notice given in writing in that behalf by the Engineer-in-Charge.

The Engineer-in-charge without invoking action under clause 3 may, without prejudice to any other right or remedy against the contractor which have either accrued or accrue thereafter to the Institute, by a notice in writing to take the part work / part in complete work of any item(s) out of his hands and shall have powers to ;

- (a) Take possession of the site and any materials, constructional plant, implements, stores, etc, thereon; and /or
- (b) Carry out the part work / part incomplete work of any item(s) by any means at the risk and cost of the contractor.

The Engineer-in-Charge shall determine the amount, if any, is recoverable from the contractor for completion of the part work / part incomplete work of any item(s) taken out of his hands and execute at the risk and cost of the contractor, the liability of contractor on account of loss or damage suffered by the Institute because of action under this clause shall not exceed 10% of the tendered value of the work.

In determining the amount, credit shall be given to the contractor with the value of work done in all respect in the same manner and at the same rate as if it had been carried out by the original contractor under the terms of his contract, the value of contractor's materials taken over and incorporated in the work and use of plant and machinery belonging to the contractor. The certificate of the Engineer-in-charge as to the value of work done shall be final and conclusive against the contractor provided always that action under this clause shall only be taken after giving notice in writing to the contractor. Provided also that if the expenses incurred by the department are less than the amount payable to the contractor at his agreement rates, the difference shall not be payable to the contractor.

Any excess expenditure incurred or to be incurred by the Institute in completing the part work / part incomplete work of any item(s) or the excess loss of damages suffered or may be suffered by the Institute as aforesaid after allowing such credit shall without prejudice to any other right or remedy available to the Institute in law or per as agreement be recovered from any money due to the contractor on any account, and if such money is insufficient, the contractor shall be called upon in writing and shall be liable to pay the same within 30 days.

If the contractor fails to pay the required sum within the aforesaid period of 30 days, the Engineer-in-charge shall have the right to sell any or all of the contractors unused materials, constructional plant, implements, temporary building at site etc and adjust the proceeds of sale thereof towards the dues recoverable from the contractor under the contract and if thereafter there remains any balance outstanding, it shall be recovered in accordance with the provisions of the contract.

In the event of above course being adopted by the Engineer-in-charge, the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagement or made any advance on any account or with a view to the execution of the work or the performance of the contract.

CLAUSE 15

Suspension of Work

(i) The contractor shall, on receipt of the order in writing of the Engineer-in-Charge, (whose decision shall be final and binding on the contractor) suspend the progress of the works or any part thereof for such time and in such manner as the Engineer-in-Charge may consider necessary so as not to cause any damage or injury to the work already done or endanger the safety thereof for any of the following reason :

(a) on account of any default on the part of the contractor or;

- (b) for proper execution of the works or part thereof for reasons other than the default of the contractor ; or
- (c) for safety of the works or part thereof.

The contractor shall, during such suspension, properly protect and secure the works to the extent necessary and carry out the instructions given in that behalf by the Engineer-in-Charge.

- (ii) If the suspension is ordered for reasons (b) and (c) in Sub-para (i) above, the contractor shall be entitled to an extension of time equal to the period of every such suspension PLUS 25% for completion of the item or group of items of work for which a separate period of completion is specified in the contract and of which the suspended work forms a part, and ;

CLAUSE 16

Action in case work not done as per Specification

All works under or in course of execution or executed in pursuance of the contract, shall at all times be open and accessible to the inspection and supervision of the Engineer-in-Charge, his authorized subordinates in charge of the work and all the superior officers, or any organization engaged by the Institute for quality assurance and the contractor shall, at all times, during the usual working hours and at all the other times at which reasonable notice of the visit of such officers has been given to the contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing, present for that purpose. Orders given to the contractor's agent shall be considered to have the same force as if they had been given to the contractor himself.

If It shall appear to the Engineer-in-Charge or his authorized subordinates incharge of the work or officers of the organization engaged by the department for quality assurance, that any work has been executed with unsound, imperfect, or unskillful workmanship, or with materials or articles provided by him for the execution of the work which are unsound or of a quality inferior to that contracted or otherwise not in accordance with the contract, the contractor shall, on demand from the Engineer-in-Charge specifying the work, materials or articles, complained of notwithstanding that the same may have been passed, certified and paid for forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost. In the event of the failing to do so within a period specified by the Engineer-in-Charge in his demand aforesaid, then the contractor shall be liable to pay compensation at the same rate as under clause 2 of the contract (for non-completion of the work in time) for this default. In such case the Engineer-in-Charge may not accept the item of work at the rates applicable under the contract but may accept such items at reduced rates as the Institute may consider reasonable and as approved by SE/Dean(IPS) during the preparation of on account bills or final bill if the item is so acceptable without detriment to the safety and utility of the item and the structure or he may reject the work outright without any payment and / or get it and other connected and incidental items rectified, or removed and re-executed at the risk and cost of the contractor. Decision of the Engineer-in-Charge to be conveyed in writing in respect of the same will be final and binding on the contractor.

CLAUSE 17**Contractor Liable for Damages defects during maintenance period**

Contractor is Liable for Damages and defects in the work during maintenance period of 24 months from date of completion of the work.

If the contractor or his working people or servant shall break, deface, injure or destroy any part of building in which they may be working, or any building, road, road, kerb, fence enclosure, water pipe, cables, drains, electric or telephone post or wires, trees grass or grassland, or cultivated ground contiguous to the premises on which the work or any part is being executed, or if any damage shall happen to the work while in progress, from any cause whatever or if any defect, shrinkage or other faults appear in the work within twenty four months for all works except the work mentioned below after a certificate final or otherwise of its completion shall have been given by the engineer-in-charge as aforesaid arising out of defect or improper materials or workmanship the contractor shall upon receipt of a notice in writing on that behalf make the same good at his own expense or in default the Engineer-in-Charge cause the same to be made good by other workmen and deduct the expense from any sums that may be due or at any time thereafter may become due to the contractor, or from his security deposit or the proceeds of sale thereof or of a sufficient portion thereof. The balance 5% security deposit with Institute after payment of final bill shall not be refunded before the expiry of Twelve months or as mentioned in (a) below. After the issue of the certificate final or otherwise, of completion of work, or till the final bill has been prepared and passed whichever is later.

(a) In case of labour supply work Defect Liability Period will be 12 months and Security Deposit will be released after this period. For waterproofing work the Defect Liability Period (Guarantee period) will be mentioned in schedule of item of that work and SD will be released on completion of 24 months after obtaining guarantee bond on non- judicial stamp paper from the contractor. There shall be no Defect Liability Period for grass cutting work, drain desilting works, rental services of machineries , temporary sheds, pandal, decoration, tank cleaning etc. and the SD will be released along with final bill

CLAUSE 18**Contractor to supply tools & plants etc.**

The contractor shall provide at his own cost all materials (except such special materials, if any, as may in accordance with the contract be supplied from the Engineer-in-charge's stores), machinery, tools & plants as specified in schedule of item. In addition to this, appliances, implements, other plants, ladders, cordage, tackle, scaffolding and temporary works required for the proper execution of the work, whether original, altered or substituted and whether included in the specifications or other documents forming part of the contract or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of Engineer-in-Charge as to any matter as to which under these conditions he is entitled to be satisfied or which he is entitled to require together with carriage therefore to and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials, necessary for the purpose of setting out

works, and counting, weighing and assisting the measurement for examination at any time and from time to time of the work or materials. Failing his so doing, the same may be provided by the Engineer-in-charge at the expense of the contractor and the expenses may be deducted, from any money due to the contractor, under this contract or otherwise and / or from his security deposit or the proceeds of sale thereof, or of a sufficient portions thereof.

CLAUSE 18 A

Recovery of Compensation paid to workmen

In every case in which by virtue of the provisions sub-section (1) of section 12, of the workmen's compensation Act, 1923, the Institute is obliged to pay compensation to a workman employed by the contractor, in execution of the works, the Institute will recover from the contractor, the amount of the compensation so paid; and, without prejudice to the rights of the Institute under sub-section(2) of section 12, of the said Act, the Institute shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by the Institute to the contractor whether under this contract or other wise. The Institute shall not be bound to contest any claim made against it under sub-section (1) of section 12, of the said Act, except on the written request of the contractor and upon his giving to the Institute full security for all costs for which the Institute might become liable in consequence of contesting such claim.

CLAUSE 18 B

Ensuring Payment and Amenities to workers if contractor fails

In every case in which by virtue of the provision of the Contract labour (Regulation and Abolition), Act, 1970 and of the Contract Labour (Regulation and Abolition) Central Rules, 1971, the Institute is obliged to pay any amounts of wages to a workman employed by the contractor in execution of the works, or to incur any expenditure in providing welfare and health amenities required to be provided under the above said Act and the rules under clause **19G**, or under the Rules framed by Government from time to time for the protection of health and sanitary arrangements for workers employed by IIT Bombay, Contractors, the Institute will recover from the contractor, the amount of wages so paid or the amount of expenditure so incurred ; and without prejudice to the rights of the Institute under sub-section (2) of section 20, and sub-section (4) of Section 21, of the contract labour (Regulation and Abolition) Act, 1970, the Institute shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by the Institute to the contractor whether under this contract or otherwise the Institute shall not be bound to contest any claim made against it under sub- section (1) of Section 20, sub – section (4) of Section 21, of the said Act, except on the written request of the contractor and upon his giving to the Institute full security for all costs for which the Institute might become liable in contesting such claim.

CLAUSE 19**Labour Laws to be complied by the Contractor**

The contractor shall obtain a valid license under the Contract Labour (R & A), Act 1970, and the contract labour (Regulation and Abolition) Central Rules, 1971, before the commencement of the work, and continue to have a valid license until the completion of the work. The contractor shall also abide by the provisions of the Child Labour (Prohibition and Regulation) Act, 1986.

The contractor shall also comply with the provisions of the building and other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other Construction Workers Welfare Cess Act, 1996.

Any failure to fulfill these requirements shall attract the penal provisions of this contract arising out of the resultant non-execution of the work.

CLAUSE 19 A

No Labour below the age of eighteen years shall be employed on the work.

CLAUSE 19 B**Payment of Wages : -**

- (i) The contractor shall pay to labour employed by him either directly or through sub-contractors, wages not less than fair wages as per the provision of the Contract Labour (Regulation and Abolition) Act, 1970 and the contract labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.
- (ii) The contractor shall, notwithstanding the provisions of any contract to the contrary, cause to be paid fair wage to labour indirectly engaged on the work, including any labour engaged by his sub-contractors in connection with the said work, as if the labour had been immediately employed by him.
- (iii) In respect of all labour directly or indirectly employed in the works for performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied Labour Regulations and minimum wages Act made by Government from time to time in regard to payment of wages, wage period, deductions from wages recovery of wages not paid and deductions unauthorizedly made, maintenance of wage books or wage slips, publication of scale of wages and other terms of employment, inspection and submission of periodical returns and all other matters of the like nature or as per the provision of the Contract Labour (Regulation and Abolition) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.

(iv) (a) The Engineer-in-charge concerned shall have the right to deduct from the moneys due to the contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfillment of the conditions of the contract for the benefit of the workers, non-payment of wages or of deductions made from his or their wages which are not justified by their terms of the contract or non-observance of the Regulations.

(b) Under the provision of Minimum Wages (Central) Rules, 1950, the contractor is bound to allow to he labour directly or indirectly employed in the works one day rest for 6 days continuous work and pay wages at the same rate as for duty. In the event of default, the Engineer-in-Charge shall have the right to deduct the sum or sums not paid on account of wages for weekly holidays to any labours and pay the same to the person entitled thereto from any money due to the contractor by the Engineer-in-Charge concerned.

(v) The contractor shall comply with the provisions of the payment of Wages Act, 1936, Minimum Wages Act, 1948, Employees Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Factories Act, 1948, Shop & establishment Act, 1960, ESIC Act 1948, Maternity Benefits Act, 1961 amended in 2017, the Contractor's Labour (Regulation and Abolition) Act 1970 and Payment of Gratuity Act, 1972.

The Indian Parliament passed 04 labour codes in 2019 and 2020 sessions. These four codes will consolidate 44 existing labour laws. They are: The Industrial Relations Code,2020, The code on Social Security,2020, The Occupational Safety, Health and Working Conditions Code, 2020 and The code on Wages, 2019. The contractors should follow the modifications/notifications thereof or any other laws relating thereto and the rules made there under from time to time.

(vi) The contractor shall indemnify and keep indemnified the Institute against payments to be made under and for the observance of laws aforesaid without prejudice to his right to claim indemnity from his sub-contractors.

(vii) The laws aforesaid shall be deemed to be a part of this contract and nay breach thereof shall be deemed to be a breach of this contract.

(viii) Whatever is the minimum wage for the time being, or if the wage payable is higher than such wage, such wage shall be paid by the contractor to the workmen directly without the intervation of Jamadar and that Jamadar shall not be entitled to deduct or recover any amount from the minimum wage payable to the workmen as and by way of commission or otherwise.

(ix) The contractor shall ensure that no amount by way of commission or otherwise is deducted or recovered by the Jamadar from the wage of workmen.

(x) The Contractor has to follow all labour laws, Govt of India & Govt of Maharashtra Labour Acts which are in force at present and introduced from time to time, such as Acts, enforced by Regional Provident Fund Commissioner, Directorate of E.S.I.C. and enforcement officer of Contract Labour Act, and all necessary arrangement for labour security insurance will have to be made by the contractor at his own cost including paying minimum wages, gratuity, etc. declared by competent authority from time to time.

CLAUSE 19 C

In respect of all labour directly or indirectly employed in the work for the performance of the contractor's part of this contract, the contractor shall at his own expense arrange for the safety provision as per safety code framed from time to time and shall at his own expense provide for all facilities in connection therewith. In case the contractor fails to make arrangement and provide necessary facilities as aforesaid, he shall be liable to pay a penalty of Rs. 200/- for each default and in addition, the Engineer-in-Charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the costs incurred in that behalf from the contractor.

CLAUSE 19 D

In respect of all labour directly or indirectly employed in the works for the performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with all the rules frame by Government from time to time for the protection of health and sanitary arrangements for workers employed by the Institute and its contractors.

CLAUSE 19 E

Leave and pay during leave shall be regulated as follows :-

1. Leave

- (i) in the case of delivery – maternity leave not exceeding 8 weeks, 4 weeks up to and including the day of delivery and 4 weeks following that day,
- (ii) in the case of miscarriage – upto 3 weeks from the date of miscarriage.

2. Pay :

- (i) In the case of delivery-leave pay during maternity leave will be at the rate of the women's average daily earning, calculated on total wages earned on the days when full time work was done during a period of three months immediately preceding the date on which she gives notice that she expects to be confined or at the rate of Rupee one only a day whichever is greater.
- (ii) In the case of miscarriage – leave pay at the rate of average daily earning calculated on the total wages earned on the days when full time work was done during a period of three months immediately preceding the date of such miscarriage.

3. Condition for the grant on Maternity Leave :

No maternity leave benefit shall be admissible to a woman unless she has been employed for a total period of not less than six months immediately preceding the date on which she proceeds on leave.

4. The Contractor shall maintain a register of Maternity (Benefit) in the Prescribed form as shown in appendix – I and II, and the same shall be kept at the place of work.

CLAUSE 19 F

If it appear to the Engineer-in-Charge that the contractor(s) is/are not properly observing and complying with the provisions of the contract labour (Regulation and Abolition) Act 1970, and the Contract labour (R & A) Central Rules 1971, for the protection of health and sanitary arrangements for work-people employed by the contractor (s) (hereinafter referred as “ the said Rules”) the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said Rules be complied with and the amenities prescribed therein be provided to the work-people within a reasonable time to be specified in the notice. If the contractor(s) shall fail within the period specified in the notice to comply with and / observe the said Rules and to provide the amenities to the work-people as aforesaid, the Engineer-in-Charge shall have the power to provide the amenities hereinbefore mentioned at the cost of the contractor(s). The contractor (s) shall erect, make and maintain at his / their own expense and to approved standards all necessary huts and sanitary arrangement required for his/their work-people on the site in connection with the execution of the works, and if the same shall not have been erected or constructed, according to approved standards, the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said huts and sanitary arrangement be remodelled and /or reconstructed according to approved standards, and if the contractor(s) shall fail to remodel or reconstruct such huts and sanitary arrangement according to approved standards within the period specified in the notice, the Engineer-in-Charge shall have the power to remodel or reconstruct such huts and sanitary arrangement according to approved standards at the cost of contractor(s).

CLAUSE 19 G

In case the Institutes competent authority allows and permits the contractor to construct labour camp in the Campus as a special case.

The conditions are as follows;

The contractor(s) shall at his / their own cost provide his/ their labour with a sufficient number of huts (hereinafter referred to as the camp) of the following specification on the plot of land approved by the Engineer-in-Charge.

- (i) (a) The minimum height of each hut at the eaves level shall be 2.10m (7 ft.) and the floor area to be provided will be at the rate of 2.7 Sqm (30 Sq. Ft) for each member of the worker's family staying with the labourer.
- (b) The contractor(s) shall in addition construct suitable cooking places having a minimum area of 1.80m x 1.50m (6' x 5') adjacent to the hut for each family.
- (c) The contractor(s) shall also construct temporary latrines and urinal for the use of the labourers each on the scale of not less than four per each one hundred of the total strength, separate latrines and urinals being provided for women.
- (d) The contractor(s) shall construct sufficient number of bathing and washing places, one unit for every 25 persons residing in the camp. These bathing and washing places shall be

suitable screened.

- (ii) (a) All the huts shall have walls of sun-dried or burnt-bricks laid in mud mortar or other suitable local materials as may be approved by the Engineer-in-Charge. In case of sun-dried bricks, the walls should be plastered with mud gobi on both sides. The floor may be kutcha but plastered with mud gobi and shall be at least 15cm (6") above the surrounding ground. The roofs shall be laid with thatch or any other materials as may be approved by the Engineer-in-Charge and the contractor shall ensure that throughout the period of their occupation, the roofs remain water-tight.
- (b) The contractor(s) shall provide each hut with proper ventilation.
- (c) All doors, windows, and ventilators shall be provided with suitable leaves for security purposes.
- (iii) Water supply – The Contractor(s) shall provide adequate supply of water for the use of labourers. The provisions shall not be less than two gallons of pure and wholesome water per head per day for drinking purposes and three gallons of clean water per head per day for bathing and washing purposes. Where piped water supply is available, supply shall be at stand posts and where the supply is from wells or river, tanks which may be of metal or masonry, shall be provided. The contractor(s) shall also at his / their own cost make arrangement for laying pipe lines for water supply to his / their labour camp from the existing mains wherever available, and shall pay all fees and charges therefore.
- (iv) Disposal of Excreta – The contractor(s) shall make necessary arrangement for the disposal of excreta from the latrines by trenching or incineration which shall be according to the requirements laid down by the PHO and local health authorities. If trenching or incineration is not allowed, the contractor(s) shall make arrangements for the removal of excreta through the Municipal Committee / authority and inform it about the number of labourers employed so that arrangements may be made by such committee / authority for the removal of excreta. All charges on this account shall be borne by the contractor and paid direct by him to the Municipality / Authority. The contractor shall provide one sweeper for every eight seats in case of dry system.
- (v) Drainage – The contractor(s) shall provide efficient arrangement for draining away sullage water so as to keep the camp neat and tidy.
- (vi) The contractor(s) shall make necessary arrangement for keeping the camp area sufficiently lighted to avoid accidents to the workers.
- (vii) Sanitation – The contractor(s) shall make arrangements for conservancy and sanitation in the labour camps according to the rules of the Public Health and Medical Authorities.

CLAUSE 19 H

The Engineer-in-Charge may require the contractor to dismiss or remove from the site of the work any person or persons in the contractors employ upon the work who may be incompetent or misconduct himself and the contractor shall forthwith comply with such requirement. In respect of maintenance / repair or renovation works etc where the labour have an easy access to the individual houses, departments, the contractor shall issue identity cards to the labourers, whether temporary or permanent and he shall be responsible for any untoward action on the part of such labour.

CLAUSE 19 I

It shall be the responsibility of the contractor to see that the building under construction or repair is not occupied by any body unauthorizedly during construction and repair and is handed over to the Engineer-in-Charge with vacant possession.

CLAUSE 19 J**Employment of Skilled / Semiskilled workers**

The contractor shall, at all stages of work, deploy skilled ./ Semi skilled tradesmen who are qualified and possess certificate in particular trade from CPWD Training Institute / Industrial Training Institute/ National Institute of Construction Management and Research (NICMAR) / National Academy of Construction, CIDC or any similar reputed and recognized Institute managed / certified by State / Central Government.

CLAUSE 20**Minimum Wages Act to be Complied with**

The contractor shall comply with all the provisions of the Minimum Wages Act, 1948, and Contract labour (Regulation and Abolition) Act, 1970, amended from time to time and rules framed thereunder and other labour laws affecting contract labour that any be brought into force from time to time.

CLAUSE 20 A**LABOUR LICENSE**

If the contractor needs to engage more than 20 workers per day they shall get labour license from competent authority by completing the certain formalities. Wages to the labourers shall be paid by the contractor as per the minimum wages act and circular issued by the Regional Labour Commissioner, Mumbai. If any accident takes place contractor will be held fully responsible for that and they shall make arrangement to get workman compensation. If the contractor engaging more than 10 labourers they shall compile the provision of building and construction act.

CLAUSE 21**Work not to be sublet. Action in case of insolvency**

The contract shall not be assigned or sublet without the written approval of the Institute. And if the contractor shall assign or sublet his contract, or attempt to do so, or become insolvent or commence any insolvency proceedings or make any composition with his creditors or attempt to do so, or if any bribe, gratuity, gift, loan, perquisite, reward or advantage pecuniary or otherwise, shall either directly or indirectly, be given, promised or offered by the contractor, or any of his servants or agent to any public officer or person in the employ of the Institute in any way relating to his office or employment, or if any such officer or person shall become in any way directly or indirectly interested in the contract, the Institute shall have power to adopt the course specified in Clause 3 hereof in the interest of the Institute and in the event of such course being adopted, the consequences specified in the said Clause 3 shall ensue.

CLAUSE 22

All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of the Institute without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.

CLAUSE 23**Changes in firm's Constitution to be intimated**

Where the contractor is a partnership firm, the previous approval in writing of the Engineer-in-Charge shall be obtained before any change is made in the constitution of the firm. Where the contractor is an individual or a Hindu undivided family business concern, such approval as aforesaid shall likewise be obtained before the contractor enters into any partnership agreement where under the partnership firm would have the right to carry out the works hereby undertaken by the contractor. If previous approval as aforesaid is not obtained, the contract shall be deemed to have been assigned in contravention of Clause 21 hereof and the same action may be taken, and the same consequences shall ensue as provided in the said Clause 21.

CLAUSE 24

All works to be executed under the contract shall be executed under the direction and subject to the approval in all respect of the Engineer-in-Charge who shall be entitled to direct at what point or points and in what manner they are to be commenced, and from time to time carried on.

CLAUSE 25**Settlement of Disputes & Arbitration**

Except where otherwise provided in the contract, all question and disputes relating to the meaning of the specification, design, drawings and instructions herein before mentioned and as to the quality of

workmanship or materials used on the work or as to any other question, claim, right, matter or things whatsoever in any way arising out of or relating to the contract, designs, drawings, specification, estimates, instructions, orders or these conditions or otherwise concerning the works or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned hereinafter.

(i) If the contractor considers any work demanded of him to be outside the requirements of the contract, or disputes any drawings, record or decision given in writing by the Engineer-in-Charge on any matter in connection with or arising out of the contract or carrying out of the work, to be unacceptable, he shall promptly within 5 days request the Superintending Engineer/Executive Engineer in writing for written instruction or decision. Thereupon, the Superintending Engineer/Executive Engineer shall give his written instruction or decision within a period of 10 days from the receipt of the contractor's letter.

If The Superintending Engineer/Executive Engineer fails to give his instructions or decision in writing within the aforesaid period or if the contractor is dissatisfied with the instructions or decision of the Superintending Engineer/Executive Engineer, the contractor may, within 5 days of the receipt of Superintending Engineer/Executive Engineer's decision, appeal to the Dean (IPS) who shall afford an opportunity to the contractor to be heard, if the latter so desires, and to offer evidence in support of his appeal. The Dean (IPS) shall give his decision within 30 days of receipt of contractor's appeal. If the contractor is dissatisfied with this decision, the contractor shall within a period of 30 days from receipt of the decision, give notice to the Dean (IPS) for appointed of arbitrator failing which the said decision shall be final binding and conclusive and not referable to adjudication by the arbitrator.

(ii) Except where the decision has become final, binding and conclusive in terms of sub para (i) above, disputes or difference shall be referred for adjudication through arbitration by a sole arbitrator appointed by the Deputy Director (AIA) of IIT Bombay. If the arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever, another sole arbitrator shall be appointed in the manner aforesaid. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor.

It is a term of this contract that the partly invoking arbitration shall give a list of disputes with amounts claimed in respect of each such dispute along with the notice for appointment of arbitrator and giving reference to the rejection by the Dean (IPS) of the appeal.

It is also a term of this contract that no person, other than a person appointed by Deputy Director (AIA) of IIT Bombay as aforesaid, should act as arbitrator and if for any reason that is not possible, the matter shall not be referred to arbitration at all.

It is also a term of this contract that if the contractor does not make any demand for appointment of arbitrator in respect of any claims in writing as aforesaid within 30 Days of receiving the intimation from the Engineer-in-Charge that the final bill is ready for payment, the claim of the contractor shall be deemed to have been waived and absolutely barred and the Institute shall be discharged and release of all liabilities under the contract in respect of these claims.

The arbitration shall be conducted in accordance with the provision of the Arbitration and Conciliation

Act, 1996 (26 of 1996) or any statutory modifications or re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause. It is also a term of this contract that the arbitrator shall adjudicate on only such disputes as are referred to him by the appointing authority and give separate award against each dispute and claim referred to him and in all cases, the arbitrator shall give reasons for the award.

It is also a term of the contract that if any fees are payable to the arbitrator, these shall be paid equally by both the parties.

It is also a term of the contract that the arbitrator shall be deemed to have entered on the reference on the date he issues notice to both the parties calling them to submit their statement of claims and counter statement of claims. The venue of the arbitration shall be such place as may be fixed by the arbitrator in his sole discretion. The fees, if any, of the arbitrator shall, if required to be paid before the award is made and published, be paid half and half by each of the parties. The cost of the reference and of the award (including the fees, if any, of the arbitrator) shall be in the discretion of the arbitrator who may direct to any by whom and in what manner, such costs or any part thereof shall be paid and fix or settle the amount of costs to be so paid.

CLAUSE 26

Contractor to Indemnify Govt against Patent Rights

The contractor shall fully indemnify and keep indemnified IIT Bombay against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties which may be payable in respect of any article or part thereof included in the contract. In the event of any claims made under or action brought against the Institute in respect of any such matters as aforesaid, the contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expense, to settle any dispute or to conduct any litigation that may arise there from, provided that the contractor shall not be liable to indemnify the Institute infringement of the patent or design or any alleged patent or design right is the direct result of an order passed by the Engineer-in-Charge in this behalf.

CLAUSE 27

Lumpsum Provisions in Tender

When the estimate on which a tender is made includes lump sum in respect of parts of the work, the contractor shall be entitled to payment in respect of the items of work involved or the part of the work in question at the same rates as are payable under this contract for such items, or if the part of the work in question is not, in the opinion of the Engineer-in-Charge payable of measurement, the Engineer-in-Charge may at his discretion pay the lump-sum amount entered in the estimate, and the certificate in writing of the Engineer-in-Charge shall be final and conclusive against the contractor with regard to any sum or sums payable to him under the provisions of the clause.

CLAUSE 28**Action where no specification are specified**

In the case of any class of work for which there is no such specification as referred to in Clause 11, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications. In case there are no such specifications in Bureau of Indian Standards, the work shall be carried out as per CPWD specifications, and if not available work shall be carried out as per manufacturers specifications & if this also not available then as per District Specifications. In case there are no such specification as required above, the work shall be carried out in all respects in accordance with the instructions and requirement of the Engineer-in-Charge.

CLAUSE 29**Withholding and lien in respect of sum due from contractor**

(i) Whenever any claim or claims for payment of a sum of money arises out of or under the contract or against the contractor, the Engineer-in-Charge or the Institute shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any deposited by the contractor and for the purpose aforesaid, the Engineer-in-Charge or the Government shall be entitled to withhold the security deposit, if any, furnished as the case may be and also have a lien over the same pending finalization or adjudication of any such claim. In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the contractor, the Engineer-in-Charge or the Institute shall be entitled to withhold and have a lien to retain to the extent of such claimed amount or amounts referred to above, from any sum or sums found payable or which may at any time thereafter become payable to the contractor under the same contract or any other contract with the Engineer-in-Charge or Institute or any contracting person through the Engineer-in-Charge pending finalization of adjudication of any such claim.

It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above by the Engineer-in-Charge or Institute will be kept withheld or retained as such by the Engineer-in-Charge or Institute till the claim arising out of or under the contract is determined by the arbitrator (if contract is governed by the arbitration clause) by the competent court, as the case may be and that the contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to above and duly notified as such to the contractor. For the purpose of this clause, where the contractor is partnership firm or a limited company, the Engineer-in-Charge or the Institute shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner / limited company as the case may be, whether in his individual capacity or otherwise.

(ii) IIT Bombay shall have the right to cause an audit and technical examination of the work and the final bills of the contractor including all supporting vouchers, abstract, etc., to be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been overpaid in respect of any work done by the contractor under the contract or any work claimed to have been done by him under the contract and found not to have been executed, the contractor shall be liable to refund the amount of over-payment and it shall be lawful for IIT Bombay to recover the same from

him in the manner prescribed in sub-clause (i) of this clause or in any other manner legally permissible; and if it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by IIT Bombay to the contractor, without any interest thereon whatsoever.

Provided that IIT Bombay shall not be entitled to recover any sum overpaid, nor the contractor shall be entitled to payment of any sum paid short where such payment has been agreed upon between the Superintending Engineer or Executive Engineer on the one hand and the contractor on the other under any term of the contract permitting payment for work after assessment by the Superintending Engineer or the Executive Engineer.

CLAUSE 29A

Lien in respect of claims in other contracts

Any sum of money due and payable to the contractor (including the security deposit returnable to him) under the contract may be withheld or retained by way of lien by the Engineer-in-Charge or the Government or any other contracting person or persons through Engineer- In- Charge against any claim of the Engineer-in-Charge or Government or such other person or persons in respect of payment of a sum of money arising out of or under any other contract made by the contractor with Engineer-in-Charge or the Government or with such other person or persons.

It is an agree term of the contract that the sum of money so withheld or retained under this clause by the Engineer-in-Charge or the Government will be kept withheld or retained as such by the Engineer-in-Charge or the Government or till his claim arising out of the same contract or any other contract is either mutually settled or determined by the arbitration clause or by the competent court, as the case may be and that the contractor shall have no claim for interest or damages whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the contractor.

CLAUSE 30

Unfiltered Water Supply

The contractor(s) shall make his/ their own arrangements for water required for the work and nothing extra will be paid for the same. This will be subject to the following conditions.

- (i) That the water used by the contractor(s) shall be fit for construction purpose to the satisfaction of the Engineer-in-Charge.
- (ii) The Engineer-in-Charge shall make alternative arrangement for supply of water at the risk and cost of contractor(s) if the arrangement made by the contractor(s) for procurement of water are in the opinion of the Engineer-in-Charge, unsatisfactory.
- (iii)

CLAUSE 31**a. Departmental Water Supply, if available**

Water **if** available may be supplied to the contractor by the department as per actual/applicable cost subject to the following conditions :-

- (i) The contractor(s) shall make his / their own arrangement of water connection and laying of pipelines from existing main of source of supply.
- (ii) The Department do not guarantee to maintain uninterrupted supply of water and it will be incumbent on the contractor(s) to make alternative arrangement for water at his/ their own cost in the event of any temporary break down in the Institute water main so that the progress of his / their work is not held up for want of water. No claim of damage or refund of water charges will be entertained on account of such break down.

b. Departmental Power Supply.

Based on Contractors application to Executive Engineer (Electrical), Power will be supplied by Institute at nearest available location and the charges will be recovered from the bills payable to the Contractors in the following manner-

- i. 1% cost of electricity required items of work, if power connection is given from Institute.
OR
- ii. If the Contractor arrange approved Energy meter, metered connection will be provided and charges as per actual consumption will be recovered.

CLAUSE 32**Return of Surplus Materials**

Notwithstanding anything contained to the contrary in this contract, where any materials for the execution of the contract are procured with the assistance of Institute either by issue from IIT Bombay stocks or purchase made under orders or permits or licenses issued by IIT Bombay, the contractor shall hold the said materials economically and solely for the purpose of the contract and not dispose of them without the written permission of IIT Bombay and return, if required by the Engineer-in-Charge, all surplus or unserviceable materials that may be left with him after the completion of the contract or at its termination for any reason whatsoever on being paid or credited such price as the Engineer-in-Charge shall determine having due regard to the condition of the materials. The price allowed to the contractor however shall not exceed the amount charged to him excluding the element of storage charges. The decision of the Engineer-in-Charge shall be final and conclusive. In the event of breach of the aforesaid condition, the contractor shall in addition to throwing himself open to action for contravention of the terms of the license or permit and / or for criminal breach of trust, be liable to IIT Bombay for all moneys, advantages or profits resulting or which in the usual course would have resulted to him by reason of such breach.

CLAUSE 33**Employment of Technical Staff and employees**

Designation	Minimum qualification and experience required	Scope of Work	Personal to be deployed	Rate of recovery per month per person for non Employment
Sr. Project Engineer	Graduate Engineer in Civil Engineering with minimum 5 years	Engineer-in-charge for project execution	1	Rs. 80,000/-
Jr.Project Engineer	Graduate Engineer(Civil) with minimum 2 years or Diploma Engineer with minimum 5 years of experience	Billing/Safety Enginner, Monitor the work at Site	3	Rs. 50,000/-
Supervisors	Experience of 10 years with related field.Building maintenance & Civil works	Site Supervision	7	Rs. 30,000/-

Contractor Superintendence, Supervision, Technical staff & Employees

(i) The contractor shall provide all necessary superintendence during execution of the work and all along thereafter as may be necessary for proper fulfilling of the obligations under the contract.

The contractor shall immediately after receiving letter of acceptance of the tender and before commencement of the work, intimate in writing to the Engineer-in-Charge, the name(s), qualifications, experience, age, address(s) and other particulars along with certificate, of principal technical representative to be in charge of the work and other technical representative(s) who will be supervising the work.

The principal technical representative and other technical representative(s) shall be present at the site of work for supervision at all times when any construction activity is in progress and also present himself / themselves, as required, to the Engineer-in-charge and / or his designated representative to take instructions. Instruction given to the principal technical representative or other technical representative(s) shall be deemed to have the same force as if these have been given to the contractor. The principal technical representative and other technical representative(s) shall be actually available the decision of the Engineer-in-Charge as recorded in the site order book and measurement recorded

checked / test checked in Measurement Books shall be final and binding on the contractor. Further if the contractor fails to appoint suitable technical Principal technical representative and / or other technical representative(s) and if such appointed persons are not effectively present or are absent by more than two days without duly approved substitute or do not discharge their responsibilities satisfactorily, the Engineer-in-Charge shall have full powers to suspend the execution of the work until such date as suitable other technical representative(s) is / are appointed and the contractor shall be held responsible for the delay so cause to the work. The contractor shall submit a certificate of employment of the technical representative(s) along with every on account bill / final bill and shall produce evidence if at any time so required by the Engineer-in-Charge at site fully during all stages of execution of work, during recording / checking /test checking of measurement of works and whenever so required by the Engineer-in-Charge or his designated representative(s) in the site order book and shall affix his / their signature in token of noting down the instructions and in token of acceptance of measurements / checked measurements / test checked measurements. The representative(s) shall not look after any other work. Substitute, duly approved by Engineer-in-Charge of the work in similar manner as aforesaid shall be provided in event of absence of any of the representative(s) by more than two days.

(ii) The contractor shall provide and employ on the site only such technical assistants as are skilled and experienced in their respective fields and such foremen and supervisory staff as are competent to give proper supervision to the work.

The contractor shall provide and employ skilled, semiskilled and unskilled labour as is necessary for proper and timely execution of the work.

The Engineer-in-Charge shall be at liberty to object to and require the contractor to remove from the works any person who in his opinion misconducts himself, or is incompetent or negligent in the performance of his duties or whose employment is otherwise considered by the Engineer-in-Charge to be undesirable. Such person shall not be employed again at works site without the written permission of the Engineer-in-Charge and the persons so removed shall be replaced as soon as possible by competent substitutes.

CLAUSE 34

Levy / Taxes payable by Contractor

- (i) Sales Tax / Vat (except Service Tax), Building and other Construction Workers Welfare Cess or any other tax or Cess in respect of this contract shall be payable by the contractor and IIT Bombay shall not entertain any claim whatsoever in this respect. However, in respect of service tax, same shall be paid by the contractor to the concerned department on demand and it will be reimbursed to him by the Engineer-in-Charge after satisfying that it has been actually and genuinely paid by the contractor.
- (ii) The contractor shall deposit royalty and obtain necessary permit for supply of the red earth, Murum, Stone, Kankar, etc from local authorities.

If pursuant to or under any law, notification or order any royalty, cess or the like becomes payable by

IIT Bombay and does not any time become payable by the contractor to the State Government, Local authorities in respect of any material used by the contractor in the works, then in such a case, it shall be lawful to IIT Bombay and it will have the right and be entitled to recover the amount paid in the circumstances as aforesaid from dues of the contractor.

CLAUSE 35

Condition for reimbursement of levy / taxes if levied after receipt of tenders

- (i) All tendered rates shall be inclusive of all taxes and levies (except Service Tax) payable under respective statutes. However, if any further tax or levy or cess is imposed by Statute, after the last stipulated date for the receipt of tender including extensions if any and the contractor thereupon necessarily and properly pays such taxes / levies /cess, the contractor shall be reimbursed the amount so paid, provided such payments, if any, is not, in the opinion of the Dean IPS (whose decision shall be final and binding on the contractor) attributable to delay in execution of work within the control of the contractor.
- (ii) The contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of IIT Bombay and /or the Engineer-in-Charge and shall also furnish such other information / document as the Engineer-in-Charge may require from time to time.
- (iii) The contractor shall, within a period of 30 days of the imposition of any such further tax or levy or cess, give a written notice thereof to the Engineer-in-Charge that the same is given pursuant to this condition, together with all necessary information relating thereto.

CLAUSE 36

Termination of contract on death of contractor

Without prejudice to any of the rights or remedies under this contract, if the contractor dies, IIT Bombay shall have the option of terminating the contract without compensation to the contractor.

CLAUSE 37

If relative working in IIT Bombay then the contractor not allowed to tender

The contractor shall not be permitted to tender for works in IIT Bombay, if his near relative is posted as Accountant or as an officer in any capacity between the grades of the Superintending Engineer and Junior Engineer (both inclusive).

Note : By the term “ near relatives” is meant wife, husband, parents and grand parents, children

and grand children, brothers and sisters, uncles, aunts and cousins and their corresponding in laws.

CLAUSE 38

No Officer / Staff to work as contractor within one year of retirement

No Engineer or other staff employed in engineering or administrative duties in IIT Bombay shall work as a contractor or employee of a contractor for a period of one year after his retirement from the Institute service without the permission of IIT Bombay in writing. This contract is liable to be canceled if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of IIT Bombay as aforesaid, before submission of the tender or engagement in the contractor's service, as the case may be.

Note : In case of difference or ambiguity in Hindi and English version, the English Version will prevail.

sd/-

Superintending Engineer

Signature of Contractor

SPECIAL CONDITIONS

1) Construction Plant and Machinery

Applicant should furnish the list of construction plant and equipment including shuttering, centering and scaffolding likely to be used for carrying out the work (in form F). Details of any other equipment not mentioned in form F but available with the applicant and likely to be used in this work may also be indicated. **Applicant should have own RMC/ Batching plant / Asphalt batch plant in Mumbai Metropolitan Region (MMR).**

2) The contractor shall abide by all security regulations issued by the security staff from time to time and as per rules amended herewith.

3) Unless otherwise provision is made, the contractor will have to make his own arrangement of articles like cement and steel etc.

4) The rates quoted by the tenderer shall include all taxes, duties excise and no extra shall be paid on this account. Similarly, no price escalation during the tenure of the contract or for the extended period permitted by the Institute shall be allowed and the rates quoted in the contract shall be firm for the contract.

5) Sufficient care should be taken by the contractor to brick walls floor, glass windows, etc. while carrying out the work, any damage done to the departmental property shall be rectified at contractor's expenses.

6) The contractor shall remove all surplus materials, debris except cement etc. out of the IIT Campus from the site of work on completion of work and will handover the site clean before the bill is processed for final bill. In case of dismantled material such as pans urinals, flush tanks, M.S. windows etc. which generally cannot be re-used should be removed and taken away by the winning contractor on rebate basis. Concerned contractor should be allowed to remove all such dismantled materials after completion of the relevant contract.

7) The contractor shall not be permitted to construct labour hutment anywhere in the Campus. However, in case of the work necessitates the construction of temporary stores for storing the cement or any other material, the same shall be permitted to be constructed by the contractor at his cost with prior permission of the Engineer-in-Charge. The site, however, will have to be vacated including the encumbrances immediately after completion of work and before the payment of the final bill.

8) No cement will be issued from Estate store. Contractor's are instructed to procure OPC grade 43/53 as per requirement or otherwise PPC bag Manufactured by ACC. Testing of cement is required to be carried out either in IIT/ VJTI/SP College Labs / Structural Laboratory on his own cost & report may be submitted to Assistant Engineer / Junior Engineer.

9) No cement will be issued from Estate Store and final bill will not be accepted without test report of IIT / VJTI/ SP College labs/ Structural laboratory.

10) Visit to site within the restricted area

Permission to enter the restricted area at the time of submission of tenderers can be obtained through the Executive Engineer (Civil / Electrical) concerned. Tenders are advise to send prior information to the Executive Engineer concerned about the particular of their agents, representative etc. so that necessary arrangement may be made by him to secure admission. Whether a tendered visits at the site or not he shall be deemed to have full knowledge of restrictions on entering into exist, form and working within the restricted areas.

11) Entry and Exit

The contractor, his agents, representatives, workman, etc. and his materials, carts trucks, or other means of transport, etc. will be allowed to enter through and leave from only such gate or gates and at such times as the Executive Engineer concerned or authorized In-charge of the restricted areas may bear at their soles discretion permit to be used. Contractor's authorized representative if required are to be present at the places of entry and exist for the purpose of identifying his carts, trucks, etc. to the personnel In-charges of the security of the restricted area.

12) Temporary Identity Permits

The contractor or his representative / site In-charge overseers and other regular staff are required individually to be in possession of the temporary entry permit which will be issued by the Security on the recommendation of the Engineer-In-Charge. Regarding casual labourers skilled workers to be engaged in the execution of the work, the following procedure shall be followed.

The casual / skilled workers who will be engaged by the contractor shall be allowed to enter IIT premises through gates on production of Daily Attendance Card which will be marked by the authorized representative of the contractor before entering at the Security Gate.

The Security Officer shall have the authority not to allow any labourers who does not posses the “Marked muster roll cards”. The labourers working and moving in the Campus areas should always carry the muster roll card with them for identification. Contractor shall be responsible for the conduct and action of his / workmen / agent of representative at all times.

In case of any concreting program which involves temporary engagement of more labourers, the contractor concerned shall apply to the site engineer for temporary permission for the day and intimate the same to the security prior to such engagement.

13) Movement of Contractor's Materials

Any materials which are removed from the site of works are required to be taken out from the IIT premises, the contractor should follow the following procedure.

The contractor shall supplying in writing to the Engineer-in-charge the details of the materials to be removed including the material which are rejected etc. This application shall be endorsed by the Engineer-in-charge, or his authorized representative. These materials shall only be allowed to go out of

IIT premises after counter signature of the Security Officer and checked at the gate.

14) Search

Thorough search of all persons and transport shall be carried out each gate and for as many times as gate is used for entry or exist and may also be carried out at any time or any number of times at the works site within the restricted area.

15) Working Hours

The unit controlling restricted areas, usually work during five days in the week and remain closed on Saturdays and Sundays. Working hours available to contractor's labour and staff are however, appreciable reduced because of the time of entry and exist during working hours. The exact working hours, working days and non-working days observed for the restricted area, where work are to be carried out shall be deemed to have been ascertained by the contractor before submitting this tender. The tenderers attentions invited to the fact that the total number of working hours for the units are prescribed in regulation and no work beyond the prescribed working hours shall be permitted.

The contractor shall not carry out any work on declared holidays of IIT, weekly holidays and other non-working days unless he is expressly authorized in writing to do so by the Executive Engineer (Estate / Civil / Electrical) concerned.

16) Access to restricted area after completion of work.

After the works are completed and surplus stores etc. removed the contractor his agents, representatives or workmen etc. may not be allowed any access to the restricted area except for attending to and rectification defects pointed out to him by the Executive Engineer (Estate / Civil / Electrical) concerned or his representative.

17) Fire precaution

The contractor, his agents, representative, workmen etc. shall be strictly observed the orders pertaining to fire precautions prevailing within the restricted areas.

18) Work on Holidays Saturdays / Sundays

The contractor shall not carry out any work on declared holiday of IIT, weekly holiday and other non-working days unless he is expressly authorized in writing to do so by the Executive Engineer (Estate / Civil / Electrical) concerned. Contractors can execute the work on holiday, Saturday and Sundays with prior permission of the office under the supervision of the office staff. The overtime charges as per the rates of IIT will be recovered from the contractor. The necessary recovery will be done through bills. The record of materials brought by the contractor inside the IIT Campus should be verified through the concern Assistant Engineer and Junior Engineer before commencing the work.

19) If any material is to issued by IIT Bombay the same will be issued as per requisition.

20) Any scaffolding or ladder required for access to the location of work for inspection shall be made by the contractor at his own cost and the same shall be removed on his own cost after completion of work.

21) The contractor shall carry out work in close co-ordination with the respective Department / Hostel without causing any inconvenience to all concerned. However, the job has to be completed within the stipulated time limit.

22) The contractor has to obtain CAR policy before commencement of the work and he should pay ESI and PF contribution against the workers engaged by him and challan are to be submitted along with the final bill.

23) The indemnity bond and promissory note shall required to be submitted by the contractor for secured advance if any.

24) No mobilization advance will be given to the contractor.

25) Consumption of chemicals has to be recorded daily by the contractor and it should be got verified / certified by the concerned Assistant Engineer / Junior Engineer of the Institute.

26) Shifting of debris's from any place, any height to any place in the IIT Campus/ouside the Campus will be done by the contractor as per the item specification and contract condition.

27) The contractor has to carry out the structural repair work as per specification of construction, chemical manufacture.

28) The testing Charges

“The testing of material which will be used by the contractor for construction / maintenance job shall be carried out as per the relevant IS specification / standard procedure at the Institute own / recommended laboratory as per the decision of Engineer-in-Charge and contractor will bear the testing charges incurred if any unless otherwise mentioned in the schedule of items. The sample of material will be taken by the Engineer-in-Charge or his representative and it shall be sent to the laboratory in sealed manner as decided by the Engineer-In-Charge through contractors cost and arrangement.

29) Indication of Tests for Materials

a) Necessary gate pass will be issued by the concerned Engineer-in-Charge if the samples of material which will be taken out from IIT Campus for testing to be done in the recommended lab outside the campus.

b) Although concerned labs are expected to send the test report timely to the Engineer-in-Charges and if any delay occurred regarding the receipt of test report, no claim of the contractor will be entertained regarding the delay, loss of time etc.

30) If any problem arises about the application / workmanship, the contractor has to arrange visit of

representative of manufacturer of chemicals and under their guidance they will have to carry out work.

31) The contractor shall be required to give performance guarantee of structural repair work carried out by them for 10 years and guarantee for 10 years for water - proofing work carried out by them on Rs. 100/- Non Judicial stamp paper.

32) No escalation will be entertained for material, labour of any type during the period of contract including extended period if any.

33) It was decided that the contractors will procure construction chemicals from the respective manufacturers and it should be ensured by them that the date of receipt at site should be not later than two months from date of manufacturer i.e the expiry date should be more than ten months.

34) The concerned contractors shall work in co-ordination with Electrical Maintenance Division for smooth execution and for maintaining continuous power supply to the concerned Hostels / Departments. They shall co-ordinate with the concerned electrical contractor, department persons to execute repair / rehabilitation of electrical lines hand in hand with Civil structural / rehabilitation.

35) Contractor shall cover entire floor while carrying out work of plastering, applying polymer modified mortar, Trowling etc.

36) Contractor shall provide plastic sheets for covering the affected area.

37) Contractor shall provide Jute / plastic sheet to cover external face of building.

38) Contractor shall cover all electrical fittings / wire by plastic sheets / jute bags.

39) Contractor should not use departmental furniture's, equipment's or any other materials belonging to IIT Bombay. In case any furniture is inadvertently damaged / affected those should be made good by the contractor at his own cost.

40) Any wire, cable, removed will be re-fixed after plastering work by the contractor as directed by the Engineer- In-Charge.

41) Special conditions will be superseded to General Conditions.

42) Work has to be carried out in consultation with the Head of the department of concern building and other Committee members of the Departments as per their convenience or as directed by Engineer In Charge.

43) If the contractor violates security rules and regulations of the Institute or damages the Institute property as penalty of 0.5% of the work order amount will be recovered from their dues.

44) No service charges will be paid separately by IIT Bombay.

45) No escalation will be paid by IIT Bombay.

46) Electricity will be supplied on payment basis for work site from the nearest available supply point if available.

47) Junior Engineer of IIT Bombay will be the controlling in-charge of assigned work.

48) Arrangement of daily manpower for execution of the work under this contract:

a) Ample number of labours would be required under the contract for executing the various activities and work inside the campus.

b) The contractor has all necessary responsibilities for accommodation and welfare of the labour as per the various labour related act.

c) The contractors should make all necessary arrangements for labours within the premises of the campus to avoid any delay for transportation of labour. (not beyond distance of 7 KM)

d) No permission for accommodation of labour inside the campus shall be permitted.

49) The contractor has to arrange full fledged and fully furnished office of minimum 40 staff (30 staff as per clause no 33 table plus 10 staff as per contractor's wish) at his own cost to execute the work and perform the contract.

50) The space for the office shall be provided to the contractor by the Institution on nominal leave rent

a) Godown License fees of Rs. 20.00 per square meter of footprint, b) Labour hutment license fees charge Rs. 250 per hutment and c) water charges Rs. 170 per hutment on monthly basis. All necessary equipment are to be installed/purchase/hired by the contractor at his own expenses.

51) The contractor has to provide the mobiles to its staffs and engineers for the execution of the work under this contract at his own cost nothing shall be paid in this regard. The respective mobile numbers, emails and contact details shall be submitted to the institution for the execution and follow up of the work.

Signature of Contractor

STRUCTURAL REPAIRS METHODOLOGY

Following are the repair methodology specifically addressed for distresses in your building. The chemicals referred in following methodologies are of Dr. Fixit, Roff, M C Bouchmey, Sunanda Construction Chemicals, BASF, Anuvi, Chembond. However similar chemical of any brand can be used for repairs.

Steps to be followed for Structural Repairs.

Step 1 : Carefully removing the internal/external existing cement plaster damaged of any thickness from RCC members like columns, beams, slabs, chajjas, paradis, walls fins, staircase etc. in patches or any length by using electrical cutting tools/manually means up to any depth without damaging brickwork, plaster in the vicinity, cleaning, stacking the debris at suitable location, cleaning the site etc. including covering the furniture with plastic sheet including scaffolding / step ladder etc. all complete as directed. Note: Proper tools to be used for removal of plaster.

Step 2 : Exposing the existing damaged RCC members like columns, beams, slabs, chajjas, etc in patches or any length by using electrical cutting tools up to any depth till the corroded reinforcement will be opened allround without damaging brickwork, plaster in the vicinity, cleaning, stacking the debris, cleaning the site etc. complete, including covering the furniture with plastic sheet while exposing concrete including scaffolding/ step ladder. Note: Proper tools to be used for removal of concrete.

Step 3 : Providing and applying reinforcement treatment, comprising of following operations. Cleaning the reinforcement from all sides by using wire brush, tools etc. Application of rust converter such as Alkaline base as per manufacturers specification, cleaning if required as directed including scaffolding etc. all complete as directed. Actual consumption of Alkaline base converter shall be measured for payment on weight basis. Original bills/challans of authorized dealer will be verified before processing the bills.

Step 4 : Providing and applying an effective bond coat of Polymer (SBR) approved by IITB and cement in the proportion of 1:1 using brush in multiple coats as required to accommodate the whole thickness of polymer modified mortar wherever required on the surface of old concrete or repaired concrete. Polymer (SBR) of approved manufacturer should have the following properties: Suspended solid particle should not be less than 40%-specific gravity should not be more than 1.01-PH should not be less than 8.5. Note : The actual consumption of polymer shall be measured for payment on weight basis. Original bills/challans of authorized dealer will be verified before processing the bills.

Step 5 : Providing and Placing in position readymix polymer mortar manufacture by Dr. Fixit, Sunanda, Roff, MC Bouchmey, Chembond and approved and adding water in the proportion of 1:0.14 (polymer mortar : water) in prepared grooves / cracks/concrete surface in layers as directed including scaffolding mixing the polymer mortar with water etc all complete as directed. (Payment will be paid for the actual quantity of polymer mortar PX used on weight basis. Original bills/challans of authorized dealer will be verified before processing the bills.

Step 6 : Providing and laying super fluid micro concrete of approved manufacturer at any floor after reinforcement treatment coat including mixing with 5mm to 10mm size quartz aggregate in the ratio of 1 part ACC shrinkomp to 0.75 part of quartz aggregate by weight providing marine plywood formwork in line and level, cleaning, curing and scaffolding, etc. complete. the compressive strength of super fluid micro concrete should not be less than 20N / mm² etc. All complete as directed. Original bills/challans of authorized dealer will be verified before processing the bills.

Step 7 : Providing & fixing in position mild steel / tor steel / TMT bar reinforcement (Fe 500) of various diameters for RCC lintels, beams, slabs, column etc as per details given including cutting, hooking the bars, binding with wires or tack welding & supporting as required including scaffolding etc. all complete as directed.

Step 8 : Providing & fabricating structural steel works in rolled sections like joists, channels, angles, tees, plates, round pipes etc. as per site requirement including fixing in position with connection plates, braces, and welding, riveting, bolting as necessary including scaffolding and painting with one coat of metal primer and two coats of synthetic enamel paint etc. all complete as directed.

Step 9 : Providing and laying plain cement concrete M-20 of trap metal for leveling/bedding, flooring, plinth protection, etc. including bailing out water (dewatering), formwork, compacting and curing etc. all complete as directed.

Step 10 : Providing and casting in situ cement concrete in M-25 of trap metal for R.C.C footings / slab / columns / beam as per detailed designs and drawings or as directed including scaffolding, centering, formwork, cover blocks, compaction and finishing the surface, curing etc. all complete as directed.

Step 11 : Drilling straight and inclined holes upto 300mm depth and upto 20mm dia in concrete / masonry using electrically operated drilling machine and fixing PVC nipple for grouting, including scaffolding, conducting water test, etc. all complete as directed.

Step 12 : Grouting existing RCC structural members & tile work as per following operations including scaffolding, sealing leak paths with cement mortar & polymer, removing nipple, plugging the hole with neat cement paste by ram packing, cleaning etc. complete. 1) Add Sunflex powder 1.00 kg in one bag of cement of 50 kg with adequate water. 2) Using mechanical means of pressure grouting with the above mix. The pressure shall be 5-10 psi. 3) The grouting to be done into the cracks of ceiling, walls, columns, & beam wherever required. 4) After through grouting sealing the holes with cement slurry.

Step 13 : Providing temporary steel supports such as tubular steel props 50mm dia, as required for supporting system till the repaired work of the beam, column, slab, chajja, etc. work completed in all respects as directed and when required in any floor of any height inside and outside of the building and removing the supporting system as directed without damaging the structure etc. all complete as directed.

Step 14 : Providing internal cement plaster 12mm thick in single coats in cement mortar 1:4 without neeru finish to concrete or brick surfaces in all positions including scaffolding and curing etc. all complete as directed.

Step 15 : Providing internal cement plaster 20mm thick in single coat in cement mortar 1:4 without neeru finish to concrete or brick surfaces in all positions including scaffolding and curing etc. all complete as directed.

Step 16 : Providing sand face cement plaster externally using approved screened sand in all positions including base coat of 15mm thick in cement mortar 1:4 using water proofing compound @ 2% by weight of cement and curing the same for not less than two days and keeping the surface of base coat rough to receive the sand faced treatment 6 to 8mm thick in cement mortar 1:4, finishing the surface by taking out grains and curing for 14 days, scaffolding etc all complete as directed.

Step 17 : Providing and applying white cement based Birla make wall care putty with uniform thickness over the existing internal cement plaster in proper line / level including preparing the wall surface including scaffolding etc. all complete as directed.

Signature of Contractor

WATERPROOFING METHODOLOGY

Part – A : Cement Based Waterproofing:

Steps to be followed for Cement Based Waterproofing.

Step 1 : Carefully removing the internal/external existing cement plaster damaged of any thickness from RCC members like beams, slabs, chajjas, walls etc. in patches or any length by using electrical cutting tools/manually means up to any depth without damaging brickwork, plaster in the vicinity, cleaning, stacking the debris at suitable location, cleaning the site etc. including covering the furniture with plastic sheet including scaffolding / step ladder etc. all complete as directed. Note: Proper tools to be used for removal of plaster. (The area in vertical/horizontal plane shall be measured for payment only).

Step 2 : Carefully removing top coat of IPS water proofing layer/kotah stone/ any type of tiled flooring without causing any damages to brickbat coba from terrace including cleaning, levelling the surface, lowering down debris without causing dust nuisance including stacking the debris upto a distance of 50 metres or at suitable location to take away outside IIT campus as directed etc. all complete as directed.

Step 3 : Carefully removing the existing loose and damaged brickbat coba waterproofing treatment from the top of terrace up to any thickness without making any damages to the roof slab with the use of sharp chisels, levelling and cleaning the roof surface for providing new specialised waterproofing treatment, lowering down debris without causing dust nuisance and stacking the same upto a distance of 50 metres or at suitable location to take away outside IIT campus as directed etc. all complete as directed.

Step 4 : Providing and laying cement concrete flooring to terrace to average 50mm thick with 1:2:3 cement concrete laid to proper level and slope using silt free clear river sand finished with a floating coat of neat cement including compaction, filling joints, adding recommended waterproofing admixtures @ 2% by weight of cement, cement slurry, curing, marking lines to give appearances of tiles as directed, including all lead and lift and covering the whole treatment with 07 years' guarantee on requisite (Rs.100/-) non-judicial stamp paper etc. all complete as directed.

Step 5 : Providing & laying cement based waterproofing treatment of 115mm average thickness consisting of 12mm thick layer in cement mortar 1:3 with waterproofing compound 2% by weight of cement as base, constructing and laying brick bat coba in cement mortar 1:5 with waterproofing compound at the rate of 2% by weight of cement and having average thickness of 80mm and finishing with 20mm thick cement plaster layer in cement mortar 1:3 with water proofing compound 2% by weight of cement including fixing china mosaic tiles, all leads, lifts and laid to proper slope to drain off water entirely including watta at the junction of parapet and work upto a height of 300mm or as directed and including finishing the top layer of water proofing treatment with false marking of 30cm x 30cm or as directed and covering the whole treatment with 10 years' guarantee on requisite (Rs.500/-) non-judicial stamp paper etc. all complete as directed.

Step 6 : Providing second class burnt brick masonry with conventional type bricks in cement mortar 1:6 in superstructure including scaffolding, racking out joints and watering etc. all complete as directed.

Step 7 : Providing and fixing P.V.C Rain Water Pipes of 150mm outer dia. conforming to I.S. 13592-1992 including proper rain water receiving recess with P.V.C. plug bend, necessary fittings such as offsets, shoes including fixing the pipe on wall using approved MS frame supports projecting 25mm to 40mm from face of wall and fixing with clamps/clips of approved quality and number, filling the joints using rubber gasket with solvent cement including necessary scaffolding, screwing, cleaning the surface and maintenance for 3 years for any leakages or dislocation of pipes. All the P.V.C. Fittings shall be got approved from Engineer In-charge etc. all complete as directed. (Make- Supreme, Prince, Finolex)

Step 8 : Providing and fixing P.V.C. Rain Water Pipes 100mm outer dia. conforming to I.S. including proper rain water receiving recess with P.V.C. plug bend, necessary fittings such as offsets, shoes including fixing the pipe on wall using approved M.S brackets projecting 25mm to 40mm from face of wall & fixing with heavy duty PVC clips of approved quality & number, filling the joints using rubber gasket with solvent cement and properly resting the shoe of pipes on C.C. or masonry blocks, including necessary scaffolding, and maintenance for 3 years for any leakages or dislocation of pipes. All the PVC fittings and additional two piece socket clips shall be got approved from Engineer In-charge etc. all complete as directed. (Make- Supreme, Prince, Finolex)

Step 9 : Providing sand face cement plaster externally / internally using approved screened sand in all positions including base coat of 15mm thick in cement mortar 1:4 using water proofing compound @ 2% by weight of cement and curing the same for not less than two days and keeping the surface of base coat rough to receive the sand faced treatment 6 to 8mm thick in cement mortar 1:4, finishing the surface by taking out grains and curing for 14 days, scaffolding etc. all complete as directed.

Part - B : APP (Atactic Polypropylene Polymer) Membrane Waterproofing:

Steps to be followed for APP Membrane Waterproofing.

Step 1 : Carefully removing top coat of IPS water proofing layer/kotah stone without causing any damages to brickbat coba from terrace including cleaning, levelling the surface, lowering down debris without causing dust nuisance including stacking the debris upto a distance of 50 metres or at suitable location to take away outside IIT campus as directed etc. all complete as directed.

Step 2 : Removing the existing old cement plaster of any thickness without causing dust nuisance including stepladder/scaffolding and stacking the debris for taking away out of IIT campus etc. all complete as directed.

Step 3 : Providing second class burnt brick masonry with conventional type bricks in cement mortar 1:6 in superstructure including scaffolding, racking out joints and watering etc. all complete as directed.

Step 4 : Providing and laying cement concrete flooring to terrace to average 40mm thick with 1:2:3 cement concrete laid to proper level and slope using clear river sand finished with a floating coat of

neat cement including compaction, filling joints, adding recommended waterproofing admixtures @ 2% by weight of cement, cement slurry, curing, marking lines to give appearances of tiles or as directed including all lead and lift etc. all complete as directed.

Step 5 : Providing and laying plain cement concrete M-20 of trap metal for leveling/bedding, flooring, plinth protection, etc. including bailing out water (dewatering), formwork, compacting and curing etc. all complete as directed.

Step 6 : Providing sand face cement plaster externally using approved screened sand in all positions including base coat of 15mm thick in cement mortar 1:4 using water proofing compound @ 2% by weight of cement and curing the same for not less than two days and keeping the surface of base coat rough to receive the sand faced treatment 6 to 8mm thick in cement mortar 1:4, finishing the surface by taking out grains and curing for 14 days, scaffolding etc. all complete as directed.

Step 7 : Providing and fixing P.V.C. rain water pipes 160mm outer dia. conforming to I.S. including proper rain water receiving recess with P.V.C. plug bend, necessary fittings such as offsets, shoes including fixing the pipe on wall using approved M.S brackets projecting 25mm to 40mm from face of wall , filling the joints using rubber gasket with solvent cement and properly resting the shoe of pipes on C.C. or masonry blocks, including removing the old damaged pipes, necessary scaffolding, and maintenance for 3 years for any type of leakages or dislocation of pipes. All the PVC fittings and additional two piece socket clips shall be got approved from Engineer In-charge etc. all complete as directed. (Make - Finolex/Kissan/Prince)

Step 8 : Providing and laying waterproofing treatment to terrace surface with 3mm thick APP modified bitumen membrane with polymer reinforcement with overlapping of 75mm along length and 100mm along width of any height including removing the existing waterproofing treatment such as tarfelt, chemical coating etc. without causing damages to the structure, cleaning the surface neatly, removing the dust and loose mortar from the terrace surface and repairing the same with 1:3 cement mortar mixed with waterproofing compound, including applying bitumen based primer @ 0.20Ltr/Sqm and laying the 3mm thick APP modified bitumen membrane, coating with torching method and finishing surface with heat reflective bitumen based silver @ 0.10Ltr /Sqm and covering the whole treatment with five years guarantee on requisite stamp paper of Rs.500.00 including scaffolding wherever required etc. all complete as directed. (Make - Nilobit/STP/Asian Paint Ltd/Chryso India Pvt. Ltd.)

Part - C : Chemical Waterproofing Treatment (Dr. Fixit) :

Steps to be followed for Chemical Waterproofing Treatment (Dr. Fixit).

Step 1 : Providing and applying two coat of Prime seal of Dr. Fixit over plaster, masonry or RCC surface as per manufacturer specification including preparing the surface by thoroughly cleaning laitance, loose material, oil, grease and other foreign matter with wire brush and vacuum cleaning, including filling the cracks using appropriate exterior putty with use of scaffolding and covering the floor, window glass with plastic sheet during work and cleaning after work etc. all complete as directed by Engineer In-charge & as per manufactures specifications. (For vertical surface).

Step 2 : Providing and applying two coat of Prime seal of Dr. Fixit over plaster, masonry or RCC surface as per manufacturer specification including preparing the surface by thoroughly cleaning

laitance, loose material, oil, grease and other foreign matter with wire brush and vacuum cleaning, including filling the cracks using appropriate exterior putty without scaffolding and covering the floor, window glass with plastic sheet during work and cleaning after work etc. all complete as directed by Engineer In-charge & as per manufactures specifications. (For horizontal surface).

Step 3 : Providing and applying two coats of Dr. Fixit Raincoat as per manufacturer's specification on plastered surface over concrete / brickwork including scaffolding and cleaning the surface thoroughly, watering the surface etc. complete including covering the floor, window glass with plastic sheet and cleaning after work as directed by Engineer In-charge (for vertical wall surface). (Warranty for three years on non judicial stamp paper of Rs.100/-)

Step 4 : Providing and applying three coats of Dr. Fixit New coat as per manufacturer's specification on plastered surface over concrete/brickwork including cleaning the surface thoroughly, watering the surface etc. complete including covering the floor, window glass with plastic sheet and as directed by Engineer In-charge (for horizontal surface / terrace). (Warranty for three years on non judicial stamp paper of Rs.100/-)

Signature of Contractor

Special Conditions for Protection of Environment

1. The debris / construction waste and other waste generated from the work spot should not be thrown inside the campus. All waste material should be taken out of the campus or should be dumped at a place earmarked by the Engineer in charge. All construction material should be stored only at places earmarked by the engineer in charge.
2. Material like cement, aggregate, steel etc should not be stored in buildings that are in use. If any material stored in unauthorized location the same shall got removed at the cost of contractor and necessary penalty/ rent shall be levied for the area used for storage.
3. For Intercarting of various materials use of animal drawn vehicles are strictly prohibited.
4. Preparation of concrete, mortars in the roads, pavements, bare floors under the building is strictly prohibited.
5. While transporting the materials along the road, spillage of material should be avoided. If any spillage occurs, the same should be got cleaned immediately.
6. No vegetation inside the campus should be damaged.
7. Smoking is strictly prohibited at workplace.

Signature of Contractor

SAFETY CODE

1. Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used, an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well suitable footholds and hand-hold shall be provided on the ladder and the ladder shall be given an inclination not steeper than $\frac{1}{4}$ to 1 ($\frac{1}{4}$ horizontal and 1 vertical).
2. Scaffolding of staging more than 3.6m (12ft) above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached or bolted, braced and otherwise secured at least 90cm. (3ft) high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends there of with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
3. Working platforms, gangways and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6m (12ft) above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in (2) above.
4. Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of person or materials by providing suitable fencing or railing whose minimum height shall be 90cm (3ft).
5. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m (30ft) in length while the width between side rails in rung ladder shall in no case be less than 29cm. (11 $\frac{1}{2}$ ") for ladder upto and including 3m (10 ft) in length. For longer ladders, this width should be increased at least $\frac{1}{4}$ " for each additional 30cm. (1 foot) of length. Uniform step spacing of not more than 30cm shall be kept. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites or work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect the public from accident and shall be bound to bear the expenses of defense of every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit; action or proceedings to any such person or which may, with the consent of the contractor, be paid to compensate any claim by any such person.
6. Excavation and trenching – All trenches 1.2m (4ft) or more in depth, shall at all times be supplied with at least one ladder for each 30m. (100ft) in length or fraction thereof, Ladder shall extend from bottom of the trench to at least 90cm (3ft) above the surface of the ground. The side of the trenches which are 1.5m (5ft) or more in depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of sides collapsing. The

excavated materials shall not be placed within 1.5m. (5ft) of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances, undermining or undercutting shall be done.

7. Demolition – Before any demolition work is commenced and also during the progress of the work,

- (i) All roads and open areas adjacent to the work site shall either be closed or suitably protected.
- (ii) No electric cable or apparatus which is liable to be a source of danger or a cable or apparatus used by the operator shall remain electrically charged.
- (iii) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding, No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.

8. All necessary personal safety equipment as considered adequate by the Engineer-in-Charge should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate steps to ensure proper use of equipment by those concerned : - The following safety equipment shall invariably be provided.

- (i) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
- (ii) Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes, shall be provided with protective goggles.
- (iii) Those engaged in welding works shall be provided with welder's protective eye shields.
- (iv) Stone breaker shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
- (v) When workers are employed in sewers and manholes, which are in active use, the contractors shall ensure that the manhole covers are opened and ventilated at least for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public. In addition, the contractor shall ensure that the following safety measures are adhered to :

- a) Entry for workers into the line shall not be allowed except under supervision of the JE or any other higher officer.
- b) At least 5 to 6 manholes upstream and down stream should be kept open for at least 2 to 3 hours before any man is allowed to enter into the manhole for working inside.
- c) Before entry, presence of Toxic gases should be tested by inserting wet lead acetate paper which changes colour in the presence of such gases and gives indication of their presence.

- d) Presence of Oxygen should be verified by lowering a detector lamp into the manhole. In case, no Oxygen is found inside the sewer line, workers should be sent only with oxygen kit.
- e) Safety belt with rope should be provided to the workers. While working inside the manholes, such rope should be handled by two men standing outside to enable him to be pulled out during emergency.
- f) The area should be barricaded or cordoned off by suitable means to avoid mishaps of any kind. Proper warning signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.
- g) No smoking or open flames shall be allowed near the blocked manhole being cleaned.
- h) The malba obtained on account of cleaning of blocked manholes and sewer line should be immediately removed to avoid accidents on account of slippery nature of the malba.
- i) Workers should not be allowed to work inside the manhole continuously. He should be given rest intermittently. The Engineer-in-Charge may decide the time up to which a worker may be allowed to work continuously inside the manhole.
- j) Gas masks with Oxygen Cylinder should be kept at site for use in emergency.
- k) Air-blowers should be used for flow of fresh air through the manholes. Whenever called for, portable air blowers are recommended for ventilating the manholes. The Motors for these shall be vapour proof and of totally enclosed type. Non sparking gas engines also could be used but they should be placed at least 2 meters away from the opening and on the leeward side protected from wind so that they will not be a source of friction on any inflammable gas that might be present.
- l) The workers engaged for cleaning the manholes / sewers should be properly trained before allowing to work in the manhole.
- m) The workers shall be provided with Gumboots or non sparking shoes bump helmets and gloves non sparking tools safety lights and gas masks and portable air blowers (when necessary). They must be supplied with barrier cream for anointing the limbs before working inside the sewer lines.
- n) Workmen descending a manhole shall try each ladder stop or rung carefully before putting his full weight on it to guard against insecure fastening due to corrosion of the rung fixed to manhole well.
- o) If a man has received a physical injury, he should be brought out of the sewer immediately and adequate medical aid should be provided to him.
- p) The extent to which these precautions are to be taken depend on individual situation but the decision of the Engineer-in-Charge regarding the steps to be taken in this regard in an individual case will be final.
- vi) The contractor shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following precaution should be taken : -

- a) No paint containing lead or lead products shall be used except in the form of paste or ready made paint.
 - b) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scrapped.
 - c) Overalls shall be supplied by the contractors to the workmen and adequate facilities shall be provided to enable the working painters to wash during and on the cessation of work.
- 9) The contractor shall not employ women and men below the age of 18 on the work of painting with product containing lead in any form, wherever the men above the age of 18 are employed on the work of lead painting, the following principles must be observed for such use :
- i) White lead, sulphate of lead or product containing these pigment, shall not be used in painting operation except in the form of pastes or paint ready for use.
 - ii) Measures shall be taken, wherever required in order to prevent danger arising from the application of a paint in the form of spray.
 - iii) Measures shall be taken, wherever practicable, to prevent danger arising out of from dust caused by dry rubbing down and scraping.
 - iv) Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.
 - v) Overall shall be worn by working painters during the whole of working period.
 - vi) Suitable arrangement shall be made to prevent clothing put off during working hours being spoiled by painting materials.
 - vii) Instructions with regard to special hygienic precautions to be taken in the painting trade shall be distributed to working painters.
- 10) When the work is done near any place where there is risk of drowning, all necessary equipments should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision, should be made for prompt first aid treatment of all injuries likely to be obtained during the course of the work.
- 11) Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions : -
- (i) (a) These shall be of good mechanical construction, sound materials and adequate.
 - (b) Every rope used in hoisting or lowering material or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.

- (ii) Every crane driver or hoisting appliance operator, shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding winch or give signals to operator.
- (iii) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or as means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load each safe working load and the condition under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
- (iv) In case of departmental machine, the safe working load shall be notified by the Electrical Engineer-in-Charge. As regards contractor's machines the contractors shall notify the safe working load of the machine to the Engineer-in-Charge whenever he brings any machinery to site of work and get it verified by the Electrical Engineer concerned.

12. Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load. Adequate precautions should be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulating mask, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The worker should not wear any rings, watches and carry keys or other materials which are good conduction of electricity.

13. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.

14. These safety provisions should be brought to the notice of all concerned by display on a notice boards at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.

15. To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by the Labour Officer or Engineer-in-Charge of the department or their representatives.

16. Notwithstanding the above clauses from (1) to (15), there is nothing in these to exempt the contractor from the operations of any other Act or Rule in force in the Republic of India.

Signature of Contractor

sd/-

Superintending Engineer

MODEL RULES FOR THE PROTECTION OF HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS

1. APPLICATION

These rules shall apply to all buildings and construction / maintenance works in IIT Bombay in which twenty or more workers are ordinarily employed or are proposed to be employed in any day during the period during which the contract work is in progress.

2. DEFINITION

Work place means a place where twenty or more workers are ordinarily employed in connection with construction work or maintenance work on any day during the period during which the contract work is in progress.

3. FIRST-AID FACILITIES

- (i) At every work place, there shall be provided and maintained, so as to be easily accessible during working hours, first-aid boxes at the rate of not less than one box for 150 contract labour or part thereof ordinarily employed.
- (ii) The first-aid box shall be distinctly marked with a red cross on white background and shall contain

a) For work places in which the number of contract labour employed does not exceed 50- the following equipment : -

Each first-aid box shall contain the following equipments : -

1. 6 small sterilized dressings.
2. 3 medium size sterilized dressings.
3. 3 large size sterilized dressings.
4. 3 large sterilized burn dressings.
5. 1 (30ml.) bottle containing a two per cent alcoholic solution of iodine.
6. 1 (30ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label.
7. 1 snakebite lancet.
8. 1(30 gms) bottle of potassium permanganate crystals.
9. 1 pair scissors.
10. 1 copy of the first-aid leaflet issued by the Director General, Factory Advice service and Labour Institute, Government of India.
11. 1 bottle containing 100 tablets (each of 5 gms) of aspirin.
Ointment for burns.
12. A bottle of suitable surgical antiseptic solution.

b) For work places in which the number of contract labour exceed 50. Each first-aid box shall contain the following equipments.

- 1) 12 small sterilized dressings.
- 2) 6 medium size sterilized dressings.
- 3) 6 large size sterilized dressings.
- 4) 6 large size sterilized burn dressings.
- 5) 6 (15 gms) packets sterilized cotton wool
- 6) 1 (60 ml.) bottle containing a two per cent alcoholic solution iodine.
- 7) 1 (60 ml) bottle containing salvolatile having the dose and mode of administration indicated on the label.
- 8) 1 roll of adhesive plaster.
- 9) 1 snake bite lancet.
- 10) 1 (30 gms) bottle of potassium permanganate crystals.
- 11) 1 pair scissors.
- 12) 1 copy of the first-aid leaflet issued by the Director General Factory Advice Service and Labour Institutes / Government of India.
- 13) A bottle containing 100 tablets (each of 5 gms) of aspirin.
- 14) Ointment for burns.
- 15) A bottle of suitable surgical antiseptic solution.

(iii) Adequate arrangement shall be made for immediate recoupment of the equipment when necessary.

(iv) Nothing except the prescribed contents shall be kept in the First-aid box.

(v) The first-aid box shall be kept in charge of a responsible person who shall always be readily available during the working hours of the work place.

(vi) A person in charge of the First-aid box shall be a person trained in First-aid treatment in the work places where the number of contract labour employed is 150 or more.

(vii) In work places where the number of contract labour employed is 500 or more and hospital facilities are not available within easy distance from the works. First-aid posts shall be established and run by a trained compounder. The compounder shall be on duty and shall be available at all hours when the workers are at work.

(viii) Where work places are situated in places which are not towns or cities, a suitable motor transport shall be kept readily available to carry injured person or person suddenly taken ill to the nearest hospital.

4. LATRINES AND URINALS

- (i) Latrines shall be provided in every work place on the following scale namely : -
 - (a) Where female are employed, there shall be at least one latrine for every 25 females.
 - (b) Where males are employed, there shall be at least one latrine for every 25 males provided that, where the number of males or females exceeds 100, it shall be sufficient if there is one latrine for 25 males or females as the case may be upto the first 100, and one for every 50 thereafter.
- (ii) Every latrine shall be under cover and so partitioned off as to secure privacy, and shall have a proper door and fastenings.
- (iii) Construction of latrines : The inside walls shall be constructed of masonry or some suitable heat-resisting nonabsorbent materials and shall be cement washed inside and outside at least once a year, Latrines shall not be of a standard lower than boreholes system.
- (iv) (a) Where workers of both sexes are employed, there shall be displayed outside each block of latrine and urinal, a notice in the language understood by the majority of the workers “For Men only” or “ For Women Only” as the case may be.
 - (b) The notice shall also bear the figure of a man or of a woman, as the case may be.
- (v) There shall be at least one urinal for male workers upto 50 and one for female workers upto 50 employed at a time, provided that where the number of male or female workmen, as the case may be exceeds 500, it shall be sufficient if there is one urinal for every 50 males or females upto the first 500 and one for every 100 or part thereafter.
- (vi) (a) The latrines and urinals shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times.
 - (b) Latrines and urinals other than those connected with a flush sewage system shall comply with the requirements of the Public Health Authorities.
- (vii) Water shall be provided by means of tap or otherwise so as to be conveniently accessible in or near the latrines and urinals.
- (viii) Disposal of excreta : - Unless otherwise arranged for by the local sanitary authority, arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator. Alternately excreta may be disposed of by putting a layer of night soil at the bottom of a pucca tank prepared for the purpose and covering it with a 15 cm. Layer of waste or refuse and then covering it with a layer of earth for a fortnight (when it will turn to manure).
- (ix) The contractor shall at his own expense, carry out all instruction issued to him by the Engineer-in-Charge to effect proper disposal of night soil and other conservancy work in respect of the contractor's workmen or employees on the site. The contractor shall be responsible for payment of any charges which may be levied by Municipal or Cantonment Authority for execution of such on his behalf.

5. ANTI-MALARIAL PRECAUTIONS

The contractor shall at his own expense, conform to all anti-malarial instruction given to him by the Engineer-in-Charge including the filling up of any borrow pits which may have been dug by him.

6. The above rules shall be incorporated in the contracts and in notices inviting tenders and shall form an integral part of the contracts.

7. AMENDMENTS

IIT Bombay may, from time to time, add to or amend these rules and issue directions – it may consider necessary for the purpose of removing any difficulty which may arise in the administration thereof.

sd/-
Superintending Engineer

Signature of Contractor

ANNEXURE – I

LIST OF BUREAU OF INDIAN STANDARD CODES
For Reference

Sr.No.	Item of work and subject	IS No.
1	Method of Measurement of Earth work	IS 1200(Part-1)
2.	Method of Measurement of Earth work By Mechanical Appliances	IS 1200 (Part-27)
3.	Excavators	IS 4988 (Part IV)
4.	Pre Constructional Anti termite treatment	IS 6313 (Part II)
5.	Anti termite treatment in existing building	IS 6313 (Part III)
6.	Methods of test for pesticides and their formulations	IS 6940
7.	Earth moving equipments	IS 12138
8.	33 grade ordinary Portland Cement	IS 269
9.	43 grade ordinary Portland Cement	IS 8112
10.	53 grade ordinary Portland Cement	IS 1269
11.	Portland slag Cement	IS 455
12.	Portland Pozzolana Cement	IS 1489

13.	Coarse and fine aggregates	IS 383
14.	Sand for plastering	IS 1542
15.	Sand for masonry mortar	IS 2116
16.	Test for concrete aggregates (Particle size and shape)	IS 2386 (Part-I, II & III)
17.	Masonry mortar-preparation and use	IS 2250
18.	Testing of water for concrete work	IS 3025
19	Masonry cement	IS 3406
20.	White Cement	IS 8042
21.	Fly ash for cement concrete and mortar	IS 3812 (Part I & II)
22.	Plain and reinforced Concrete	IS 456
23.	Structural Steel work	IS 226 & IS 800
24.	Concrete Reinforcement Steel	IS 432 (Part I & II)
25.	Test for strength of Concrete	IS 516
26.	Sampling and analysis of concrete	IS 1199
27.	Measurement of Concrete work	IS 1200 (Part II & V)

28.	Hard drawn Steel wire Fabric for concrete	IS 1566
29.	Tensile testing of Steel products	IS 1608
30.	High Strength deformed steel and wires	IS 1786
31.	Bending and fixing of reinforcement steel	IS 2502
32.	Welding of Reinforced steel	IS 2751
33.	Ready-Mixed Concrete	IS 4926
34.	Concrete Mix design Guidelines	IS 10262
35.	Common burnt clay building bricks	IS 1077
36.	Brick masonry work	IS 2212
37.	Method of measurement of Brick works	IS 1200 (Part 3)
38.	Method of test for Burnt clay building bricks	IS 3495
39.	Method of sampling of clay building bricks	IS 5454
40.	Non Load bearing Gypsum partition blocks	IS 2849
41.	Determination of Properties and strength of natural building stones	IS 1121 (Part I)
42.	Determination of specific gravity of natural building stone	IS 1122

43.	Determination of water absorption, apparent specific gravity and porosity of natural building stones	IS 1124
44.	Identification of natural building stones	IS 1123
45.	Determination of weathering of natural building stone	IS 1125
46.	Determination of durability of natural building stone	IS 1126
47.	Lime Stone (Slab & Tiles)	IS 1128
48.	Dressing of natural building stone	IS 1129
49.	Method of measurement for stone masonry work	IS 1200 (Part IV)
50.	Construction of rubble stone masonry	IS 1197
51.	External facings and veneers (Stone facing)	IS 4104
52.	Sand stone (Slab & Tiles)	IS 3622
53.	Tower bolts	IS 204 (Part I & II)
54.	Non-Ferrous metal Butt Hinges	IS 205
55.	Tee & Strap Hinges	IS 206
56.	Gate and Shutter Hook & eye	IS 207
57.	Door Handles	IS 208

58.	Parliament Hinges	IS 362
59.	Hasps & Stapple	IS 363
60.	Fan Light Catch	IS 364
61.	Door Spring rat tail type	IS 452
62.	Double acting Spring Hinge	IS 453
63.	Steel Butt Hinges	IS 1341
64.	Floor Door stopper	IS 1823
65.	Door Closer (Hydraulic)	IS 3564
66.	Piano (Continuous) Hinges	IS 3818
67.	Night Latch	IS 3847
68.	Mortice Latch	IS 5930
69.	Mortice Lock	IS 4992
70.	Mortice Lock (Vertical Type)	IS 2209
71.	Rebated Mortice Lock (Vertical Type)	IS 6607
72.	Mortice Ball Catch	IS 8756

73.	Hold Fast	IS 7196
74.	S.S Butt Hinges	IS 12817
75.	FRP Panel type Door	IS 14856
76.	Coir Veneer board	IS 14842
77.	Laminated Veneer Lumber	IS 14616
78.	Pre-laminated Particle Boards	IS 12823
79.	Permissible moisture content of Timber	IS 287
80.	Ply wood	IS 303
81.	Marine Plywood	IS 710
82.	Veneered Decorative Plywood	IS 1328
83.	Block Boards	IS 1659
84.	Gypsum Plaster Board	IS 2095
85.	Asbestos Cement Flat Sheet	IS 2096
86.	Flush Door Shutter	IS 2202 (Part I & II)
87.	Wood particle boards (Medium density)	IS 3087
88.	Veneered Particle Board	IS 3097

89.	Fire Retardant Ply wood	IS 5509
90.	Medium Density Fibre Board	IS 12406
91.	Putty for use on window frames	IS 419
92.	Steel Counter sunk steel wire nails	IS 723
93.	Drawer Lock, Cupboard Lock & Box Locks	IS 729
94.	Synthetic resin Adhesive for Plywood	IS 848
95.	Timber paneled and Glazed shutters	IS 1003 (Part I & II)
96.	Measurement of wood work & Joinery	IS 1200 (Part XII)
97.	Measurement of Civil Engineering glazing work	IS 1200 (Part XIV)
98.	Oxidized Copper finishes	IS 1378
99.	Determination of Density & Moisture content of wood	IS 1734 & IS 11215
100.	Anodic coating on Aluminum & Alloys	IS 1868
101.	Gypsum Plaster	IS 2547
102.	Transparent Float glass	IS 14900

103.	Galvanized Steel sheets	IS 277
104.	Use of Structural Steel in Construction	IS 800
105.	Use of Steel Tube in Construction	IS 806
106.	Dimensions of Hot Rolled Steel Sections	IS 808
107.	Scheme of Symbols for Welding	IS 813
108.	Use of Metal Arc Welding to Mild Steel in Construction	IS 816
109.	Procedure for inspection of Welds	IS 822
110.	Manual for metal Arc Welding in Mild Steel	IS 823
111.	Steel door, windows & Ventilators	IS 1038
112.	Steel Tubes for Structural purpose	IS 1161
113.	Measurements of Steel and Iron works	IS 1200 (Part VIII)
114.	Method of Bend test	IS 1599
115.	Method of Tensile Testing of Steel tubes	IS 1894
116.	Dimensions for clearance holes for bolts and screws	IS 1821
117.	Rolling and cutting tolerance for hot rolled sections	IS 1852
118.	Steel Door Frames	IS 4351

119.	Hot Rolled High, Medium and Low tensile structural steel	IS 2062
120.	Hot-dip zinc coating on mild steel tubes	IS 4736
121.	Hollow Steel Sections for Structural use	IS 4923
122.	Metal Rolling Shutters and Rolling Grills	IS 6248
123.	Hot Rolled Steel Sections for Doors, Windows & Ventilators	IS 7452
124.	Industrial Bitumen	IS 702
125.	Marble	IS 1130
126.	Measurement of Paving, Floor finishes, skirting & dado	IS 1200 (Part XI)
127.	Cement concrete Flooring tiles	IS 1237
128.	Bitumen Felts for water proofing	IS 1322
129.	Laying and finishing Cement Concrete Flooring Tiles	IS 1443
130.	In Situ Terrazzo Floor Finish	IS 2114
131.	In Situ Cement concrete flooring	IS 2571
132.	Bituminous compounds for water proofing	IS 1580

133.	Timber Floors	IS 3670
134.	Acid and/or Alkali Resistant Tiles	IS 4457
135.	Testing of Ceramic Tiles	IS 13630 (Part 1 to 15)
136.	Ceramic Tiles	IS 13712
137.	Pressed Ceramic tiles	IS 15622
138.	Paving Bitumen	IS 73
139.	Stone ware pipes & Fittings	IS 651
140.	Method of measurement of Roof covering, ceiling & Lining	IS 1200 (Part IX & X)
141.	Cast iron rain water pipe & Fittings	IS 1230
142.	Integrated water proofing compounds for cement mortar & Concrete	IS 2645
143.	Laying of A.C sheets	IS 3007 (Part-I & II)
144.	Fiber Insulation boards	IS 3348
145.	Bitumen primer for water proofing	IS 3384
146.	Rubber sealing ring for water mains and Sewer mains	IS 5382
147.	Glass fiber base coal tarpitch & bitumen felts	IS 7193

148.	UPVC pipe for soil and waste discharge	IS 13592
149.	White washing and Colour washing	IS 6278
150.	Plastic Emulsion	IS 5411
151.	Cement paint	IS 5410
152.	Enamel paint	IS 2932
153.	Aluminum paint	IS 2339
154.	Distemper, Oil Emulsion, Colour as required	IS 428
155.	Distemper Dry colour as required	IS 427
156.	French Polish	IS 348
157.	Varnish, Shellac for general purpose	IS 347
158.	Varnish, finishing interior	IS 337
159.	Coal tar black paint	IS 290
160.	Black Japan	IS 341
161.	Method of measurement- Plastering and pointing	IS 1200 (Part XII)
162.	Method of measurement- Painting, Polishing, varnishing etc.	IS 1200 (Part XV)

163.	Method of measurement-white washing, colour washing, distempering	IS 1200 (Part XIII)
164.	Road marking paint (ready mix)	IS 164
165.	Cut Back bitumen	IS 217
166.	Galvanized Steel barbed wire	IS 278
167.	Test sieves	IS 460
168.	Bitumen mastic	IS 1195
169.	Penetration testing of Bitumen	IS 1203
170.	Softening point testing of bitumen	IS 1205
171.	Ductility test for bitumen	IS 1208
172.	Hot applied sealing compound for concrete joints	IS 1834
173.	Performed fillers for expansion joints in concrete structures	IS 1838
174.	Determination of Liquid and plastic limit of soil	IS 2720 (Part V)
175.	Bituminous Concrete for road pavement	IRC 29
176.	Construction of earth embankment for road work.	IRC 36
177.	Bitumen mastic wearing courses	IRC 107

178.	Glazed Fire clay Sanitary appliances	IS 771 (Part I & II)
179.	Enameled C.I sanitary appliances	IS 772
180.	Flushing Cisterns (Other than plastic)	IS 774
181.	Copper alloy Float valve	IS 1703
182.	C.I. & D.I drainage pipes	IS 1729
183.	Pillar Taps	IS 1795
184.	Automatic Flushing Cistern (other than Plastic cistern)	IS 2326
185.	Plastic Seats and Covers for Water Closets	IS 2548 (Part 1 & 2)
186.	Vitreous Sanitary appliances	IS 2556
187.	Wash down water closets	IS 2556(Part 2)
188.	Squatting pans	IS 2556(Part 3)
189.	Wash basins	IS 2556(Part 4)
190.	Laboratory Sinks	IS 2556(Part 5)
191.	Urinals & partition plates	IS 2556(Part 6)
192.	Accessories for sanitary Appliances	IS 2556(Part 7)

193.	Integrated Squatting Pans	IS 2556(Part 14)
194.	Universal water Closets	IS 2556(Part 15)
195.	Copper Alloy waste fittings for Wash basins and sink	IS 2963
196.	Low density Polyethylene pipes for water supply	IS 3076
197.	Centrifugally cast (Spun) iron spigot & Socket soil, waste and vent pipes	IS 3989
198.	High density Polyethylene pipes for water supply	IS 4984
199.	Unplasticised PVC pipes for water supply	IS 4985
200.	Plastic Flushing Cistern	IS 7231
201.	Stainless Steel tanks	IS 13983
202.	Pipe threads for pressure tight joints	IS 554
203.	Copper alloy gate and check valves	IS 778
204.	Water meter (Domestic type)	IS 779
205.	Sluice Valves for water works (50 mm to 300mm size)	IS 780
206.	Cast Copper alloy screw down bib taps and stop valves	IS 781
207.	Caulking Lead	IS 782

208.	Underground Fire Hydrant, sluice valve type	IS 909
209.	Centrifugally cast (Spun) iron pressure pipes	IS 1536
210.	Vertically cast iron pressure pipe	IS 1537
211.	Cast iron fittings for pressure pipes	IS 1538
212.	Ferrules	IS 2692
213.	Hot dip zinc coating on MS tubes	IS 4736
214.	Swing type Reflux (Non-Return) valves	IS 5312 (Part I & II)
215.	Polyethylene spherical floats for float valves	IS 9762
216.	Plastic Bib taps and stop valves for cold water	IS 9763
217.	Chlorinated Polyvinyl Chloride (CPVC) pipes	IS 15778
218.	Pre-cast Concrete pipes	IS 458
219.	Laying Concrete Pipes	IS 783
220.	Cast iron Manhole covers and frames	IS 1726
221.	Laying glazed Stoneware pipes	IS 4127
222.	Pre cast Concrete Manhole covers and frames	IS 12592

223.	Concrete Structures for storage of Liquid	IS 3370
224.	Road marking	IRC 35
225.	Road Signs	IRC 67
226.	Precast Concrete blocks for paving	IS 15658
227.	Speed Breakers	IRC 99
228.	WBM Road	IRC 19
229.	F R P Door	IS 14856
230	Construction of Concrete Roads	IRC 15
231	Road Bridges	IRC 21
232	Road construction in Water logged Area	IRC 34
233	Earth embankment for road work	IRC 36

Items of works, if any, for which Code Number is not mentioned in the above list, the available relevant IS/IRC/ASTM Codes are to be referred.

Signature of Contractor

ANNEXURE-II

TECHNICAL SPECIFICATIONS FOR REFERENCE

Sr.No	Item Name	Reference
1.	Earthwork, mortars, Concrete (PCC & RCC), Masonry (Brick & Stone), flooring, Woodwork, Steel work and Roofing	CPWD Specifications Vol-I
2.	Plastering, painting, Building repairs, Demolition work, Sanitary and Water supply work, drainage, Aluminum work, horticulture and landscaping work.	CPWD Specifications Vol-II
3.	Road works	MCGM Standard Specification for Road work -
4.	Paver block pavement	MCGM Guidelines for Interlocking Concrete block pavements (July 2008) & IRC: SP-63-2004
5.	Quality control for construction of roads	IRC-SP-11

The Specification mentioned in schedule of items will supersede the specifications mentioned above.

Signature of Contractor

ANNEXURE-III

LIST OF APPROVED MAKES OF MATERIALS

	Materials	Make/Manufacturer
1	Cement	ACC, Ultratech, Ambuja, Vasavadatta, Grasim
2	Steel Reinforcement(TMT & TOR)	SAIL, TATA, ESSAR, ISPAT, ,VIZAG, JRINL, IISCO
3	Bricks	KBK, GBK, RAM
4	Sand	Vaitarna, Tansa
5	Ceramic & Vitrified Tiles	Somani, Kajaria, Regency, Bell, H.R.Jhonson, Nitco, Euro,
6	Indian WC Pan, European WC pan & Orissa WC Pan	Hindware, Parryware, CERA, Jhonson-Peddar, Hindustan, Euro, Nycer
7	PVC Flushing Cistern	Hindware, CERA, Slimline, Hindustan, Nycer
8	Wash basin, Ceramic sink, Urinal	Hindware, Parryware, CERA, Jhonson-Peddar, Hindustan, Euro, Nycer
9	Bib tap & Stop tap	Jaquar, Seiko, Techno, Crystal, Hindware
10	Pillar Tap	Jaquar, Seiko, Techno, Crystal, Hindware
11	Waste Coupling	Jaquar, Parryware, Maxbrass,
12	C.I.Soil Pipes	NECO, ALCO, Bombay Iron Works,RIF
13	Mirror	Modiguard, Saint-Gobain, Parryware
14	Plastic Water tank	Syntex, Infra, Sharp
15	PVC.Pipe, Fittins & Fixtures	Supreme, Prince, Finolex
16	Manhole & Inspection Chamber Cover & frame (SFRC)	Bharat, KK, Moonlite, S.K.Precast, Pragati
17	RCC Hume Pipe	Indian Hume Pipe, Bharat, Akshay
18	G.I.Pipe & Fixtures	TATA, Jindal, Zenith
19	Three way tap	Asha
20	Plywood	Century, Anchor, Prince, Kitply
21	Prelaminated particle board	Novapan, Nepal Board, Butan Board, Eco Board, Deco Board, Turatuf
22	Sunmica	Royal touch
23	Veneer	Century, Anchor, Kitply
24	Glass	Modiguard, Saint-Gobain, Pilkington,Asahi Float
25	Aluminum Section	Jindal, Hindalco, Mahavir, Indal
26	Poly carbonate sheet	Danpolan, Sabic, Tofflit, Palram
27	Night Latch	Godrej, EUROPA
28	Mortice Lock	Godrej
29	Door Closer	Hyper, Everite, Hardwyn
30	Paints	Asian, Berger, ICI, Jenson Nicholson, Goodless Nerolac, Killick Nixon, Godavari, Shalimar
31	Polymer	Dr.Fixit, Roff, M C Bouchmey, Sunanda, BASF, Anuvi
32	Rust Passivator, Rust Inhibitor	BASF,Sunanda, M C Bouchmey, Dynamic enter-

		prises,
33	PVC Flooring	Marvel, Wonderfloor, Veekay
34	Plastic Door	Syntex
35	Flush Valve	Nelson,Jaquar,Parryware
36	Paver blocks	Vitco, Nitco, Continental, Supertiles
37	Waterproofing Compound	Impermo, Pidiproof, Aqua proof, CICO,Sunanda,
38	W.C. Connectors	Prince, Supreme
39	C.P.Fittings	Gem, Parko, Jaguar, Kingstone, ESS-ESS
40	C.P. Grating / Floor Trap	GMGR, Chilly
41	Ball valves	Zoloto, AM, Leader
42	CI “LA Class” Pipe	Electrosteel, Kesoram, IISCO
43	Stoneware pipe	Perfect, Burn
44	FRP Door	Advance, Rawji
45	CPVC Pipes	Ajay, Ashirwad, Astral
46	UPVC Pipe & Fittings	Supreme, Finolex, Polypack, Prince, Astral
47	Pipe clamp & Supports	Chilly, Euroclamp
48	Structural Steel	SAIL, TATA, JRINL, IISCO
49	Flush Door	Duraboard, Kitply, Merino Ply
50	Stainless Steel	Jindal, SAIL, Golden
51	Paint/Primer/OBD/Acrylic paint	Asian, Berger, Nerolac, ICI, Jenson-Nicolson (1 st Quality)
52	Waterproof paint	Snowcem, Asian, Berger
53	Aluminum Fittings	Crown, ALANS, Classic, Bharat, Argent
54	Block Board/Ply	Merino, Dyro, Samrat, KitPly
55	Dead Lock	Vision, Godrej, Dorma
56	HDPE Pipe	Arham engs, berlia, Nocil, PIL, Suprime
57	Fire rated door	Tata Parvesh, sukriti, navair, hormann, Bhavani
58	FRP Cover, Grating	Everlast, KK
59	DI grating	NECO
60	Toilet cubicle	Green lam, merino, polo international
61	Polymer Morter	Dr. Fixit, ACC

The make mentioned, if any, in schedule of items will supersede this list.
Any other make can also be used with prior approval of engineer Incharge.

Signature of Contractor

ANNEXURE-IV

ARTICLE OF AGREEMENT

CONTRACTOR AGREEMENT for all work orders issued to the contract by Institute

Article of agreement made at _____ this _____ day
 of the Two Thousand_____, between Indian Institute Of Technology, Bombay under Institute
 of Technology Act 1961, and having its Administrative Office in the Main Building 1st Floor, Powai,
 Mumbai – 400 076 (hereinafter called the Institute of Technology Bombay) of the one part
 and _____ whose Registered office is situated
 at _____ (herein after called “the
 contractor”) of the other part.

WHEREAS

The IIT Bombay being desirous of having provided and executed certain works mentioned enumerated or referred to in the Tender Notice, General Tender Notice, Instructions to Tendered, Conditions of Contract, Special Condition, Specification, Technical Report, Schedule of Quantities for Works, Drawing and Other documents constituting the tender and acceptance thereof, copy to be annexed all of which are designed to form part of this contract and are included in the term 'CONTRACT' herein used.

ANDWHEREAS

The II Bombay accepted the tender of the contractor for the provisions and the execution of the said work at the rate stated in the schedule of quantities of works (Herein after called ' Schedule Of Rates') upon the terms and subject to the conditions of contract.

NOW THIS AGREEMENT AND WITNESS AND IT IS HEREBY AGREED BY AND BETWEEN THE PARTIES AND AS FOLLOWS.

- 1) The documents which form part of the contract will be the tender notice, Instructions to tenders, conditions of contract, special conditions of contract, schedule of quantities of work, specifications, drawings and other documents, constituting the 'Tender' and acceptance thereof. It is further agreed that the work order No. _____ dated _____ shall constitute the contract between the parties.
- 2) In consideration of the payments to be made to the contractor for the works to be executed by him, the contractor shall and will duly provide, execute and complete the work on or before _____ as per the time limit mentioned in the tender documents and shall maintain the same at his own cost for the defect liability period thereafter, perform all such acts and things in the contract mentioned or described or which are to be implied there from or may be reasonably necessary for the completion of the said work and at the times and the manner and subject to the terms and conditions or stipulations mentioned in the contract.
- 3) In consideration of the due provision, execution and completion of the said work, the IIT Bombay, do hereby agree with the contractor that IIT Bombay, will pay to the contractor in the respective amount for the work actually done by him at the 'Schedule rate' quoted and accepted by IIT Bombay such other sums as may become payable to the contractor under the provisions of the contract such payment to be made at such time and in such manner as provided for in the agreement.
- 4) In consideration of the due provision, execution and completion of the said work and contractor does hereby agree to pay to the IIT Bombay the sum as may be due to the IIT Bombay for the services if any rendered by the IIT Bombay to the contractor and such other sum or sums as may become payable to the IIT Bombay towards loss, damage to the IIT Bombay's equipment, material, plant and machinery including these hired to the contractor if any as set forth in the said conditions of contract, such payment to be made at such time and in such manner as provided in the contract.
- 5) The contractor has to deposit with the IIT Bombay the sum of 1% equal value of financial limit as the fixed Earnest Money Deposit and remaining part will be recovered from contractor by allowing the IIT Bombay to deduct from the bills payable to them at the rate of 5%, 8%, 10% of amount payable to the contractor. This security deposit will be retained until the expire of the Defect Liability Period for the due observance and performance of this contract.
- 6) All disputes arising out of or any in connection with this agreement or concerning thereto shall be deemed to have arisen in Bombay and the same will be referred to the sole arbitrator of Deputy Director or anybody nominated by the Deputy Director, I.I.T Bombay for his decision and his decision will be final.
- 7) The several parts of this contract have been read by me / us and fully understood by me / us.

**IN WITNESS WHEREAS THE PARTIES HAVE ACCEPTED THESE PRESENT IN
DUPLICATE THE DAY AND THE YEAR FIRST AS MENTIONED ABOVE.**

**SIGNED AND DELIVERED FOR AND ON BEHALF OF THE
INDIAN INSTITUTE OF TECHNOLOGY BOMBAY.**

SIGNATURE : _____

DESIGNATION : _____

In the presence of witness

1) _____ (Address)

2) _____ (Address)

SIGNED AND DELIVERED FOR ON BEHALF OF _____

_____ **in the presence of**

Witness

1) _____ (Address)

2) _____ (Address)

ANNEXURE – V

FORM OF PERFORMANCE SECURITY (GUARANTEE)

BANK GUARANTEE BOND

In consideration of Indian Institute of Technology Bombay (hereinafter called "IIT Bombay") having offered to accept the terms and conditions of the proposed agreement between. IIT Bombay and.....(hereinafter called "the said Contractor(s)")for the work.....(Hereafter called "the said agreement") having agreed to production of a irrevocable Bank Guarantee for Rs.....(Rupeesonly) as a security/guarantee from the contractor(s) for compliance of his obligations in accordance with the terms and conditions in the said agreement.

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

2. We.....(indicate the name of the Bank) do hereby undertake to pay the amounts due and payable under this Guarantee without any demure, merely on a demand from IIT Bombay stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor(s). Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.(Rupeesonly)

3. We, the said bank further undertake to pay to IIT Bombay any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the contractor(s) shall have no claim against us for making such payment.

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

5. We(Indicate the name of the bank) further agree with IIT Bombay that IIT Bombay shall have the fullest liberty without our consent and without effecting in any manner our obligations hereunder to vary any of other terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to

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

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

7. Welastly undertake not to revoke this guarantee except with the previous consent of IIT Bombay in writing.

8. This guarantee shall be valid upto Unless extended on demand by IIT Bombay. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs.....(Rupees.....only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged.

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

ANNEXURE – VI

GUARANTEE TO BE EXECUTED BY CONTRACTORS FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF WATER PROOFING WORKS.

The Agreement made this..... day ofTwo thousand and betweenson of of (hereinafter called the Guarantor of the one part) and Indian Institute of Technology, Bombay (hereinafter called the Institute of the other part).

WHEREAS THIS agreement is supplementary to a contract (hereinafter called the Contract) dated and made between the GUARANTOR OF THE ONE part and the Institute of the other part, whereby the Contractor, inter-alia, undertook to render the buildings and structures in the said contract recited completely water and leak – proof.

AND WHEREAS GUARANTOR agreed to give a guarantee to the effect that the said structures will remain water and leak-proof for ten years from the date of giving of water proofing treatment.

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

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

- (a) misuse of roof shall mean any operation which will damage proofing treatment, like chopping of firewood and things of the same nature which might cause damage to the roof ;
- (b) alteration shall mean construction of additional storey or a part of the roof or construction adjoining to existing roof whereby proofing treatment is removed in parts;
- (c) the decision of the Engineer-in- Charge with regard to cause of leakage shall be final.

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

That if Guarantor fails to execute the water proofing or commits breach there under then the Guarantor will indemnify the Principal and his successors against all loss, damage, cost, expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement as to the amount of loss and / or damage and / or cost incurred by the Institute and the decision of the Engineer-in-Charge will be final and

binding on the parties.

IN WITNESS WHEREOF these present have been executed by the Obligor the day, month and year first above written.

SIGNED, SEALED and delivered by OBLIGOR in the presence of -

1)

2)

SIGNED for and behalf of INSTITUTE by in the presence of -

1).....

ANNEXURE – VII

INDEMNITY BOND FOR MATERIAL ADVANCE

In consideration of Indian Institute of Technology Bombay (hereinafter called "IIT Bombay") having offered to accept the terms and conditions of the proposed agreement between IIT Bombay and M/s. office at.....(hereinafter called "the Contractor(s)") for the work.....(Hereafter called "the Contract") and Work order No.EO/A/..... The Contractor signed herein below hereby agree with IIT Bombay and declare as follows.

1. That, the contractor has sought secured advance against material bought at site by the contractor @ ...% of the actual purchase amount of the material, the quantities and other particulars of which are obtained in the relevant Running Account Bill for the said contract.
2. That, the said advance amount as per the relevant Running Account Bill so advanced by IIT BOMBAY to the Contractor as aforesaid shall be employed by the contractor in or towards expediting the execution of the said works and no other purpose whatsoever.
3. That, the material detailed in the said Running Account Bill which have been offered to and accepted by IIT BOMBAY as security are absolutely the contractor's own property and free from encumbrances of any kind and the contractor will not make any application for or receives a further advance on the security of materials which are not absolutely his own property and free from encumbrances if any kind and contractor indemnifies IIT BOMBAY against all claims to any materials in respect of which as advance has been made to him as aforesaid.
4. That, the contractor shall make at his own cost all necessary and adequate arrangements for the proper watch, safe-custody and protection against risk of the said materials and that until used in construction, as aforesaid, materials shall remain at the site of the said works in the contractor's custody and his own responsibility and shall at all times be available to inspection by IIT BOMBAY or any officer authorized by him. In the custody, materials or any part thereof being stolen, destroyed or damage or deteriorates in greater degree than is due to reasonable use and thereof the contractor will forthwith replace the same with other materials of like quality or repair and made good the same as required by IIT BOMBAY.
5. That, the said material shall not on any account be removed from the site of works except with the written permission of the IIT BOMBAY or officer authorized by him on that behalf.
6. That, the advance shall be recovered in the next Running Account Bill as per consumption of such material actually used in the construction.
7. This Agreement of Indemnity Bond will be binding on me as well as my successors

legal heirs and I hereby solemnly affirm to that effect in the presence of witness and the day and year written below.

Place : Powai, Mumbai – 400 076.

Date : _____

Name : M/s_____

Address:_____

Witness : 1)

Signed by :

Witness : 2)

Signed by

INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

Condition of contract for the Safety, Health, and Environment

The purpose of this document is to define the Safety, Health, and Environment (SHE) requirements applicable to all contractors, vendors, and agencies engaged in activities at IIT Bombay premises, excluding new construction projects. All such parties are responsible for ensuring full compliance with the specified SHE requirements.

General obligations

The Contractor shall:

1. give the highest regard to SHE to avoid any injury to any person and damage to any property.
2. ensure that the management of SHE is an integral and visible part of its work planning and execution processes.
3. understand and comply with relevant SHE, legal, and other requirements.
4. identify potential hazards and take actions to correct them as needed.
5. be solely responsible for any liability arising from non-compliance, negligence, defects, or breaches.

Site- Specific Requirements:

The Contractors shall:

1. appoint competent persons to oversee work and conduct regular safety checks.
2. ensure workers are medically fit, safety inducted, and provided with ID cards and PPE's before starting work.
3. ensure that a system of permits to work is followed.
4. prepare Job Safety Analysis (JSA). They shall submit and take approval from Project Management consultant (PMC) / Indian Institute of Technology Bombay (IITB) officials of design/ estate office/ EMD/employer before starting any work at the site:

Sr. No.	Activity	Steps Involved	Potential Hazards & associated risks	Control Measures

Instructions for Use:

- Sr. No.: Serial number for each entry.
- Activity: The specific task or job to be performed.
- Steps involved: Detailed breakdown of each step in the activity.
- Potential Hazards: write potential hazards and risks associated with each step.
- Control Measures: Safety precautions or actions to address the identified hazards.

5. ensure that safety shoes, helmets, reflective jackets, full body harness while working at height, and other work-specific Personal Protective Equipment ("PPE") are provided and ensure proper use of PPE. The colour code for helmet and reflective jacket shall be followed as mentioned I below:

Helmet (conforming to IS 2925)	Person to use
Violet with their company logo	Engineers
Blue with their company logo	Supervisors
Red with their company logo	Electricians
Green with their company logo	SHE steward/ Safety Officer

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Condition of contract for the Safety, Health, and Environment

Orange with their company logo	Security guards and Traffic marshals
Yellow with their company logo	All Workmen
White with their company logo	Visitors
Reflective Jackets (conforming to BS EN 471: 1994)	Person to use
Orange / Red	workmen, Security Guards & Traffic marshals
Blue	Supervisors
Fluorescent Green	Engineers

6. make sure that safe electrical distribution board of suitable rating, plug-top and cables including all electrical equipment inspected and safe to use.
7. make sure safe working at height. The provisions of lifelines, fall arrestors, full body harnesses as required shall be made. Ensure the use of safe and standard scaffolding. use ladders that are of right size and suitable for the job.
8. ensure safe access and egress to the site.
9. check for hazards before entering small or enclosed areas. ensure proper ventilation and a rescue plan ready.
10. protect areas from sparks and heat during hot work like welding or cutting. Keep a fire extinguisher nearby.
11. arrange regular safety training to make worker competent and safety conscious.
12. ensure that waste materials are collected, stored, disposed of in a suitable manner.
13. ensure that all vehicles used for transportation and material handling equipment are fit for use and have valid documentation. All operators of vehicles shall have valid licenses, training, and experience.
14. ensure that traffic rules are followed at all times on IITB's premises.
15. use barriers and signs to keep people safe from potential hazards.
16. Ensure to take measure for safe lifting including lift study/ plan.
17. develop emergency response plan and make sure everyone knows what to do in case of an emergency.
18. promptly report any incidents to IITB officials and perform the follow-ups.
19. document all safety inspections, observations and incidents, and submit monthly SHE report with SHE statistics and summary of these records.

Notwithstanding the above, IITB may communicate certain additional or amended requirements regarding SHE, which must be met and adhered to without fail.

D. Details penalties for SHE violations

Sr. No.	Type of Violation	Penalty Amt. (INR)
1	General: SHE Management	
1a	Absence of contractor's execution supervisor at site during work.	3000/Instance
1	Absence of contractor's safety steward/ officer at site during work.	3000/Instance
1c	Failure to submit SHE report	5000/Instance
1d	Workers without safety induction, and/ or not provided with ID cards before starting work.	500/worker/ instance

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1e	Working without work permit / clearance	3000/violation
1f	For not using maintained PPE at Site	150/person/ day
1g	For not following safety instructions	150/person/ day
1h	Non-display of caution boards, emergency telephone number at work locations	200/day
1i	Working without Job Safety Analysis	500/day
1j	Failure to report the accident	
2	Site Electricity	
2a	RCCB not installed	1000/day
2b	Inserting of bare wires into the socket	1000/Violation
2c	Temporary cable connections with poor joints	1000/day
2d	Improper earthing of electrical appliances	1000/day
2e	Unauthorized and direct tapping of electricity	1000/day
2f	Positive isolation not ensured when repairing electrical equipment	1000/day
2g	Laying wire/cables on roads	1000/day
2h	Electrical work without licensed/competent electrician	1000/day
2i	Use of improper tools	1000/day
2j	Non-use of 24V appliances in confined space	1000/day
2k	DBs, panels etc are not iron clad of suitable rating minim IP55 and not closed tightly.	1000/day
3	Working at Height	
3a	Not using or anchoring Full Body Harness	1000/violation
3b	Absence of fall arrestor (rope grab), life line or anchorage point to anchor Full Body harness	1000/violation
3c	Improper guardrail, toe board, barriers, access ladders, works platforms, safety nets etc.	1000/day
3d	Poor scaffolding (no base plate / no bracing / improper fixing of platforms, damaged components / unstable scaffolding, etc)	1000/day
3e	Working at unprotected edges (staircases, etc)	1000/day
3f	Barricades / covers not provided on open holes/ pits	1000/day
3g	Using unsafe scaffold/ Ladder	1000/day
3h	Improper usage of ladder (less than 1m extension above landing point, not maintaining 1:4 ratio)	500/day
3i	Aluminium ladder without base rubber bush	500/day
3j	Usage of broken / weak ladders	500/day
3k	Usage of re-bar welded unsafe ladders	500/day
3l	Scaffold not built by experienced person / no tag system	1000/day
3m	No inspection of full body harness	500/day
4	Gas Cutting	
4a	Gas Cylinders not stored in upright position.	500/violation
4b	Flash back arrester, non-return valve and regulator either not present or not in working condition.	1000/day
4c	Fail to store cylinder 6m away from fire prone materials	500/day
4d	Failure to put cylinders in a cylinder trolley.	500/day

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4e	Damaged hose.	500/day
4f	Using domestic LPG cylinders	1000/instance
4g	Failure to use hose clamps	500/day
4h	Fire extinguisher not kept near cutting operation	500/day
5	Welding	
5a	Improper grounding and return path.	1000/day
5b	Non-availability off switch to the welding unit.	500/day
5c	Damaged electrode holder	500/day
5d	Damaged welding cable	500/day
5e	Bare openings in the cable.	500/day
5f	Non-availability of separate switch in the transformer	500/day
5g	Usage of reinforcement rod as return conductor	500/day
5h	Fire extinguisher not kept during welding operation	500/day
6	Excavation	
6a	Excavated material not stored at least 650mm away from edge of an open excavation	1000/day
6b	metal ladders or ramps not provided for safe access to and egress from excavation exceeding 1.5 meter	1000/day
6c	Trench and excavation not protected against falling of person e.g. hard barricading	1000/day
6d	Not shoring the excavation	1000/day
7	Fire Protection	
7a	Smoking and open flames in fire prone area	1000/day
7b	Using more than 24V portable electrical appliances in fire (hazardous zones) prone area	500/day
7c	Absence of fire extinguishers / damaged / empty / extinguishers not maintained	500/day
7d	No proper ventilation in cylinder storage area.	500/day
7e	Fire extinguisher placed in a not easily accessible location	500/day
8	Vehicles: Traffic Rule Violations	
8a	Unfit / unlicensed drivers or operators	1000/day
8b	Power / hand brakes not in working condition.	1000/day
8c	Over speeding / Rash Driving	1000/day
8d	Use of mobile phone while driving / operation	1000/day
8e	Over loading of vehicles	200/day
8f	Unlicensed vehicles	200/day
8g	Absence of reversing alarm	500/day
8h	Absence of fog light (in winter)	200/day
8i	Not using seat belt	200/day
8j	heavy or construction vehicle without helper	200/day
8k	Carrying people in unauthorized vehicles like tractors	200/day
8l	Sleeping / resting below parked vehicles	200/day
9	Lifting Tools & Tackles and Machines	
9a	Use of lifting tackles, machines without competent person certificate at site	1000/day

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Condition of contract for the Safety, Health, and Environment

9b	Unsafe Rigging practices (e.g.; overloading of lifting tools and machines, standing below loads, etc)	1000/day
9c	Pulleys, etc not anchored securely	500/day
9d	Guards not provided on rotating / moving parts	1000/day
9e	Improper use of tool- e.g.; wheels without guards	1000/day
9f	Signalman without reflective jacket	200/day
10	Occupational Health	
10a	Non-availability of first-aid box	1000/day
10b	Alcohol and drug abuse in work site	1000/instance
10c	Non - availability of Doctor / arrangement with Hospital	1000/day
10d	Fail to conduct Medical examination of workers	1000/day
10e	Workers not having ID card	1000/day
10f	Smoking inside the construction site	200/instance
10g	Allowing worker to work in environment with excessive noise without PPE	500/day
11	Housekeeping	
11a	Stairways, gangways, passageways blocked	500/Instance
11b	Lumber with protruding nails left exposed	500/Instance
11c	Openings unprotected	500/Instance
11d	Work locations not properly cleaned post daily work.	500/Instance
11e	Dustbins at appropriate places not provided / not cleaned.	500/Instance
11f	Vehicles / equipment parked / placed on roads obstructing free flow of traffic	500/Instance
11g	Unused surplus cables / steel scraps lying scattered	500/Instance
11h	Wooden scrap, empty wooden cable drums lying scattered	500/Instance
11i	Water stagnation leading to mosquito breeding	500/Instance

Note: The Fire and Safety Section may conduct surprise checks and is authorized to record violations and recommend to impose penalties as specified in the document.

Signature of the Contractor