



INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY
ESTATE OFFICE, POWAI, MUMBAI, MAHARASHTRA – 400 076
TEL. 022 2576 4995 E-mail : drestate@iitb.ac.in

IIT Bombay invites signed Technical Bid & Financial Bid for following work from the contractors having similar experience in Central Government Departments / State Government Departments / Central or State Autonomous Bodies / State or Central Public Sector Undertakings & Large Private Organizations. The detail of work is given below:

Sr. No.	Name of Work	Estimated Cost (In Rs.) Incl. 18% GST	EMD (Rs.)	Time Limit	RFX No.
1.	Term contract for maintenance and repair work at various departments and sections of workshop area in campus. EO/A/INFRA/WKS-87/24-25	Rs.49,49,050/-	Rs.98,500/-	06 months	N/A

Date and time of submission of tender documents is 04.12.2024 till 11:15 a.m..Date of opening of **Technical Bid will be 04.12.2024 at 11.30 a.m. and and Financial Bid 04.12.2024 (Tentative)**

Interested contractors/agencies are requested to submit Technical bid and Financial bid in the **Tender Box** of the Estate Office.

(A) All contractors/agencies should submit technical bid with the following documents, failing to which their tender will be summarily rejected from the tendering process:

- 1) i. Experience of having successfully completed works during the last 7 years ending last day of the month previous to the one in which applications are invited :
Three **similar completed works** costing not less than the amount equal to 40% of estimated cost put to tender,
OR
Two **similar completed works**, costing not less than the amount equal to 60% of the estimated cost put to tender
Or
One **similar completed work** of aggregate cost not less than the amount equal to 80% of the estimated cost.
AND
ii. One completed work of any nature (either part of (i) or a separate one) costing not less than the amount equal to 40% of the estimated cost put to tender with some Central Government Departments / State Government Departments / State or Central Autonomous Bodies / State or Central Public Sector undertakings.
- 2) Detail statement for work completed, work in hand including balance commitment of work should be enclosed for last three year commencing from 1st April and ended with 31st March and contractor should submit his details as per Annexure'A' format with support of xerox copies of work order and work completion certificates, otherwise the bid capacity will not be calculated and his technical bid will be summarily rejected, and no Financial Bid will be opened. (All contractors/agencies are hereby informed that they should upload Technical bid as per format of Annexure "A", changing in format is not allowed).
- 3) Submit the information in respect of **manpower/mandays** for above said work must be given **in undertaking** with official signature and seal/stamp, otherwise tender will be **rejected**.
- 4) Bank Solvency certificate 40% of estimated amount issued within one year from any Nationalized / Schedule Bank from the date of publishing of Tender.
- 5) P. F. registration certificate.
- 6) P. F. challans of last 12months.
- 7) (i) ESIC registration certificate and copies of ESIC challans of last 12months.
OR
(ii) Contractors' all risks insurance (CAR policy) / Mediclaim policy.
- 8) PAN card.
- 9) GST registration certificate.
- 10) Income Tax Return for last 03 years i.e. of **2021-22, 2022-23 and 2023-24**.
- 11) List of Equipment's, Machinery, Tools.
- 12) List of Technical Staff with copies of their Degree/diploma certificate.
- 13) Labour Licence obtained during in **03 years**.
- 14) The contractors who were empanelled under Estate Office under (2018-23) list need not have to submit Demand Draft. The contractors other than empanel list that are applying for tender need to submit Demand Draft / Pay Order for Rs.98,500/- (EMD amount) drawn in favour of "The Registrar, IIT Bombay" along with technical documents.

Mr. V. D. Chiv
26/11/2024

15) Power of Attorney, if any.

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

Note:

Those contractors who do not have documents mentioned above from Sr. No. 1 to 16 need not apply as it is mandatory documents to qualify in technical bids.

The work will be executed with lowest bidder as per the terms and conditions of work order and tender documents signed by the lowest bidder. (All agencies are requested to submit Terms and Conditions with official signature and seal/stamp.)

The validity of the bids will be valid for 6 months from the date of opening of tender.

If agency fails to submit the above mentioned documents their technical bid may be rejected.

Litigation history of the agency is required to be submitted along with the application. Tender would not be awarded if any inquiry proceeding / criminal case is found pending against the agency.

No work will be subletted to third party. If found payment of final bill will not be processed and the contractor's name will removed from the enlistment without giving him further notice.

Contractor's/Agencies/Proprietor's are requested to give Power of Attorney to your representative to deal any matter with any Officers or Staff of IIT Bombay on behalf of you or your agency.

Rates of an estimate are based on CPWD-DSR-2021 and rate analysis.

Bidder must submit their offer in a separate sealed envelopes as Technical and Commercial bid and both bids should be clearly marked. **Both separate envelopes are to be put in a bigger cover which should also be sealed and duly superscribed with tender No./ Name. The same are to be put in the tender box by the tenderer in the Estate Office. Tender submitted without seal will be rejected.**

IIT Bombay reserve its rights to reject any or all tenders without assigning any reason and without any reference.

sd/-
Superintending Engineer (I/C)

TO BE UPLOADED ON SRM TENDERING PORTAL WITH FINANCIAL BID

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

File No. : EO/A/INFRA/WKS-87/24-25

Name of Work : Term Contract for maintenance and repair work at various department and sections of Workshop area in Campus.

Name of the Contractor -----

Sr. No.	Name of Client	Name of Works	2021-22 (In Lakhs)	2022-2023 (In Lakhs)	2023-2024 (In Lakhs)	2024-2025 (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 be calculated and his tender will be summarily rejected.

Superintending Engineer (I/C)

Signature of Contractor
Name & Address in full

WORKS UNDERTAKING

EO/A/INFRA/WKS-87/24-25

To,
Superintending Engineer (I/C)
Indian Institute of Technology,
Powai, Mumbai – 400 076.

Sub : Term Contract for maintenance and repair work at various department and sections of Workshop area in Campus.

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 06 Months as mentioned in the notice inviting for short tenders.

The following information is required to be provided. If fails to do so, the tender will be assumed incomplete and hence the same will be rejected.

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 2/3 envelope system and not to make any modification in its terms and conditions.

- 1) No. of Unskilled casual labour to be required per day. :
 - 2) No. of Skilled casual labour to be required per day. :
-

The Mandays required for completion of work. :

Thanking you,

Yours faithfully,

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

INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
POWAI, MUMBAI, MAHARASHTRA - 400 076

EO/A/INFRA/WKS-87/24-25

ESTATE OFFICE

Name of work: Term Contract for maintenance and repair work at various departments and sections of workshop area in Campus.

Schedule of Work

Sr. No.	Description of work	Qty.	Unit	Rate (In Rs.)	Amount (In Rs.)
1	Dismatling & Removing works				
1.01	Removing door shutters and window shutters of any size and type with fittings (if available) and taking out the same outside IIT Campus etc. complete. (Recovery of wood scrap will be done @ Rs. 25 per kg, aluminium scrap will be done @ Rs. 120 per kg and structural steel will be done @ Rs. 20 per kg from Item of work against actual weight if material taken outside campus)	4.00	Nos	415.96	1,663.83
1.02	Removing teak wood or aluminium paneled / partly glazed or veneer / plywood partitions, any type of ceiling carefully without damaging the frame or panels and taking out the same outside IIT Campus etc. complete. (Recovery of wood scrap will be done @ Rs. 25 per kg, aluminium scrap will be done @ Rs. 120 per kg and structural steel will be done @ Rs. 20 per kg from Item of work against actual weight if material taken outside campus)	8.00	m2	46.66	373.26
1.03	Carefully removing the existing G.I. pipe 12mm to 50mm diameter from floor / walls / slab etc. with out damaging the structures and taking out the same outside campus including scaffolding etc. completed as directed. (5% cost will be deducted from item of work for material taken outside IIT Campus)	5.00	Rmt	124.52	622.61
1.04	Carefully removing the existing C.I. / PVC / HDPE / C I drain pipes from floor / slab with out damaging the structure and taking out the same out of IIT Campus including scaffolding etc. completed as directed.	5.00	Rmt	108.00	540.00
1.05	Removing urinal pans /wash hand basins/ flush tank of any type with brackets including disconnecting the sanitary and water supply connections, removing the same carefully and stacking the serviceable materials as and where directed including throwing the unserviceable materials out side the campus etc. complete. (5% cost will be deducted from item of work for material taken outside IIT Campus)	4.00	Nos	104.00	416.00
1.06	Removing w.c. pans including disconnecting the sanitary and water supply connections, removing and breaking flooring and bed concrete around pans and removing pan carefully and disposing the debris outside the campus etc. complete.	4.00	Nos	111.08	444.30
1.07	Dismantling plain cement concrete work including breaking concrete by chiselling, wedging etc., and stacking the debris upto a distance of 50 metres or spreading as directed.	3.00	m3	1,243.81	3,731.42
1.08	Dismantling burnt brick masonry (in cement mortar) with plaster including sorting out serviceable bricks and lowering down debris, stacking the same and debris separately upto a distance of 50 meters or spreading the debris as directed.	3.00	m3	1,704.21	5,112.64
1.09	Removing galvanised iron or asbestos cement sheet roof covering and taking out the same outside IIT Campus, scaffolding etc. complete. (Recovery of scrap will be done @ Rs. 5 per kg from Item of work against actual weight if material taken outside campus)	10.00	m2	136.46	1,364.61
1.10	Removing the old cement concrete or any type of tiles from floor / wall carefully including levelling the surface, cleaning the site, stacking the debris etc. complete.	25.00	m2	93.72	2,342.92

1.11	Carefully removing the existing damaged PVC/ wooden flooring sheets & cleaning and leveling the surface and taking out the same outside IIT Campus as directed etc. all complete.	40.00	m2	54.00	2,160.00
1.12	Pulling down stone masonry in cement mortar with plaster / pointing without dust nuisance including sorting out the stone chips and debris separately and stacking upto distance of 50 metres or spreading the debris as directed.	2.00	m3	958.04	1,916.08
1.13	Removing existing waterproofing treatment from the WC up to the mother slab including tiles, plaster etc. of any thickness without damages to structure using electrically operated cutting tools, leveling and cleaning the surface for providing new specialist waterproofing treatment, including lowering down the debris and stacking the same at a distance of 50mtr etc. all complete as directed.	5.00	m2	91.00	455.00
1.14	Taking out old C.I. / PVC nahani trap with connecting pieces from floor carefully and taking out the same outside campus etc. complete.	5.00	Nos	189.00	945.00
1.15	Removing soling without dust nuisance including sorting out the stone chips and debris separately and stacking upto distance of 50 metres as directed.	5.00	m3	235.00	1,175.00
1.16	Removing existing open or concealed flush valve/ urinal sensors from its position without damaging the side tiles, walls etc. and depositing the same in Estate store etc. completed as directed.	5.00	Nos	377.00	1,885.00
1.17	Disposing debris, loose stones, boulders, concrete pieces broken etc. collected and stacked as directed including loading in trucks, transporting out of IIT Campus including obtaining approval from Government/ private land owners for disposing off on to their approved location. The contractor will be solely responsible for disposing debris out of campus and the debris are to be removed from site within 72 hours from stacking (30% voids will be deducted from actual measurement for debris, loose stones, boulders, concrete pieces).	10.00	m3	688.00	6,880.00
1.18	Removing excavated earth or debris including loading in trucks and conveying to approved dumping point in IITB campus unloading spreading etc. complete. 30% voids will be deducted in case of truck measurement.	10.00	m3	181.00	1,810.00
1.19	Dismantling Reinforced cement concrete work including breaking concrete by chiselling, wedging including scaffolding, covering area with jute kantan to avoid spreading of dust etc., stacking the debris upto a distance of 50 metres as directed.	2.00	m3	2,938.03	5,876.07
1.20	Dismantling steel work in built up sections in angles, tees, flats and channels including all gusset plates, bolts, nuts, cutting rivets, welding etc. including dismembering and stacking within 50 meters lead etc. completed as directed.	10.00	kg	4.67	46.66
1.21	Dismantling existing platform made of kadappa/concrete slab top, granite top and kadappa/concrete/ brick support of height and width upto 900mm carefully and lowering down the debris at ground level and stacking up to 50 meters beyond the building area or spreading/leveling in low laying area as directed by Engineer Incharge. as directed.etc, complete.	2.00	Rmt	456.00	912.00

1.22	Refixing aluminium partition of any type including making any required modification as per site condition, including all required material all complete including scaffolding as directed by Engineer in charge.	3.00	m2	433.00	1,299.00
1.23	Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.	5.00	m2	109.02	545.09
1.24	Cutting of road surfaces manually including bituminous macadam, soling etc. including stacking the debris upto a distance of 50 metres or spreading as directed.	1.00	m3	354.85	354.85
1.25	Dismantling existing brickbat coba waterproofing from terrace without damaging the RCC slab carefully using electrically operated tools including lowering down the debris and stacking the same upto 50 mtrs from the building all complete as directed.	1.00	m3	4,007.00	4,007.00
2	Earthwork				0.00
2.01	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. complete.	2.00	m3	287.82	575.65
2.02	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. complete..	2.00	m3	415.25	830.51
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 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. complete..	2.00	m3	603.84	1,207.68
2.04	Excavation work in Hard rock (blasting prohibited) by mechanical means (Hydraulic excavatory) manual means including dressing of sides and ramming of bottoms, lift upto 1.5m, including getting out the excavated soil and disposal of surplus excavated soils as directed, within a lead of 50m.	2.00	m3	1,262.87	2,525.74
2.05	Excavation work in Hard rock (blasting prohibited) by mechanical means (Hydraulic excavatory) manual means including dressing of sides and ramming of bottoms, beyond 1.5m upto 3.0m including getting out the excavated soil and disposal of surplus excavated soils as directed, within a lead of 50m.	2.00	m3	1,366.97	2,733.94
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 3m upto 4.5m including getting out the excavated soil and disposal of surplus excavated soils as directed, within a lead of 50m.	2.00	m3	1,519.89	3,039.78

3	Concrete				
3.01	Providing and laying in position machine batched and machine mixed design mix M-25 (1:1:2) 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 IS: 9103 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. completed as directed.	2.00	m3	8,024.43	16,048.87
3.02	Providing and laying in position machine batched and machine mixed design mix M-25 (1:1:2) grade cement concrete for all work above plinth level upto any floor 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 IS: 9103 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. completed as directed.	2.00	m3	10,114.35	20,228.70
3.03	Providing and laying in position Ready 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 IS: 9103 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. completed as directed.	2.00	m3	8,348.28	16,696.56
3.04	Providing and laying in position Ready mix M-25 grade cement concrete for all work above plinth level upto any floor 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 IS: 9103 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. completed as directed.	2.00	m3	9,294.58	18,589.16
3.05	Providing and laying in position Ready mix M-30 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 IS: 9103 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. completed as directed.	2.00	m3	8,628.53	17,257.05
3.06	Providing and laying in position Ready mix M-30 grade cement concrete for all work above plinth level upto any floor 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 IS: 9103 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. completed as directed.	2.00	m3	10,256.38	20,512.76

3.07	Providing and laying cement concrete 1:11/2: 3 (M-20) plinth level to upto any floor using sand as fine aggregate and graded stone aggregate 20mm maximum size for foundation, coping and bedding, levelling, dewatering by any means, compaction, finishing, curing etc. complete all as directed.	2.00	m3	7,810.06	15,620.12
3.08	Providing and casting in position ready mixed M-20 grade cement concrete for foundation, coping and bedding etc. as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade excluding shuttering, including compaction, finishing, curing etc. including cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete,improve workability without impairing strength and durability as per direction of the Engineer-in-charge including casting cubes and testing.	2.00	m3	8,415.61	16,831.21
3.09	Centering and shuttering including strutting, propping etc. and removal of form for all heights :Foundations, footings, bases of columns, coping, raft etc.	4.00	m2	308.99	1,235.98
3.10	Centering and shuttering including strutting, propping etc. and removal of form for all heights ::Walls (any thickness) including attached pilasters, buttersesses, plinth and string courses etc.	4.00	m2	671.82	2,687.29
3.11	Centering and shuttering including strutting, propping etc. and removal of form for all heights :Suspended floors, roofs, landings, staircase waste slab, balconies, cantilever chajjas and access platform	4.00	m2	769.15	3,076.60
3.12	Centering and shuttering including strutting, propping etc. and removal of form for all heights :Lintels, beams, plinth beams, girders, bressumers and cantilevers	4.00	m2	610.41	2,441.66
3.13	Centering and shuttering including strutting, propping etc. and removal of form for all heights :Columns, Pillars, Piers, Abutments, Posts and Struts	4.00	m2	806.98	3,227.91
4	Stonework				
4.01	Providing uncoursed rubble masonry of trap stones in cement mortar 1:6 (Cement:sand/grit) including racking 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 etc. all complete as directed.	2.00	m3	6,676.02	13,352.05
4.02	Laying dry trap / rubble stone soling of required thickness including hand packing and compacting etc. complete using IITB stone including trasporting stone from various locations from IIT campus up to working site and cutting the stone in required size as per requirement.	3.00	m3	249.00	747.00
4.03	Laying dry trap / rubble stone soling of required thickness including hand packing and compacting in proper level all complete as directed by Engineer-in-charge.	3.00	m3	892.00	2,676.00
4.04	Providing coursed rubble masonry of trap stones in cement mortar 1:6 (Cement:sand/grit) including racking 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 etc. all complete as directed.	2.00	m3	7,941.35	15,882.71

4.05	Providing uncoursed rubble masonry (using IITB stones) of trap stones in cement mortar 1:6 (Cement:sand/grit) including racking 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 stacked from various locations of IIT Campus upto working site, cutting stones/ bouldres in piceses as per requirement, scaffolding etc. complete as directed.	2.00	m3	3,745.00	7,490.00
4.06	Pointing on stone work with cement mortar 1:3 (1 cement : 3 fine sand) :Flush/ruled pointing in proper line and level all complete.	3.00	m2	320.43	961.30
4.07	Providing coursed rubble masonry (using IITB stones) of trap stones in cement mortar 1:6 (Cement:sand/grit) including racking 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 stacked from various locations of IIT Campus upto working site, cutting stones/ bouldres in piceses as per requirement, scaffolding etc. complete as directed.	2.00	m3	3,630.00	7,260.00
4.08	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. A.C. pipe for weep holes at in 1m. c/c in staggered position if required.	3.00	m2	565.00	1,695.00
5	Brickwork				0.00
5.01	Providing second class burnt brick masonry with IS approved quality well burnt bricks having crushing strength of 35 kg. / square cm. and maximum water absorption of 20% in cement mortar 1:6 in superstructure including striking joints, racking out joints, watering and scaffolding complete.	2.00	m3	8,057.85	16,115.69
5.02	Providing second class burnt brick masonry with best available approved quality well burnt bricks having crushing strength of 35 kg. / square cm. and maximum water absorption of 20% in cement mortar 1:4 in half brick thick wall including providing RCC palti 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, scaffolding, racking out joints and watering complete.	2.00	m2	1,021.50	2,043.01
5.03	Providing and laying autoclaved aerated cement blocks masonry with 100mm/150mm/230mm/300 mm thick AAC blocks in super structure above plinth level up to floor V level with RCC band at sill level and lintel level with approved block laying polymer modified adhesive mortar all complete as per direction of Engineerin-Charge. (The payment of RCC band and reinforcement shall be made for seperately).	2.00	m3	7,017.88	14,035.76
6	Granite, Marble, Kadappa				
6.01	Providing and fixing not less than 16 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut Marble (area of slab upto 0.50 m2) for kitchen platforms, vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.	2.00	m2	2,916.31	5,832.62

6.02	Providing and fixing not less than 16 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut Marble (area of slab above 0.50 m2) for kitchen platforms, vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.	2.00	m2	2,648.41	5,296.81
6.03	Providing and fixing not less than 16 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut Garnite (area of slab upto 0.50 m2) for kitchen platforms, vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.	2.00	m2	4,695.23	9,390.45
6.04	Providing and fixing not less than 16 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut Granite (area of slab above 0.50 m2) for kitchen platforms, vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.	2.00	m2	4,440.36	8,880.73
6.05	Providing and fixing Kadappa stone slab for kitchen platform/cupboard shelves of approved type and design 20mm to 25 mm thick in cement mortar 1:4 including filling joints, curing, cleaning etc. complete.	2.00	m2	753.00	1,506.00
6.06	Providing and laying flamed finish 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 :	2.00	m2	2,598.69	5,197.37
6.07	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.	2.00	m2	3,922.06	7,844.12
6.08	Extra for fixing marble /granite stone, over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive, including cleaning etc. complete.	2.00	Rmt	477.16	954.33
7	Building repairs				
7.01	Carefully removing internal or external plaster in patches or any length without damaging structure brickwork in the vicinity by using electric cutting tools including cutting a groove first to demarcate exact area of damage taken place stacking the debris with in 50 meter, cleaning the site etc. complete. including covering the furniture, floor, windows and partitions with plastic sheets while chipping including scaffolding. Note:- a) No extra payment shall be made for extra thickness removed. b) Proper tools to be used for removal of concrete and it should be seen by contractor no damage on the other side / near by area will be taken place and if required other portions are to be checked by the contractors with respect to the damage before commencement of the work. c) The area in vertical plane shall be measured.	4.00	m2	45.20	180.81

7.02	Chipping the R.C.C surface and cleaning the rusted reinforcement and exposed surface by wire brush mechanical device or any other established method and applying 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 etc. Including scaffolding etc. Complete.	4.00	m2	133.00	532.00
7.03	Providing and applying an effective bond coat of Polymer (SBR) approved by IITB and cement in the proportion of 1:1 by using brush in multiples coats as required to accommodate the whole thickness of polymer modified mortar wherever required including scaffolding wherever required on the surface of old concrete / repaired concrete Polymer (SBR) of approved manufacturer should have the following properties: · Suspended solid particles 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 of authorized dealer will be verified.	20.00	Kg	417.00	8,340.00
7.04	Providing and applying an effective bond coat of Epoxy bonding agent manufactured by M/s. Krishna conchem, Dr. Fixit , Roff , Chembond or M.C. Bouchmey and hardner in the proportion and mixing throughly base & hardner as per manufacture instruction (Base hardner) by using brush in multiples of coat as required to accommodate the whole thickness of PMM wherever required including double scaffolding upto any height wherever required on the surface of old concrete/required concrete. Note- The actual consumption of Epoxy bonding coat shall be measured for payment on weight basis . Challans of authorized dealer will be verified	20.00	Kg	1,080.00	21,600.00
7.05	Providing and 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 court in layers as directed including mixing the polymer mortar with water using forced action mixer mild curing with water for 3 days and finishing the surface in all respect including scaffolding etc. Complete. (Payment will be paid for the actual quantity of polymer mortar PX used on weight basis. Challans of authorised Dealer will be verified etc all complete as directed by Estate office).	30.00	Kg	75.00	2,250.00
7.06	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 with the use of step ladder and curing complete	8.00	m2	295.85	2,366.80
7.07	Providing internal cement plaster 20mm thick in a single coat in cement mortar 1:4 without neeru finish to concrete or brick surfaces in all positions with the use of step ladder and curing complete.	5.00	m2	403.51	2,017.57
7.08	Providing and applying white cement based Birla make wall care putty of average thickness 1mm, over plaster/ concrete surface in proper line / level to prepare surface even and smooth for including preparing the wall surface for the application of wall care putty etc. complete as directed.	8.00	m2	124.27	994.16
7.09	Providing sand face plaster externally using approved screened sand in all positions including base coat of 15mm thick in cement mortar 1:4 using water proofing compound per cement bag as per manufacturer specification and curing the same for not less than two days and keeping the surface of base coat rough to receive the sand faced treatment not to exceed 8mm thick in cement mortar 1:4 using water proofing compound per cement bag as per manufacturer specification as per manufacturer specification, finishing the surface by taking out grains and curing for 14 days, scaffolding etc. complete.	8.00	m2	702.00	5,616.00
7.10	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.	3.00	No	91.00	273.00

7.11	Providing and applying HILTY HIT-HY injection in RCC including fixing various diameter reinforce bars including drilling hole as per manufacturer specifications, blowing out the hole and finishing etc. Complete as directed.	3.00	Nos	675.00	2,025.00
7.12	Providing and laying super fluid micro concrete of approved manufacturer at any floor after reinforcement treatment coat including mixing with 10mm to 5mm size quartz aggregate in the ratio of 1 part Pidilite make roff crete to 0.75 part of quartz aggregate by weight providing marine plywood formwork in line and level, cleaning, curing etc. complete.	40.00	KG	73.00	2,920.00
7.13	Drilling straight and inclined holes upto 300mm depth and upto 20mm dia in concrete / masonry using electrically operated drilling machine and fixing nipple for grouting, including scaffolding, conducting water test.	8.00	Nos	34.00	272.00
7.14	Grouting existing RCC structure as per following operations including scaffolding, sealing leak paths with lead wool, 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 if necessary. 4) After through grouting sealing the holes with cement slurry.	10.00	Kg	34.00	340.00
7.15	Grouting in any RCC structure with low viscosity Monomor manufactured by M/s. CICO, SIKKA, MC Bouchmey, Sunanda Chemicals, Roffee etc. or any other approved brand epoxy based product of similar properties, as per manufacture's specification by providing suitable arrangement for grouting at pressure 2 to 3 kg / sqm. for all lift and leads. The grouting is to be done after cement grouting is completed etc. as directed.	2.00	Kg	980.00	1,960.00
7.16	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.	20.00	m2	77.00	1,540.00
7.17	Providing and erecting Mechanical lift for 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	Per month	49,370.00	49,370.00
7.18	Providing and fixing Jute kantan (Tarat) screen to the scaffolding of external wall at 6th floor level removing the same after the work is over etc. complete	20.00	m2	12.00	240.00
7.19	Providing and filling separation crack of 75mm width and 25mm deep with polymer modified cementitious mortar. a) Demarcating groove, removing plaster / concrete carefully, washing with potable water. b) 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 including applying making tape on both side of groove, cleaning, finishing to match the plaster in vicinity, double scaffolding disposing of debris anywhere in IITB campus, cleaning as directed etc. complete. c) Proportion d) Bond coat e) SBR polymer + cement in the ratio 1:1 by volume f) Polymer modified cementitious mortar g) SBR polymer 150ml. h) Cement 1 Kg. i) Silica sand 3.0 kg. (Note: - Demarcating groove, breaking Plaster / concrete shall be paid under respective items).	8.00	Rmt	174.00	1,392.00

7.20	Cutting, demarcating grooves at any height with electrically operated cutter machine between sound and unsound plaster, cracks on external wall, separation cracks including Scaffolding etc. complete.	8.00	Rmt	43.00	344.00
7.21	Providing and erecting mat scaffolding using H-frame and bamboos wherever required upto 15m height as directed before commencement of work and removing the same after completion of all works requiring scaffolding.	3.00	m2	274.00	822.00
7.22	Providing and applying 12 mm thick (average) premixed formulated one coat gypsum lightweight plaster having additives and light weight aggregates as vermiculite/ perlite respectively conforming to IS: 2547 (Part - 1 & II) 1976, applied on hacked / uneven background such as bare brick/ block/ RCC work on walls & ceiling at all floors and locations, finished in smooth line and level etc. complete.	5.00	m2	364.68	1,823.42
8	Flooring				
8.01	Providing and laying rectified Glazed Ceramic floor tiles of size 300x300 mm or more having thickness not less than 5mm, of 1st quality conforming to IS: 15622, of approved make, in all colours, shades including 20 mm thick Cement Mortar 1:4 (1 Cement : 4 Coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including pointing the joints with white cement and matching pigments etc., complete.	5.00	m2	1,229.26	6,146.28
8.02	Providing and fixing 1st quality ceramic wall tiles conforming to IS: 15622 of size 300mmx450mm and 300mm x 600mm as directed by Engineer-in-charge having thickness not less than 5mm, of approved make, in all colours, shades of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, 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	5.00	m2	941.68	4,708.42
8.03	Providing and laying vitrified tiles of Size 600x600 mm and above for floor, skirting, dado's, riser, tread of steps tiles in different sizes having thickness not less than 10mm with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) or 20 mm thick plaster of cement mortar 1:3 (1 cement : 3 coarse sand) , jointing with grey cement slurry @ 3.3kg/sqm including grouting the joints with white cement and matching pigments etc., complete.	5.00	m2	1,421.46	7,107.28
8.04	Providing and laying vitrified tiles of Size 1000x1000 mm for floor, dados, skirting, riser, tread etc tiles in different sizes having thickness not less than 10mm with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) or 20 mm thick plaster of cement mortar 1:3 (1 cement : 3 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joints with white cement and matching pigments etc., complete.	5.00	m2	2,560.61	12,803.04
8.05	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	5.00	m2	737.79	3,688.97
8.06	Fixing glazed/ Ceramic/ Vitrified floor tiles with cement based high polymer modified quick-set tile adhesive (Water based) conforming to IS: 15477, in average 3mm thickness	5.00	m2	635.75	3,178.75
8.07	Providing and laying Kotah stone for flooring, skirting, tread, riser of steps 25mm to 30mm 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 complete.	3.00	m2	1,712.39	5,137.17

8.08	Providing and fixing two mm thick PVC flooring (vinyl flooring) in roll or tile form manufacture by armstrong of approved shade and in approved pattern on smooth and leveled bed, fixing the flooring as per manufacturer specifications etc. complete.	5.00	m2	1,610.00	8,050.00
8.09	Providing and fixing wooden flooring of 8 mm / 10 mm thk (AC-4 Grade) of approved make vista /amstrong/pergo in slat form including foam for levelling . Measurement will include the skirting and side/ floor profiles if any.	3.00	m2	1,725.00	5,175.00
8.10	Providing and fixing Chequered precast Cement concrete tiles 22mm thick of approved colour and pattern over steps 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) .	5.00	m2	1,237.23	6,186.17
8.11	Providing and laying at any floor ceramic tiles Johnson &Johnson /Nitco/ Kajaria/ Bell/ somani for flooring approved by IITB of size 600x600mm quality, brand and shade as available in market on cement mortar 1:4 bedding using white cement pigments finished to levels slope as required including cutting of tiles. Curing, acid washing etc. all complete.	5.00	m2	942.00	4,710.00
8.12	Machine polishing to cement / marble mosaic tiled flooring or any other type of flooring including cleaning, washing, etc. complete.	3.00	m2	242.00	726.00
8.13	Hand polishing to dado, skirting including cleaning, washing etc. complete as directed.	3.00	m2	136.00	408.00
8.14	Providing and fixing Welspun CNL flooring including skirting/profile of approved design /make and pattern of upto 5.0 mm thk in grain slats or any other size or any other pattern, approved colour etc and cleaning /brooming/mopping the floor before installation and laying Cusioning base /Plastic sheet etc complete as approved and directed.(Skirting/profile shall not be paid separately)	2.00	m2	3,875.00	7,750.00
8.15	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 IS: 15622, 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.	3.00	m2	1,724.83	5,174.50
8.16	Providing and laying vitrified tiles of Size 600x600 mm and above for floor, skirting, dado's, riser, tread of steps tiles in different sizes having thickness not less than 10mm with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, including Fixing tiles with cement based high polymer modified quick-set tile adhesive (Water based) conforming to IS: 15477, in average 3mm thickness complete.	3.00	m2	1,319.41	3,958.23
8.17	Providing and laying vitrified tiles of Size 1000x1000 mm for floor, dados, skirting, riser, tread etc tiles in different sizes having thickness not less than 10mm with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, including Fixing tiles with cement based high polymer modified quick-set tile adhesive (Water based) conforming to IS: 15477, in average 3mm thickness complete.	3.00	m2	1,536.95	4,610.84
8.18	Providing and laying plain ceramic tiles of size 600mmx600mm and thickness as per manufacturers specification of approved make for flooring in required position including Fixing tiles with cement based high polymer modified quick-set tile adhesive (Water based) conforming to IS: 15477, in average 3mm thickness complete.	3.00	m2	940.00	2,820.00

8.19	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.	2.00	m2	6,116.18	12,232.36
9	Wood work				
9.01	Providing and fixing 2nd class country teakwood frame for doors, windows, ventilators by using wood of required size as per site condition including all moulding, rebating, hold fast and finishing with one coat of primer, applying coal tar on the external faces of frame etc. complete.	0.10	m3	155,425.00	15,542.50
9.02	Providing and fixing single leaf or double leaf panelled door shutters 35mm thick as per detailed drawings consisting of country cut teak wood styles, top rail, frieze rail of 95mm x 35mm, lock rail of 145mm x 35mm and bottom rail of 245mm x 35mm and insert panels of 12mm thick, marine plywood generally conforming to IS: 710 with heavy duty M.S. pressed butt hinges bright finished of required size with necessary screws, P/F 300mm long heavy duty stainless steel aldrop, other require fittings and fixtures etc. complete.	2.00	m2	6,152.00	12,304.00
9.03	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, 6 lever Godrej mortise lock with triplicate keys and other required fittings etc. complete (without frame). (fittings will be approved by Engineer in charge before fixing)	2.00	m2	5,571.00	11,142.00
9.04	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. complete (without frame). (fittings will be approved by Engineer in charge before fixing)	2.00	m2	5,379.00	10,758.00
9.05	P/F single leaf FRP moulded shutter 35mm thk. of Advance FRP company in flush or depress panel design as approved. FRP thickness to be 2.00mm, including extra reinforcement on sides and edges. The core of shutter to be Polyon Foam done in situ with wooden styles embedded for taking hinges, fixtures etc. Both side of shutter to be finish in Gel-Coat. Shutter to have recess to hinges. The whole shutter to be totally waterproff, resistance to mild acid/alkali. Colour as per choice including fixing of fittings such as 3 nos 4" heavy type stainless steel hinges for each shutter, 9" long tadi patti S.S, 2nos. 9" long S.S handles for each shutter etc. completed as directed.	2.00	m2	3,880.00	7,760.00
9.06	Refixing aluminium/ wooden framed door and windows by making small modification with new screws and required fittings etc. complete as directed.	2.00	Nos	1,558.00	3,116.00
9.07	Providing and fixing IS : 3564 marked hyper make hydraulic door closer of hyper door to door shutter including making proper adjustment for smooth operation etc. complete.	2.00	Nos	1,540.00	3,080.00
9.08	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 IS : 6315, 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.	2.00	Nos	2,457.16	4,914.32

9.09	Providing and fixing capsule door closer of approved quality and make to door shutter including making proper adjustment for smooth operation etc. complete.	2.00	Nos	666.00	1,332.00
9.10	Providing and fixing Godrej make concealed type door closer of approved quality and make to door shutter including making proper adjustment for smooth operation etc. complete.	2.00	Nos	5,865.00	11,730.00
9.11	Providing and fixing 3" Anchor Fastener wherever necessary etc. complete.	2.00	Nos	41.00	82.00
9.12	Providing and fixing heavy duty anchor fasteners of size 6" & 12mm dia including drilling hole as per manufacturer specifications, blowing out the hole and finishing including scaffolding etc. Complete as directed.	2.00	Nos	143.00	286.00
9.13	Providing and fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing. Circular shape 450 mm dia	2.00	Each	1,252.84	2,505.67
9.14	Providing and fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing. Rectangular shape 453x357 mm	2.00	Each	1,162.88	2,325.76
9.15	Providing and fixing mirrors 6mm thick of approved Indian quality copper plated with 10mm thick waterproof plywood backing, fixing mirror on wall with cup washer and screws etc. all complete as directed.	2.00	m2	2,757.00	5,514.00
9.16	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 for top and bottom section and 5mm thick writable glass in two layers for middle section of the partition with all required fittings such as rubber gasket, silica gel, silicon selent, glazing clips, screws and other required fittings etc. completed as directed. (all alu. fittings should 15 micron anodized or powder coated.)	2.00	m2	8,560.00	17,120.00
9.17	Providing and fixing aluminium tower bolts of size 300 x 10 mm, ISI marked, anodised, transparent or dyed to required colour or shade, with necessary screws etc. complete :	3.00	Each	118.05	354.15
9.18	Providing and fixing aluminium tower bolts of size 250 x 10 mm, ISI marked, anodised, transparent or dyed to required colour or shade, with necessary screws etc. complete :	3.00	Each	104.75	314.26
9.19	Providing and fixing aluminium tower bolts of size 200 x 10 mm, ISI marked, anodised, transparent or dyed to required colour or shade, with necessary screws etc. complete :	3.00	Each	91.11	273.32
9.20	Providing and fixing aluminium tower bolts of size 150 x 10 mm, ISI marked, anodised, transparent or dyed to required colour or shade, with necessary screws etc. complete :	3.00	Each	75.81	227.42
9.21	Providing and fixing aluminium tower bolts of size 100 x 10 mm, ISI marked, anodised, transparent or dyed to required colour or shade, with necessary screws etc. complete :	3.00	Each	58.85	176.55
9.22	Providing and fixing 300mm long heavy duty brass oxidized aldrop with require fittings and fixtures etc. complete.	3.00	Nos	574.00	1,722.00
9.23	Providing and fixing 300mm long stainless steel heavy duty aldrop with require fittings and fixtures etc. complete.	3.00	Nos	482.00	1,446.00
9.24	Providing and fixing aluminium handles of size 125mm, ISI marked, anodised, transparent or dyed to required colour or shade, with necessary screws etc. complete	3.00	Each	60.25	180.76

9.25	Providing and fixing aluminium handles of size 100mm, ISI marked, anodised, transparent or dyed to required colour or shade, with necessary screws etc. complete	3.00	Each	53.43	160.29
9.26	Providing and fixing aluminium handles of size 75mm, ISI marked, anodised, transparent or dyed to required colour or shade, with necessary screws etc. complete	3.00	Each	46.46	139.37
9.27	Providing and fixing aluminium Z handles of approved make and quality with necessary screws etc. complete	3.00	Each	103.00	309.00
9.28	Providing and fixing IS : 12817 marked stainless steel butt hinges of size 125 x 64 x 2.5mm (heavy weight) with stainless steel screws etc. complete as directed	3.00	Each	104.55	313.66
9.29	Providing and fixing IS : 12817 marked stainless steel butt hinges of size 100x60x2.5mm (heavy weight) with stainless steel screws etc. complete as directed	3.00	Each	85.74	257.22
9.30	Providing and fixing IS : 12817 marked stainless steel butt hinges of size 75x50x2.5mm (heavy weight) with stainless steel screws etc. complete as directed	3.00	Each	71.14	213.42
9.31	Providing and fixing bright finished brass butt hinges of size 125x85x5.5mm with necessary brass screws etc. complete	3.00	Each	229.68	689.03
9.32	Providing and fixing bright finished brass butt hinges of size 100x85x5.5mm with necessary brass screws etc. complete	3.00	Each	176.30	528.89
9.33	Providing and fixing bright finished brass butt hinges of size 75x65x4mm with necessary brass screws etc. complete	3.00	Each	147.95	443.85
9.34	Providing and fixing bright finished brass parliamentary hinges of size 150x125x27x5mm with necessary brass screws etc. complete	3.00	Each	396.29	1,188.87
9.35	Providing and fixing bright finished brass parliamentary hinges of size 125x125x27x5mm with necessary brass screws etc. complete	3.00	Each	354.65	1,063.95
9.36	Providing and fixing bright finished brass parliamentary hinges of size 100x125x27x5mm with necessary brass screws etc. complete	3.00	Each	326.45	979.36
9.37	Providing and fixing bright finished brass parliamentary hinges of size 750x125x27x5mm with necessary brass screws etc. complete	3.00	Each	289.93	869.79
9.38	Providing and fixing plain precoated galvanized iron sheet for covering, partition, door bottom and any other work having thickness 0.60mm of Jindal 150 AZ Make of required colour along with necessary accessories like self drilling and tapping screws with weather cap with all leads and lift etc. complete as directed.	2.00	m2	683.00	1,366.00
9.39	Providing and fixing aluminium casement stays, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade, with necessary screws etc. complete	3.00	Each	64.77	194.31
9.40	Providing and fixing sliding arrangement in racks/ cupboards/cabinets shutter by with stainless steel rollers to run inside C or E aluminium channel section (The payment of C or E channel shall be made separately)	3.00	Each	17.71	53.13
9.41	Providing and fixing zinc alloyed (white powder coated) touch lock for sliding window with necessary screws etc. complete	3.00	Each	167.72	503.15

9.42	Providing and fixing steel (white powder coated) crescent lock for sliding window/ door with necessary screws etc. complete	3.00	Each	162.35	487.05
9.43	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with float glass panes of 4.0 mm thickness including EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of Engineer-in-charge .	3.00	m2	1,023.26	3,069.78
9.44	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 .	3.00	m2	1,330.05	3,990.14
9.45	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with float glass panes of 8 mm thickness including EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of Engineer-in-charge .	2.00	m2	1,501.23	3,002.45
9.46	Providing and fixing 4mm thick both side designer aluminium composite sheet in partition, paneling and any other work with necessary fittings and fixtures etc. complete as per the directions of Engineer-in-charge .	2.00	m2	3,023.00	6,046.00
9.47	Providing and fixing 4mm thick both side plain aluminium composite sheet in partition, paneling and any other work with necessary fittings and fixtures etc. complete as per the directions of Engineer-in-charge .	2.00	m2	1,080.00	2,160.00
9.48	Providing and fixing 6mm thick transparent acrylic sheet in partition, paneling and any other work with necessary fittings and fixtures etc. complete as per the directions of Engineer-in-charge .	3.00	m2	781.00	2,343.00
9.49	Providing and fixing 6mm thick opaque acrylic sheet in partition, paneling and any other work with necessary fittings and fixtures etc. complete as per the directions of Engineer-in-charge .	2.00	m2	988.00	1,976.00
9.50	Providing and fixing bright finished brass night latch of approved quality including necessary screws etc. complete	2.00	Each	1,008.21	2,016.42
9.51	Providing and fixing special quality 50mm bright finished brass cupboard or ward robe locks with four levers of approved quality including necessary screws etc. complete.	3.00	Each	287.27	861.81
9.52	Providing and fixing special quality 75mm bright finished brass cupboard or ward robe locks with four levers of approved quality including necessary screws etc. complete.	3.00	Each	357.11	1,071.32
9.53	Providing and fixing 300 x 16 x 5mm bright finished brass door latch with necessary screws etc. complete	3.00	Each	274.13	822.38
9.54	Providing and fixing 250 x 16 x 5mm bright finished brass door latch with necessary screws etc. complete	3.00	Each	260.68	782.04
9.55	Providing and fixing bright finished brass 100 mm mortice latch and lock with 6 levers and a pair of lever handles of approved quality with necessary screws etc. complete	2.00	Each	726.26	1,452.51
9.56	Providing and fixing bright finished brass hanging type floor door stopper with necessary screws, etc. complete.	3.00	Each	109.97	329.92
9.57	Providing and fixing 6mm thick commercial plywoods for table top, panelling, shutters, partition and any other work with necessary fittings and fixtures etc. complete as per the directions of Engineer-in-charge .	3.00	m2	341.00	1,023.00

9.58	Providing and fixing 12mm thick commercial plywoods for table top, panelling, shutters, partition and any other work with necessary fittings and fixtures etc. complete as per the directions of Engineer-in-charge .	3.00	m2	626.00	1,878.00
9.59	Providing and fixing 18mm thick commercial plywoods for table top, panelling, shutters, partition and any other work with necessary fittings and fixtures etc. complete as per the directions of Engineer-in-charge .	3.00	m2	764.00	2,292.00
9.60	Providing and fixing 12mm thick marine plywoods for table top, panelling, shutters, partition and any other work with necessary fittings and fixtures etc. complete as per the directions of Engineer-in-charge .	3.00	m2	1,059.00	3,177.00
9.61	Providing and fixing 18mm thick marine plywoods for table top, panelling, shutters, partition and any other work with necessary fittings and fixtures etc. complete as per the directions of Engineer-in-charge .	3.00	m2	1,306.00	3,918.00
9.62	Providing and fixing openable shutter made up of 18mm thick commercial plywood of approved make, P/F 1mm thick designer sunmika on expose side and edges of shutters and frame, P/F 0.80mm thick white sunmika 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, P/F wooden frame of required size for frame rectification of all damages etc. complete as directed.	2.00	m2	4,237.00	8,474.00
9.63	Providing & fixing in position plywood panelling made using 2" x 1.5" 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 groves 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. complete as directed.	2.00	m2	5,301.00	10,602.00
9.64	Providing and fixing openable shutter made up of 18mm thick marine plywood of approved make, P/F 1mm thick designer sunmika on expose side and edges of shutters and frame, P/F 0.80mm thick white sunmika 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, P/F wooden frame of required size for frame rectification of all damages etc. complete as directed.	2.00	m2	4,679.00	9,358.00
9.65	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 sunmaica 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,buffering, autohinges, & other hardware required fitting etc. all complete as per drawing or as directed.	2.00	m2	13,164.00	26,328.00
9.66	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 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. Complete.	2.00	m2	3,711.00	7,422.00
9.67	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. completed as dircated. The basic cost of fabric to be Rs. 350/- per RM (3 feet width).	2.00	m2	4,995.00	9,990.00
9.68	Providing and fixing PVC gasket/ rubber lining with necessary fittings and fixtures etc. completed as directed.	3.00	Rmt	25.00	75.00
9.69	Providing and fixing 250 x 10 mm bright finished brass tower bolts (barrel type) with necessary screws etc. complete	3.00	Each	375.62	1,126.86

9.70	Providing and fixing 200 x 10 mm bright finished brass tower bolts (barrel type) with necessary screws etc. complete	3.00	Each	301.57	904.71
9.71	Providing and fixing 150 x 10 mm bright finished brass tower bolts (barrel type) with necessary screws etc. complete	3.00	Each	233.09	699.26
9.72	Providing and fixing 100 x 10 mm bright finished brass tower bolts (barrel type) with necessary screws etc. complete	3.00	Each	160.84	482.53
9.73	Providing & fixing 1mm thick designer laminate 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. complete as directed.	2.00	m2	1,036.00	2,072.00
9.74	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, making vata at joint, P/F sheet in proper slope including double scaffolding wherever required complete as directed.	2.00	m2	1,217.00	2,434.00
9.75	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, making vata at joint, P/F sheet in proper slope including double scaffolding wherever required complete as directed.	2.00	m2	1,504.00	3,008.00
9.76	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. complete as directed.	2.00	m2	1,047.00	2,094.00
9.77	Providing and laying 5mm thick acrylic sheet of 450mm width of approved company for damp proof course (Top glas acrylic/Swastik/Forte) in the bottom of brick masonry/concrete wall by cutting, making slit in it at floor level by 100 mm overlapping end to end including plastering, filling the gaps by mortar and making good surface etc. all complete as directed.	2.00	m2	1,184.00	2,368.00
9.78	Providing and fixing chromium plated brass 50 mm cupboard or wardrobe knobs with nuts complete	5.00	Each	122.92	614.58
9.79	Providing and fixing 2nd 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 as per direction of Engineer-in-charge	5.00	Rmt	85.89	429.45
9.80	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. complete as directed.	2.00	m2	1,409.01	2,818.03
9.81	Providing and fixing 300mm long stainless steel handles to door of approved quality and design with necessary fittings and fixtures etc. completed as directed.	3.00	Set	626.00	1,878.00
9.82	Providing and fixing 450mm long stainless steel handles to door of approved quality and design with necessary fittings and fixtures etc. completed as directed.	3.00	Set	741.00	2,223.00
9.83	Providing and fixing 12 mm thick Pre-laminated particle board with decorative lamination on both sides flat pressed three layer or graded wood particle board conforming to IS:12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with galzing clips and rubber gasket/ C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of Engineer-in-charge	3.00	m2	954.28	2,862.83

9.84	Providing and fixing lock of approved quality to drawers with fittings and fixtures etc. complete as directed.	3.00	Each	246.00	738.00
9.85	Providing and fixing powder coated telescopic drawer channels 300 mm long with necessary screws etc. complete as per directions of Engineerin-charge	3.00	One set	356.25	1,068.76
9.86	Providing and fixing powder coated telescopic key board channels with necessary screws etc. complete as per directions of Engineerin-charge	3.00	One set	213.00	639.00
10	Steel Work				
10.01	Providing and fabricating structural steel works 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, 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, scaffolding etc. complete.	10.00	kg	93.37	933.66
10.02	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 and two coat of SEP etc. completed as directed. (M.S work will be paid separately)	10.00	Kg	102.60	1,025.97
10.03	Providing and fixing 1 mm thick M.S. sheet sliding-shutters, with frame and diagonal braces of 40x40x6 mm angle iron, 3 mm M.S. gusset plates at the junctions and corners, 25 mm dia pulley, 40x40x6 mm angle and T- iron guide at the top and bottom respectively, including applying a priming coat of approved steel primer	2.00	m2	5,392.58	10,785.17
10.04	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. complete.	10.00	Kg	155.43	1,554.26
10.05	Steel work in built up tubular (round, square or rectangular hollow tubes, trusses etc.) in hot finished seamless 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. complete.	10.00	Kg	169.52	1,695.23
10.06	Providing and fixing stainless steel (Grade 304) railing 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 as per approval of Engineer-incharge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	3.00	Kg	614.33	1,842.98
10.07	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, scaffolding etc. complete.	10.00	Kg	26.00	260.00
10.08	Providing and fixing hand rail of using 'C' class G.I pipe approved size by welding made up of M.S. Tubes etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer and two cost of synthetic enamel paint.	3.00	kg	157.68	473.05
10.09	Providing and fixing hand rail of using 'C' class G.I pipe approved size by welding made up of E.R.W Tubes etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer and two cost of synthetic enamel paint.	3.00	kg	150.91	452.73

10.10	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 and two coat of synthetic enamel paint.	3.00	kg	180.81	542.43
10.11	Providing and fixing mild steel grill work for window, ventilator, partition weighing 15 kg per sqm as per drawing including necessary welding and painting with one coat primer and two coats of anti-corrosive paint of approved shade etc. complete as directed.	3.00	m2	1,740.00	5,220.00
10.12	Add for extra weight or deduct for less weight over item no.10.11 for fabricating such as cutting, shaping, riveting etc. mild steel for grill works including welding and painting with one coat of primer and two coats of anti-corrosive paint of approved shade etc. complete as directed.	3.00	kg	116.00	348.00
10.13	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 etc. Including removing the existing damaged collapsible gate and taking it away out of IIT campus etc. Complete as directed.	1.00	m2	9,429.23	9,429.23
10.14	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, scaffolding etc all complete as directed by engineer in charge.	2.00	m2	853.00	1,706.00
10.15	Providing and fixing weld mesh of 25mm x 25mm (10 gauge) 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, scaffolding etc complete.	2.00	m2	802.00	1,604.00
10.16	Providing and fixing G. I. chain link fencing 50mm x 50mm x 8 gauge thick and of desired height for fencing including welding the chain link fencing with G.I. pipes or M.S. angle frames / flats, applying one coat of metal primer and two coats of synthetic enamel paint of approved colour / brand etc. complete.	2.00	m2	725.00	1,450.00
10.17	Providing and fixing 16mm dia. mild steel round bars at 100mm c/c to windows / ventilators / fanlights, fixing mild steel Flats 40 x 6mm in frame, cutting a recess to fit the flat exactly including drilling the holes to flats to pass the bars through it 25mm inside in wooden frame including providing one central mild steel flat of 40 x 6mm by drilling holes (when bar length exceeds 75cm) etc. complete.	3.00	Kg	100.04	300.11
10.18	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 as directed	3.00	m2	738.00	2,214.00
10.19	Providing and fixing stainless steel (SS 304 grade) adjustable friction windows stays of size 205 x 19 mm approved quality with necessary stainless steel screws etc. to the side hung windows as per direction of Engineerin-charge complete	3.00	Each	293.79	881.38
10.20	Providing and fixing stainless steel (SS 304 grade) adjustable friction windows stays of size 255 x 19 mm approved quality with necessary stainless steel screws etc. to the side hung windows as per direction of Engineerin-charge complete	3.00	Each	330.32	990.95
10.21	Providing and fixing stainless steel (SS 304 grade) adjustable friction windows stays of size 355 x 19 mm approved quality with necessary stainless steel screws etc. to the side hung windows as per direction of Engineerin-charge complete	3.00	Each	290.03	870.09

10.22	Providing and fixing stainless steel (SS 304 grade) adjustable friction windows stays of size 510 x 19 mm approved quality with necessary stainless steel screws etc. to the side hung windows as per direction of Engineer-in-charge complete	2.00	Each	746.47	1,492.95
10.23	Providing and fixing stainless steel (SS 304 grade) adjustable friction windows stays of size 710 x 19 mm approved quality with necessary stainless steel screws etc. to the side hung windows as per direction of Engineer-in-charge complete	2.00	Each	1,270.04	2,540.09
10.24	Labour charges for modification of the existing window MS grills by means of cutting, fabricating, welding etc and refixing it in position/line/level/plumb including scaffolding, taking care of necessary safety precautions at site etc. complets as directed.	3.00	m2	361.00	1,083.00
10.25	Modifying existing chequered plates supplied by IIT by making necessary cutting, welding, making holes, including all lead and lift, transporting the plates from anywhere inside IIT till work site all complete as directed.	3.00	m2	481.00	1,443.00
10.26	Providing and fixing heavy duty ductile iron grating of size 300mmx600mm of NECO or equivalent make in proper line and level all complete as directed.	2.00	Nos	6,371.00	12,742.00
10.27	Providing and fixing light duty ductile iron grating of size 450mmx600mm of NECO or equivalent make in proper line and level all complete as directed.	2.00	Nos	2,926.00	5,852.00
10.28	Providing and fixing heavy duty ductile iron grating of size 450mmx600mm of NECO or equivalent make in proper line and level all complete as directed.	2.00	Nos	7,285.00	14,570.00
10.29	Providing and fixing new worm gear at top and bottom with all necessary fitting etc., complete.	2.00	Nos	7,170.00	14,340.00
10.30	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 etc. complete.	2.00	m2	5,674.00	11,348.00
10.31	Extra for providing grided rolling shutters manufactured out of 8 mm dia M.S. bar instead of laths as per design approved by Engineer-in-charge, (area of grill to be measured).	5.00	m2	671.22	3,356.10
10.32	Removing rolling shutters, door shutters and window shutters of any size and type with fittings (if available) and taking out the same outside IIT Campus etc. complete. (5% cost will be deducted from Item of work for material taken outside campus)	4.00	m2	177.00	708.00
10.33	Providing and fabricating structural steel works in extruded hollow sections like joists, channels, angles, tees, square and rectangular bars and any other required sections etc. as per detailed designs & drawings for gate, grill 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., scaffolding etc. complete.	0.50	kg	144.00	72.00
10.34	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 completed as directed.	20.00	Kg	89.95	1,799.08
11	Roofing				

11.01	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 all complete as directed.	3.00	Per Nos.	321.00	963.00
11.02	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 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 scaffolding all complete as directed by Engineer incharge etc.	3.00	m2	1,963.00	5,889.00
11.03	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 etc. complete as directed.	3.00	m2	1,121.00	3,363.00
11.04	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 chanel 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 .	3.00	Rmt	466.00	1,398.00
11.05	Providing & fixing cove false ceiling of 12.5mm thick gypsum board of Gyproc 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 suitable for boards, all as per manufacture's specification	3.00	Rmt	453.00	1,359.00
11.06	Providing & Fixing of G.I Lay-in perforated metal 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.	3.00	m2	1,763.00	5,289.00
11.07	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.	3.00	m2	1,469.00	4,407.00
11.08	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.	3.00	m2	1,717.00	5,151.00

11.09	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.	3.00	m2	724.00	2,172.00
11.10	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 chanel 45 x15 x 0.90mm running at the spacing of 1200 mm c/ c, to which the ceiling section 0.5mm thick bottom wedge of 80mm with tapered flanges of 26 mm each having lips of 10.5mm, at 450mm c/c, shall be fixed in a direction perpendicular to G.I intermediate channel with connecting clip made out of 2.64mm dia x 230mm long G.I wire at every junction, including fixing perimeter channels 0.50mm thick 27mm high having flanges of 20mm and 30mm long, the perimeter of ceiling fixed to wall/ partitions with the help of Rawl plugs at 450mm centre, with 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, specificaton and direction of the Engineer in charge but excluding the cost of painting.	3.00	m2	1,400.00	4,200.00
11.11	Providing & fixing 12.5mm thick gypsum board of Gyproc 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 angle cleat of size 25mm wide x 1.6mm thick with flanges of 27mm and 37mm, at 1200mm c/c, one flange fixed to the ceiling with dash fastener 12.5mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25 x10 x0.50mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I chanel 45 x15 x 0.90mm running at the spacing of 1200 mm c/ c, to which the ceiling section 0.5mm thick bottom wedge of 80mm with tapered flanges of 26 mm each having lips of 10.5mm, at 450mm c/c, shall be fixed in a direction perpendicular to G.I intermediate channel with connecting clip made out of 2.64mm dia x 230mm long G.I wire at every junction, including fixing perimeter channels 0.50mm thick 27mm high having flanges of 20mm and 30mm long, the perimeter of ceiling fixed to wall/ partitions with the help of Rawl plugs at 450mm centre, with 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,	3.00	m2	1,317.00	3,951.00
	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, specificaton and direction of the Engineer in charge.				

11.12	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 IS 1254, IS 737, IS 2676. 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, scaffolding, machinery for fixing and approved sealant where required etc. but excluding the cost of purlins, rafters and trusses.	3.00	m2	987.24	2,961.71
11.13	Providing and fixing colour coated Galvalume profile pre-coated sheet for roofing and cladding having thickness 0.50mm TCT of Jindal AZ 150 Make with required colour along with necessary accessories like self drilling and tapping screws with weather cap with all leads and lift including scaffolding etc. complete as directed.	5.00	m2	845.00	4,225.00
11.14	Providing fabricating and fixing in position required shape pre-coated Galvalume with 0.50 mm TCT flashing having 150mm 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 scaffolding etc complete as directed.	5.00	Rmt	550.00	2,750.00
11.15	Providing fabricating and fixing in position required shape pre-coated 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 scaffolding etc complete as directed.	5.00	Rmt	607.00	3,035.00
11.16	Providing fabricating and fixing in position required shape pre-coated 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 scaffolding etc complete as directed.	5.00	Rmt	1,067.00	5,335.00
11.17	Providing fabricating and fixing in position required shape pre-coated 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 scaffolding etc complete as directed.	5.00	Rmt	573.00	2,865.00
11.18	Providing fabricating and fixing in position required shape pre-coated 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 scaffolding etc complete as directed.	5.00	Rmt	515.00	2,575.00
11.19	Carefully refixing the old pre-coated galvanised iron profile/GI/FRP sheets as per availability and requirement by using self drilling /self tapping screws and sealing the joints properly with approved sealant materials including all leads and lifts, scaffolding etc. all complete as directed.	5.00	m2	289.00	1,445.00
11.20	Providing and fixing multicell 16mm thick (min.) Polycarbonate UV Insulated sheets of Coxwell/ Danpal/ Palram/ DPI Daylighting make of approved colour in curve or plane shape, panel width 900mm (min.), panels shall be uniform in colour with multi-cell structure. Weight of the panel shall not be less than 3.31Kg/sqm. Panels shall have vertical standing seam at both sides of the panel including all fittings and fixtures such as snap on connector with grip lock 1 / 2 tooth locking mechanism for water and air tightness. Panels shall be fixed on purlins with SS expansion fastener and polycarbonate U connectors. Panels shall be sealed with additional End-cap/Aluminium U profile(mill finish) for ends or welded ends. Panels shall be fixed on end wall by making grooves on wall plaster and fixing the sheet with necessary cement plastering/ grouting with required flashing at the junction of wall/concrete surface and sheets and other required fittings as per manufacturer specifications including scaffolding etc. Panels should be covered under 10 years warranty against any manufacturing defects Note: Payment for flashing will be made in separate item.	3.00	m2	4,464.00	13,392.00

11.21	Removing and refixing existing G.I. Sheet / prelamated sheet Fencing from the structural steel frame work for the purpose of repairing the existing eastern boundary wall including fixing in position with nut bolt arrangement, welding, riveting, bolting connecting plates, brasses Scaffolding upto required height, site welding etc complete as site through contractors own cost.	5.00	m2	156.00	780.00
11.22	Providing and fixing corrugated galvanized iron sheets of 0.63 mm thickness (24 B.W.G.) for eastern boundary wall fencing if required without wind ties including fastening with galvanized iron screws and nut bolts to the existing structural steel frame work etc complete. As directed by Engineer in charge.	5.00	m2	981.32	4,906.59
11.23	Carefully removing ACP sheet paneling with aluminium frame work and stacking the same upto 50mtrs distance as directed by Engineer-in-Charge all complete as directed	3.00	m2	185.00	555.00
11.24	Refixing existing ACP sheet at required location by correcting slope without damaging it with all necessary fittings, fixtures, screws, gaskets, pump filled structural 789 grade silicon sealant & hardware, making joints watertight up to any hight including replacing damaged ACP sheet and aluminium members (if any) using scaffolding or any mechanical arrangements erected for ACP facade cleaning work etc. completed as directed Engineer In-charge.. (Replacment of damaged ACP sheet and aluminium members will be paid in respective item.)	3.00	m2	551.00	1,653.00
11.25	Design, supply and installation of ACP work incorporating of 3 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 polythylene 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 using scaffolding or any mechanical arrangements erected for ACP facade cleaning work etc. completed as directed Engineer In-charge..	3.00	m2	4,307.00	12,921.00
11.26	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 polythylene 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 using scaffolding or any mechanical arrangements erected for ACP facade cleaning work etc. completed as directed Engineer In-charge..	3.00	m2	4,715.00	14,145.00
11.27	Providing and pumping 789 grade Silicone sealants for the ACP sheet joints, window frames / window frame joints etc. including racking out and cleaning existing loose joints & making joints watertight up to any height using scaffolding or any mechanical arrangements erected for ACP facade cleaning work etc. all complete as directed by Engineer In-charge.	3.00	Rmt	158.00	474.00
11.28	Providing and fixing 4mm thick exterior grade ACP sheet of approved colour and pattern over existitng alumnium frame, fixing the panels using 3M tape, filling the joints using 789 grade silicon sealant with all required fittings and fixtures, screws, hardware using scaffolding or any mechanical arrangements erected for ACP facade cleaning work etc complete as directed by Engineer In-charge. .	3.00	m2	3,023.00	9,069.00
11.29	P/F 12mm thick (minimum) Polycarbonate UV Insulated Sheets of Coxwell/ Danpal/ Palram/ DPI Daylighting make of approved colour in required shape, panel width shall not be laess than 900mm, panels shall be uniform in colour including all fittings and fixtures such as snap on connector with grip lock double tooth locking mechanisam, millfinish aluminium U profile end cap, required flashing at the junction of wall/concrete surface and sheets and other required fittings as per manufacturer specifications,including scaffolding etc.all complete as directed by Engineer In-charge.	3.00	m2	4,037.00	12,111.00

11.30	Providing & fixing 6mm thick Shera board false ceiling in required colour pattern and texture screwed/fixd 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 scaffoldings at any height etc. all completed	3.00	m2	4,060.00	12,180.00
11.31	Providing and fixing accoustic board 25mm thick of armstrong, Anutone 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 all complete as directed. (excluding plywood)	2.00	m2	9,517.00	19,034.00
11.32	Providing and placing glasswool sheets 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 and scaffolding till any height all complete as directed.	3.00	m2	522.00	1,566.00
11.33	P/f 5mm thick 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 all complete as directed.	3.00	m2	2,023.00	6,069.00
11.34	P/A Termigaurd spray (Make: Pidilite) on plywood evenly as per manufacturer's specification all complete as directed.	4.00	m2	58.00	232.00
11.35	Providing & fixing cove false ceiling of 6mm thick Shera board 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 for boards all as per manufacture's specification.	3.00	Rmt	618.00	1,854.00
11.36	Supplying and fixing in position sandwich roofing in curved shape using color galvalume profile precoated sheet for roofing having thickness 0.5mm TCT and jindal 150 AZ 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 scaffolding etc complete all as directed. No extra payment will be made for overlapping.	3.00	m2	1,919.00	5,757.00
11.37	Supplying and fixing in position sandwich roofing using color galvalume profile precoated sheet for roofing having thickness 0.5mm TCT and jindal 150 AZ 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 scaffolding etc complete all as directed. No extra payment will be made for overlapping.	3.00	m2	1,865.00	5,595.00

11.38	Supplying and fixing in position sandwich roofing using above existing sheet in required color galvalume profile pre-coated sheet for roofing having thickness 0.5mm TCT and jindal 150 AZ 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, stitching 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/m ³ - 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 scaffolding etc complete all as directed. No extra payment will be made for overlapping.	3.00	m ²	1,399.00	4,197.00
11.39	Providing and fixing plain pre-coated galvanized iron sheet for covering and any other work having thickness 0.50mm of Jindal 150 AZ make of required colour along with necessary accessories like self drilling and tapping screws with weather cap with all leads and lift etc. complete as directed.	3.00	m ²	559.00	1,677.00
11.40	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, stepladder , putty for filling gaps and joints ..etc.all complete as directed by Engineer In-charge.	3.00	m ²	1,674.00	5,022.00
11.41	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 scaffolding, covering the floor area, furniture with good quality sheets As directed by Engineer in charge etc.	3.00	m ²	359.00	1,077.00
11.42	Providing and fixing 3mm thick corrugated glass fibre sheet of translucent top side tissue material as per IS 12866, resin with U.V stablized isophthalic base , light, transmission approved manufacture and desired shade including fixing the sheet with G.i. nut bolts/J hooks with bitumen washers, scaffolding etc. All directed.	3.00	m ²	1,926.00	5,778.00
11.43	Providing and fixing adjustable continues Aluminium bracket of approved quality and with chromatised finish conforming and of required shape and size adjustable with stainless steel nuts and bolts/ washer and anchor fastener for dry stone cladding for framework at suitable location including making necessary recesses in stone slab, drilling required holes etc. complete as per direction of Engineer-in-charge. The rate also includes the cost of providing and fixing anchor fastener, stainless steel nuts and bolts/washer etc and any other fixtures required for the completion of work and no additional payment shall be paid for the same.	1.00	kg	672.00	672.00
12	Finishing				
12.01	Providing and applying one coat of seal cement primer IITB approved brand, cleaning the surface with the use of stepladder/ including scrapping the surface, filling the holes, covering the floor, windows, instruments during painting etc. complete.	3.00	m ²	64.67	194.01
12.02	Providing and applying roller finish Acrylic plastic emulsion paint of of IITB approved manufacturer and of desired colour and shade to old / new ceiling & wall surfaces in two coats with the use of stepladder/ , preparing and levelling the surfaces with Acrylic palty, as per manufactures specification (excluding priming coat) complete.	3.00	m ²	91.16	273.47
12.03	Providing and applying Acrylic oil bound distemper of IITB approved manufacturer and of desired colour and shade to old / new surfaces in two or more coats , preparing the surfaces (excluding priming coat), covering the floor, windows, instruments during painting complete.	3.00	m ²	56.99	170.98

12.04	Providing and applying one priming coat of IITB approved brand to wood and wood based surface, including preparing the surface by thoroughly cleaning oil, grease, dirt and other foreign matter, sand papering etc.	3.00	m2	61.66	184.98
12.05	Providing and applying one priming coat of IITB approved brand over steel and other metal surface, including preparing the surface by thoroughly cleaning oil, grease, dirt and other foreign matter, sand papering etc.	3.00	m2	55.69	167.06
12.06	Providing and applying two coats of synthetic enamel paint of IITB approved brand and shade to wood and steel work Scrapping, cleaning, covering the floor, windows, instruments during painting etc. complete.	3.00	m2	131.90	395.69
12.07	Providing and applying three coats of white wash on old / new plastered surface for walls and ceiling and asbestos sheet using step ladder/ upto 3mtr. height, 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. complete.	30.00	m2	32.56	976.80
12.08	Providing and applying French polishing in two or more coats for required finish on previously polished wood including knotting, preparing the surface, etc. complete as directed.	3.00	m2	369.55	1,108.65
12.09	Providing and applying Melamine polish of required finish to wood work by spray machine including knotting and preparing the surface by scrapping, applying French polishing, if required etc. complete as directed.	3.00	m2	1,021.00	3,063.00
12.10	Providing / applying interior wall finish luster of Asian/ Berger/ Nerolac/ Dulex Paints or equivalent make on internal wall surface as detailed below scrapping the surface with emery paper and wipe clean. Applying Asian/ Berger/ Nerolac/ Dulex Paints or equivalent 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/ Dulex Paints or equivalent 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/ Dulex Paints or equivalent 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/ Dulex Paints or equivalent interior wall finish luster 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/ Dulex Paints or equivalent 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.	3.00	m2	218.00	654.00
12.11	Providing and applying one coat of acrylic primer and two coats of exterior acrylic paint of approved colour & shade of IITB approved manufacturer i.e. Berger, Asian, Killick Nixon, Goodlass, Nerolac, ICI, Decocem and as per manufacturer's specification on old or new plastered surface over concrete / brickwork, stonework as per manufacturer's specification and cleaning the surface thoroughly with coir brush, watering the surface etc. complete including covering the floor, window glass with plastic sheet etc. all complete as directed by Engineer In-charge.	3.00	m2	167.42	502.25
12.12	Providing and applying elastic, elastomeric membrane-forming system with anti-carbonation and breathing properties. The system shall be based on solvent free acrylic polymers with selected mineral fillers and shall be resistant to ultra-violet rays, crack bridging type, carbonation resistant, breathable, environment friendly, water proofing coating. For anti-carbonation, equivalent Air layer Thickness denoted as R or SDCO2≥50m for breathability equivalent Air layer Thickness denoted as SDH2O shall be ≤4m for vapor transmitting barrier. The system consists of one coat primer or equivalent. The consumption of main elastomeric coating to give film thickness of 150-200 microns (Solid contents, 40% ±3%) shall be approx. 400-450 gms/m2 per two coat depending upon the method of application (either by roller or brush) and surface smoothness of the concrete The total Dry Film Thickness of the coating system shall be minimum 150 microns for the above system.	60.00	m2	292.00	17,520.00

	Elastomeric coating shall be in suitable approved shades, including cost of materials, cleaning the external Surfaces/ Plaster/ RCC members by stiff brushes/ by special methods as directed, by Pressurized water-jet, opening of cracks as directed, crack-filling, & as per approved specifications, including cost of scaffolding. P/A Coating system as per approved scheme & type, as per detailed specifications, including cost of scaffolding. The entire system shall be guaranteed for water-tightness & for colour-fastening, for Five years. The contractor shall submit detailed scheme for coating system which shall be got approved from the consultants/ Society. The system shall be manufactured & guaranteed by reputed & approved manufacturer. The system shall either have colour of its own or there shall be a final coating of approved shade as integral part of the system. (List of Approved Brands for Elastomeric Coating: BASF, Jotun)				
12.13	Providing and applying one coat of Berger Protectomastic self priming high build coating, solvent borne zinc rich primer, having thickness as per manufacturer specification including preparing the surface by thoroughly removing grease, oil and other containments preferably by using Bison degreasing solvent, using mechanical tools along with manual chipping and wire brushing to remove loose rust, thoroughly dust down all surfaces, followed by one coat of Epilux - 4 High Build Epoxy finish having thickness as per manufacturer specification followed by two coats of acrylic polyurethane enamel paint of Bergerthane finish of Berger having thickness as per manufacturer specification including tools, taking all safety measures etc complete..	60.00	m2	637.00	38,220.00
12.14	Providing and applying white cement based Birla make wall care putty of average thickness 1mm, over plaster/ concrete surface in proper line / level to prepare surface even and smooth for including preparing the wall surface for the application of wall care putty etc. complete as directed.	60.00	m2	124.27	7,456.21
12.15	Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth complete.	60.00	m2	215.03	12,901.63
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 IS: 2547 (Part - 1 & II) 1976, applied on hacked / uneven background such as bare brick/ block/ RCC work on walls & ceiling at all floors and locations, finished in smooth line and level etc. complete.	20.00	m2	249.20	4,983.95
12.17	Providing and applying two coat of synthetic enamel paint of IITB approved brand (Asian, Berger, ICI, Jenson & Nicholson, Goodlass Nerolac) and shade to tubelight and ceiling fans with the use of step ladder including scrapping cleaning etc. complete.	3.00	Nos	80.00	240.00
12.18	Providing and applying acrylic synthetic plaster (Dura plaster) of IITB approved make manufacturer over existing cement plaster or concrete surface including removing existing paint/synthetic plaster to receive the acrylic synthetic plaster as per manufacturer specification Including all the necessary tools & plants,stepladder etc, complete all as directed by Engineer in charge.	3.00	m2	423.00	1,269.00
12.19	Providing and applying lamination polish to woodwork including knotting, sanding the wood with a sandpaper, cleaning and preparing the surface smooth to receive lamination polish as per manufacturers specification, finishing the surface using buffing wheel Etc. All Complete.	1.00	m2	7,660.00	7,660.00
12.20	Painting road surface marking with adequate nos of coats to give uniform finish with ready mixed road marking paint conforming to IS : 164, on bituminous surface in white/ yellow shade, including cleaning the surface of all dirt, scales, oil, grease and foreign material etc complete. (Two or more coats)	10.00	m2	240.76	2,407.64

12.21	Providing an applying two coat of exterior synthetic enamel paint of approved make and colour to kerb stones after cleaning and scrapping the old paint with wire brush and by other means, in alternate colour pattern within the required time and cleaning the site after painting etc all complete as per directed by engineer in charge.	10.00	m2	293.00	2,930.00
13	Sanitary				
13.01	Providing and fixing white vitreous china pedestal type water closet (European type) with ISI marked white solid plastic seat 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. complete as directed.	2.00	Nos	5,559.35	11,118.70
13.02	Providing and fixing coloured vitreous china pedestal type water closet (European type) with seat and lid, 10 liter low level coloured 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. complete as directed.	2.00	Nos	7,132.67	14,265.34
13.03	Providing and fixing White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot restswater closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required etc. completed as directed.	2.00	Nos	5,800.97	11,601.93
13.04	Providing and fixing coloured Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot restswater closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level coloured P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required etc. completed as directed.	2.00	Nos	6,217.12	12,434.24
13.05	Providing and fixing white wall hung with cistern closet Parryware make of approved with UF Soft close Seat & Cover wall hung fittings and other required fittings, cutting and making good walls and floors etc. complete as directed.	2.00	Nos	15,915.00	31,830.00
13.06	Providing and fixing coloured wall hung with cistern closet Parryware make of approved with UF Soft close Seat & Cover wall hung fittings and other required fittings, cutting and making good walls and floors etc. complete as directed.	2.00	Nos	19,756.00	39,512.00
13.07	Providing and fixing 10cm cast iron nahani trap with fixed S.S grating with S.S rim, cast iron plug bend and piece of cast iron pipe upto plug bend etc. complete.	2.00	Nos	1,954.00	3,908.00
13.08	Providing and fixing in position best quality salt glazed stone ware gully trap with 150mm x 150mm square inlet and 100 mm n.b. outlet conforming to IS 651 including embedding the trap in M-15 (1:2:4) cement concrete, construction of brick masonry chamber 300mm x 300mm internal in 230mm thick brick masonry, plastering, finishing with neat cement floating coat, providing and fixing C. I. cover and frame weighing not less than 7 kg. etc including removing the old damaged gully trap, connecting all old and new inlets and out let pipes including running lines, jointing etc. all complete as directed.	2.00	Nos	2,482.80	4,965.59
13.09	Providing and fixing white urinal parryware or equivalent make including necessary fittings such as L shaped hooks, spreader and flushing system and bottle trap of Jaquar, Click Clack Waste coupling of jaquar, connection pipe upto trap or pipe etc. complete as directed.	1.00	Nos	8,588.00	8,588.00

13.10	Providing and fixing urinal sensor flush valve electrically or battery operated of Askon or equivalent 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.	1.00	Nos	11,400.00	11,400.00
13.11	Providing and fixing 12mm thick frosted toughen glass 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.	1.00	m2	8,924.00	8,924.00
13.12	Providing and fixing liquid soap dispenser (Model no.1135N) of Jaquar make with all require fittings and fixtures etc. completed as directed.	2.00	Nos	1,357.00	2,714.00
13.13	Providing and fixing liquid soap dispenser (Model no.1137N) of Jaquar make with all require fittings and fixtures etc. completed as directed.	1.00	Nos	2,910.00	2,910.00
13.14	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., complete.	2.00	Each	945.35	1,890.69
13.15	Providing and fixing P.V.C. rain water pipes 150mm 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 complete.	2.00	Rmt	972.00	1,944.00
13.16	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 complete.	2.00	Rmt	877.00	1,754.00
13.17	Carefully removing existing PVC rain water of various diameter from its position and refixing the same by replacing damaged fittings 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 etc. completed as directed.	2.00	Rmt	308.00	616.00
13.18	Disconnecting damaged overhead/terrace PVC water storage tank of any size from water supply line and removing from the terrace including shifting at ground level as per direction of Engineer-in- charge.	2.00	Each	358.76	717.53
13.19	Providing hoisting and fixing in position ISI mark plastic storage water tank of BMC approved plastic overhead tank on roof of buildings at any height with all fitting, fixtures connecting the tank (in let and out let) with the existing water line, providing and fixing over flow pipe with mosquito proof brass coupling & mosquitoproof CI cover with locking arrangements approved by MCGB, using required fitting / fixtures as directed by Estate office.	150.00	Per lit	11.00	1,650.00
13.20	Providing and laying 100mm dia. P.V.C. pipes conforming to I.S. in trenches including proper slope, filling the joints using rubber gasket with solvent cement etc. completed as directed.	2.00	Rmt	430.00	860.00

13.21	Providing and laying 75mm dia. P.V.C. pipes conforming to I.S. in trenches including proper slope, filling the joints using rubber gasket with solvent cement etc. completed as directed.	2.00	Rmt	334.00	668.00
13.22	Providing and laying 50mm dia. P.V.C. pipes conforming to I.S. in trenches including proper slope, filling the joints using rubber gasket with solvent cement etc. completed as directed.	2.00	Rmt	284.00	568.00
13.23	Providing and laying 40mm dia. P.V.C. pipes conforming to I.S. in trenches including proper slope, filling the joints using rubber gasket with solvent cement etc. completed as directed.	2.00	Rmt	247.00	494.00
13.24	Providing and fixing ISI approved 75mm dia. HDPE pipes manufactured by NOCIL / PIL of various diameters with wall thickness of 2.60 mm to 10.00mm for taking drain water with all required fittings such as bend, tee, elbows etc. with proper line and gradient connecting all joints with fusion butt welding by using hot plate, keeping hole in wall / pardi etc. filling the patches, with cement concrete 1:1½:3, clamping the pipes on wall / column etc. with the use of scaffolding, testing the line, providing inspection joints with and caps etc. all complete as directed.	2.00	Rmt	552.00	1,104.00
13.25	Providing and fixing ISI 1729/2002 grade 75mm dia. cast iron waste water pipes with necessary fittings such as bends, tees, single junctions, double junctions, slotted vent, offsets on walls or in the ground including filling joints with cement mortar 1:2 and two coats of anticorrosive paint including fixing the pipe on walls by means of nails driven through lugs in wooden holders / battens including necessary scaffolding complete or as directed.	2.00	Rmt	1,171.00	2,342.00
13.26	Providing and fixing ISI 1729/2002 grade 100mm dia. cast iron soil / waste water pipe with necessary fittings such as bends, tees, single junctions, double junctions, slotted vent, offsets on walls or in the ground including filling joints with cement mortar 1:2 and two coats of anticorrosive paint including fixing the pipe on walls by means of nails driven through lugs in wooden holders / battens including necessary scaffolding complete or as directed.	1.00	Rmt	1,764.00	1,764.00
13.27	Providing and fixing 1/2" dia CP push tap of Jaquar with wall flange with stainless steel pipe upto urinal pot including necessary fittings and fixtures etc. complete as directed.	2.00	Nos	2,309.00	4,618.00
13.28	Providing and fixing 150mm dia. Salt glazed stoneware pipe including fittings such as bends, tees, single junctions, double junctions, laying, jointing (excluding excavation and refilling the trenches) etc.	2.00	Rmt	593.41	1,186.81
13.29	Providing and fixing 100mm dia. Salt glazed stoneware pipe including fittings such as bends, tees, single junctions, double junctions, laying, jointing (excluding excavation and refilling the trenches) etc.	2.00	Rmt	377.02	754.05
13.30	Providing and fixing oval shape white earthenware below counter wash hand basin of Parryware make including one cold water angle cock of Jaguar make (Continental series), Stainless steel waste coupling, PVC heavy duty flexible pipe up to trap etc. complete as directed.	1.00	Nos	5,176.00	5,176.00
13.31	Providing and fixing oval shape below counter colour glazed earthenware wash hand basin of Parryware make including one cold water angle cock of Jaguar make (Continental series), Stainless steel waste coupling, PVC heavy duty flexible pipe up to trap etc. complete as directed.	1.00	Nos	6,240.00	6,240.00
13.32	Providing & fixing colour table top wash hand basin including vertical pillar cock of jaguar, Stop Cock of jaguar, waste Coupling, chromium plated brass bottle trap, Connection Pipe upto trap or pipe, etc complete as directed.	1.00	Nos	9,430.00	9,430.00
13.33	Providing and fixing 15 mm dia nominal bore PTMT Ball cock of approved quality, colour and make complete with Epoxy coated aluminium rod with L.P./ H.P.H.D. plastic ball etc. completed as directed.	2.00	Each	162.10	324.20

13.34	Providing and fixing 20 mm dia nominal bore PTMT Ball cock of approved quality, colour and make complete with Epoxy coated aluminium rod with L.P./ H.P.H.D. plastic ball etc. completed as directed.	2.00	Each	224.26	448.52
13.35	Providing and fixing 25 mm dia nominal bore PTMT Ball cock of approved quality, colour and make complete with Epoxy coated aluminium rod with L.P./ H.P.H.D. plastic ball etc. completed as directed.	2.00	Each	460.96	921.92
13.36	Providing and fixing 40 mm dia nominal bore PTMT Ball cock of approved quality, colour and make complete with Epoxy coated aluminium rod with L.P./ H.P.H.D. plastic ball etc. completed as directed.	2.00	Each	655.62	1,311.23
13.37	Providing and fixing 100mm dia. Stainless steel Waste Coupling for wash basin and sink, of approved quality with require fittings and fixtures etc. completed as directed.	3.00	Each	509.00	1,527.00
13.38	Providing and fixing stainless steel sink having bowl size 610 x460x254mm of nirali make inside platform or on brackets including UPVC waste coupling pipe up to outlet pipe, steel waste coupling etc. complete as directed.	1.00	Each	10,311.00	10,311.00
13.39	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. complete as directed.	1.00	Each	8,545.00	8,545.00
13.40	Providing and fixing stainless steel sink having bowl size 410 x355x165mm of nirali make inside platform or on brackets including UPVC waste coupling pipe upto outlet pipe, steel waste coupling etc. complete as directed.	1.00	Each	5,459.00	5,459.00
13.41	Providing and fixing white glazed earthenware wash hand basin of size 500 x 400 or 450 x 300 of parryware make including waste coupling, PVC pipe upto trap, testing etc. complete.	1.00	Each	3,120.00	3,120.00
13.42	Providing and fixing white glazed earthenware corner wash hand basin of size 400 x 400 of parryware make including waste coupling, PVC pipe upto trap, testing etc. complete.	1.00	Each	2,717.00	2,717.00
13.43	Providing and fixing bottle trap 31mm single piece moulded with height of 270 mm, effective length of tail pipe 260 mm from the centre of the waste coupling, 77 mm breadth with 25 mm minimum water seal, weighing not less than 260 gms for Wash basin, urinal and sink and removing old fittings (if any) depositing it in Estate store.	2.00	Each	326.20	652.41
13.44	Providing and fixing bottle trap 38 mm single piece moulded with height of 270 mm, effective length of tail pipe 260 mm from the centre of the waste coupling, 77 mm breadth with 25 mm minimum water seal, weighing not less than 263 gms for Wash basin, urinal and sink and removing old fittings (if any) depositing it in Estate store.	2.00	Each	326.20	652.41
13.45	Providing and fixing PTMT 15 mm Urinal spreader with 1/2" BSP thread and shapes, weighing not less than 60 gms.	2.00	Each	93.06	186.13
13.46	Providing and fixing 15.88 mm outer dia pipe stainless Steel pipe and fitting of grade AISI 304 as per JIS standard 3448 complete with press type fitting, fixing of the pipe with stainless steel clamps at 1.00m spacing including testing of joints complete as per direction of Engineer-in-charge.	2.00	Rmt	353.34	706.69
13.47	Providing and fixing bottle trap 31mm single piece moulded with height of 270 mm, effective length of tail pipe 260 mm from the centre of the waste coupling, 77 mm breadth with 25 mm minimum water seal, weighing not less than 260 gms for Wash basin, urinal and sink and removing old fittings (if any) depositing it in Estate store.	70.00	Each	326.20	22,834.21

13.48	Providing and fixing bottle trap 38 mm single piece moulded with height of 270 mm, effective length of tail pipe 260 mm from the centre of the waste coupling, 77 mm breadth with 25 mm minimum water seal, weighing not less than 263 gms for Wash basin, urinal and sink and removing old fittings (if any) depositing it in Estate store.	40.00	Each	326.20	13,048.12
13.49	Providing and fixing 15.88 mm outer dia pipe stainless Steel pipe and fitting of grade AISI 304 as per JIS standard 3448 complete with press type fitting, fixing of the pipe with stainless steel clamps at 1.00m spacing including testing of joints complete as per direction of Engineer-in-charge.	40.00	Rmt	353.34	14,133.79
13.50	Providing and fixing 22.22 mm outer dia pipe stainless Steel pipe and fitting of grade AISI 304 as per JIS standard 3448 complete with press type fitting, fixing of the pipe with stainless steel clamps at 1.00m spacing including testing of joints complete as per direction of Engineer-in-charge.	15.00	Rmt	508.42	7,626.29
13.51	Providing and fixing 15 mm dia nominal bore Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.	2.00	Rmt	256.77	513.54
13.52	Providing and fixing 20 mm dia nominal bore Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.	2.00	Rmt	326.20	652.41
13.53	Providing and fixing 25 mm dia nominal bore Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.	2.00	Rmt	409.94	819.87
13.54	Providing and fixing 32 mm dia nominal bore Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.	2.00	Rmt	502.65	1,005.30
13.55	Providing and fixing 40 mm dia nominal bore Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.	2.00	Rmt	676.64	1,353.28
13.56	Providing and fixing 50 mm dia nominal bore Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.	2.00	Rmt	930.15	1,860.29
13.57	Providing and fixing stainless steel cockroach trap of approved pattern, quality and make with all required fittings and fixtures etc. completed as directed.	2.00	Nos	437.00	874.00
13.58	Providing and laying HDPE pipes 150mm dia. having wall thickness of 3.9mm of CPI/Noble make with ISI mark laying in trenches in proper line and level with all required fittings, connecting all joints with fusion butt welding by using hot plate or fixing on walls with necessary fittings, clamps etc. complete as directed.	2.00	Rmt	586.00	1,172.00

13.59	Constructing chambers of internal clear dimensions 900mm x 900mm with 230mm thick brick masonry wall in cement mortar 1:6 over abed of 150mm thick cement concrete M-20 (1:1½:3) foundation with 150mm minimum offset beyond masonry wall plastering with cement mortar 1:4, 12mm thick on internal, external and all exposed faces, finished with floating coat of neat cement including providing and fixing precast R.C.C. frame and cover of suitable size, medium duty (weight carrying capacity of 300 Kg/m ²), manufactured by KK Industries or equivalent as approved by Engineer Incharge and fixing with cement concrete coping M-20 (1:1½ :3) and plastering complete including necessary dewatering, if required etc. for chambers of depth upto 1000mm.	1.00	Nos	16,477.00	16,477.00
13.60	Constructing chambers of internal clear dimensions 900mm x 600mm with 230mm thick brick masonry wall in cement mortar 1:6 over abed of 150mm thick cement concrete M-20 (1:1½:3) foundation with 150mm minimum offset beyond masonry wall plastering with cement mortar 1:4, 12mm thick on internal, external and all exposed faces, finished with floating coat of neat cement including providing and fixing precast R.C.C. frame and cover of suitable size, medium duty (weight carrying capacity of 300 Kg/m ²), manufactured by KK Industries or equivalent as approved by Engineer Incharge and fixing with cement concrete coping M-20 (1:1½ :3) and plastering complete including necessary dewatering, if required etc. for chambers of depth upto 1000mm.	1.00	Nos	14,158.00	14,158.00
13.61	Providing and constructing brick masonry inspection chamber 900mm x 450 mm and 45cm to 90 cm in depth including cement concrete in M-20 foundation, PCC 10 cm thick channels, brick masonry, plastering on inside and outside as required in cement mortar 1:6 and airtight heavy duty RCC cover with frame work fixed in cement concrete 1:2:4 etc all complete as directed bt Engineer In charge.	1.00	No.	13,170.00	13,170.00
13.62	Making connection / disconnection of G. I. Distribution branch with G. I. Main of following 25 to 40 mm nominal bore sizes by providing and fixing tee, including cutting and threading the pipe etc. Complete.	10.00	Nos	1,518.84	15,188.36
13.63	Arresting leakage through HDPE pipe by welding/jointing the damaged member with required tools and tackles all complete as directed by Engineer-in-charge.	2.00	Job	182.00	364.00
13.64	Providing and fixing regular flush valve of Jaguar including making concealed arrangment by making cut out in walls including fixing 32mm dia galvanised iron / PVC heavy type flush pipe with fittings and clamps up to the WC and other required fittings and fixtures etc. completed as directed.	2.00	Nos	3,527.00	7,054.00
13.65	Providing and fixing hindware make white color Low level 10 liters capacity PVC Dual flushing cistern with all fittings as approved by IITB inlet G.I. pipe with stop tap, brass chromium plated waste couplng 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.	2.00	No	2,892.00	5,784.00
13.66	Providing & fixing ISI approve heavy type Angle Cock (Cavier make Rienza series) including extension Pipe, C.P Double nippal etc.complete.	2.00	No	1,512.00	3,024.00
13.67	Providing and fixing ISI approve two way Wall mixture (cavier / Jaquar make) system with provision for only overhead shower complete with 115mm long bend pipe including fixtures etc. complete.	2.00	No	3,968.00	7,936.00
13.68	Providing and fixing ISI approve three in one Wall mixture (Jaquar make) system with provision for both hand shower and overhead shower complete with 115cm long bend pipe, including fixtures (Excluding hand shower)etc. complete.	1.00	No	4,715.00	4,715.00
13.69	Providing & fixing jaquar make telephonic hand shower 80mm round with 1.5m long jaquar make flexible chrome tube which connected to three way mixer including fixtures etc. complete.	2.00	No	2,882.00	5,764.00
13.70	Providing & fixing Cera make Platform top wash hand basin of size 602mm x 433mm including vertical pillar cock, Stop Cock, West Coupling, West Pipe, Connection Pipe, etc complete or as directed.	1.00	No	10,505.00	10,505.00

13.71	Providing and fixing stainless steel sink approved brand (nirali or equalant) Kitchen sink as per IS 13983 with CI brackets and stainless steel plug 40mm including painting of fittings and brackets, cutting, and making good the walls wherever required (kitchen sink nirali make with drain board of size 510x915mm bowl depth 200mm)	1.00	Nos.	11,428.00	11,428.00
13.72	Providing & fixing granite counter wash basin of size upto 3' x 1.5' for counter including coloured oval shape wash basin with Jaquar make Pillar tap, CP bottle trap, connector, angle cock complete including kaddpa supports, moulding, facia patti all complete as directed by Engineer incharge.	1.00	No	23,301.00	23,301.00
13.73	P/F ISI approved heavy type ½" dia CP Bib cock of Seiko made including socket, union nut etc. complete as directed	2.00	Nos.	506.00	1,012.00
13.74	Providing and fixing hindware make white glazed earthenware pedstal wash hand basin of size 56cm x 43cm , pedstal height 68cm including one cold water contentail series 450mm long swan neck tap of jaquar , brackets, rubber plugs and brass chain, stop tap of jaquar and necessary pipe connection including jaquar make bottle trap etc. Complete as directed	1.00	No	10,514.00	10,514.00
13.75	Providing & fixing hindware make Platform top wash basin of size 63cm x 50cm including ,one cold water contentail series 450mm long swan neck tap of jaquar,Stop Cock, West Coupling, jaquar make bottle trap, Connection Pipe, etc complete or as directed.	1.00	No.	16,483.00	16,483.00
13.76	Providing & fixing ISI approve long swan neck pillar tap jaquar make including necessary fixtures etc.complete as directed	2.00	No	1,875.00	3,750.00
13.77	Providing & fixing ISI approve heavy type Kitchen sink cock with swinging casted spout (wall mounted) jaquar make including necessary fixtures etc.complete as directed	2.00	No	1,650.00	3,300.00
13.78	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. Make Hindware/ CERA/ Slimline/ Hindustan/ Nycer etc . all complete. as directed.	2.00	No	1,278.00	2,556.00
13.79	Providing and fixing stainless steel jet spray of approved make including necessary pipe of required length socket/union etc, complete as directed by Engineer in charge. contractor will be allowed to take away old jet spray if available and for which 5% deduction will be made of schedule rate of this item. Etc. complete.	2.00	No	739.00	1,478.00
13.80	Providing and fixing CON-CHR-347 KN sink cock of jaquar make including fitting fixture etc, complete as directed by Engineer in charge	1.00	No	1,715.00	1,715.00
13.81	Providing and laying temporary loop connection to main water supply inlet and outlet of water tank with 'C' class pipe upto 6 meter of length or as required of any dia elbows, tees, reducers, plugs, clamps etc. including other connections and commissioning the water supply line and remaking to original connections after repair etc. complete.	1.00	Job	5,175.00	5,175.00
13.82	Providing and fixing Wall mounted closet STUDIO 20061 (41x36x52)cm along with white seat cover,anchor fastner,washer including removing the old pan and fixing the new with proper position etc all complete	1.00	No	11,206.00	11,206.00
13.83	Providing and fixing 2 in 1 jaquar wall mixer with provision with 115mm long bend pipe on upper side, connecting legs and wall flanges with all labour charges including removing existing wall mixture and depositing to Estate store etc complete	2.00	No	4,223.00	8,446.00

13.84	Providing and fixing Sink Cock with Swinging Spout for kitchen sink of jaquar make, as per existing model, heavy type including necessary fittings and fixtures, removing the old damaged sink cock and cleaning the site etc. all complete as directed by Engineer In-charge. (Note: The old dismantled taps should be deposited in Estate store and take certificate of it)	2.00	No.	1,756.00	3,512.00
13.85	Providing and fixing Overhead Shower 70 mm dia Round Shape Single Flow (ABS Body Chrome Plated with Gray Face Plate) with Rubit Cleaning System for bathroom of Essco make, as per existing model, heavy type including necessary fittings and fixtures, removing the old damaged overhead shower and cleaning the site etc. all complete as directed by Engineer In-charge. (Note: The old dismantled shower should be deposited in Estate store and take certificate of it)	2.00	No.	1,008.00	2,016.00
13.86	Providing and fixing Easy Flex Tube in Chrome Finish with Nuts for shower jaquar make, as per existing model, heavy type including necessary fittings and fixtures, removing the old damaged Flex Tube and cleaning the site etc. all complete as directed by Engineer In-charge. (Note: The old dismantled material should be deposited in Estate store and take certificate of it)	2.00	No.	1,066.00	2,132.00
13.87	Providing and fixing Hand Shower Pack (Single flow 70mm fround shape hand shower with 1.5M long spirochrome flex hose & wall bracket of Essco make, as per existing model, heavy type including necessary fittings and fixtures, removing the old damaged hand shower pack and cleaning the site etc. all complete as directed by Engineer In-charge. (Note: The old dismantled material should be deposited in Estate store and take certificate of it)	2.00	No.	2,193.00	4,386.00
13.88	Providing and fixing Bath Tub Spout With Button Attachment For Hand Shower With Wall Flange of jaquar make, as per existing model, heavy type including necessary fittings and fixtures, removing the old damaged bath tub spout and cleaning the site etc. all complete as directed by Engineer In-charge. (Note: The old dismantled taps should be deposited in Estate store and take certificate of it)	2.00	No.	2,101.00	4,202.00
13.89	Providing and fixing Single lever kit consisting of operating lever, wall flange & button of jaquar make, as per existing model, heavy type including necessary fittings and fixtures, removing the old damaged Single lever kit and cleaning the site etc. all complete as directed by Engineer In-charge. (Note: The old dismantled materials should be deposited in Estate store and take certificate of it)	2.00	No.	2,331.00	4,662.00
13.90	Providing and fixing Bottle Trap (with Internal Partition) 32mm Size with 300mm & 190mm Long Wall Connection Pipes & Wall Flange of jaquar make, as per existing model, heavy type including necessary fittings and fixtures, removing the old damaged Bottle trap and cleaning the site etc. all complete as directed by Engineer In-charge. (Note: The old dismantled materials should be deposited in Estate store and take certificate of it)	2.00	No.	2,504.00	5,008.00
13.91	Providing and fixing Premium Wall Bracket for Hand Shower, ø35mm & 100mm Long Round Shape of jaquar make, as per existing model, heavy type including necessary fittings and fixtures, removing the old damaged wall bracket and cleaning the site etc. all complete as directed by Engineer In-charge. (Note: The old dismantled materials should be deposited in Estate store and take certificate of it)	2.00	No.	688.00	1,376.00
13.92	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. (Note: The old dismantled materials should be deposited in Estate store and take certificate of it)	2.00	No.	716.00	1,432.00
13.93	Providing and fixing Cloth Liner Retractable (Stainless Steel) of jaquar make, as per existing model, heavy type including necessary fittings and fixtures, removing the old damaged cloth liner and cleaning the site etc. all complete as directed by Engineer In-charge. (Note: The old dismantled materials should be deposited in Estate store and take certificate of it)	2.00	No.	1,234.00	2,468.00

13.94	Providing and fixing Concealed Flush tank with kit of parryware make, as per existing model, including necessary fittings and fixtures, removing the old flush tank and cleaning the site etc. all complete as directed by Engineer In-charge. (Note: The old dismantled materials should be deposited in Estate store and take certificate of it)	2.00	No.	4,751.00	9,502.00
13.95	Providing and fixing wall mounted coloured western toilet of parryware make (Model no. Cardiff type , CO270) (Cascade commode system) including built in ceramic flushing cistern with all fixtures & fittings as per desired colours, item including removing existing damaged commode and disposing desired location all complete.	0.50	No	23,547.00	11,773.50
13.96	Providing and fixing wall mounted coloured western toilet of parryware make Verve type , CO269 including built in ceramic flushing cistern with all fixtures & fittings as per desired colours, item including removing existing damaged commode and disposing desired location all complete.	1.00	No	25,415.00	25,415.00
13.97	Reparing to flush valve or flush tank by replacing Metropole fitting with all necessary fittings and fixtures etc. completed as directed.	1.00	Each	2,234.00	2,234.00
13.98	Providing and fixing health faucet(Jet spray) with flexible tube with chrome finish and wall hook of approved Jaquar make including necessary socket/ union etc. complete as directed.	1.00	Each	1,300.00	1,300.00
14	Drainage				
14.01	Providing and fixing 560mm dia. Medium duty ductile iron manhole covers with frame for inspection chamber / manhole / gulley trap and other required places manufactured by M/s.NECO or equivalent etc. all complete as directed.	1.00	Each	10,027.00	10,027.00
14.02	Providing and fixing 560mm dia. Heavy duty ductile iron manhole covers with frame for inspection chamber / manhole / gulley trap and other required places manufactured by M/s.NECO or equivalent etc. all complete as directed.	1.00	Each	11,214.00	11,214.00
14.03	Providing and fixing 600mm x 450mm rectangular medium duty ductile iron manhole covers with frame for inspection chamber / manhole / gulley trap and other required places of NECO or equivalent make etc. all complete as directed.	1.00	Each	13,257.00	13,257.00
14.04	Providing and fixing 600mm x 450mm rectangular heavy duty ductile iron manhole covers with frame for inspection chamber / manhole / gulley trap and other required places of NECO or equivalent make etc. all complete as directed.	1.00	Each	18,714.00	18,714.00
14.05	Providing and fixing 900mm x 450mm rectangular medium duty ductile iron manhole covers with frame for inspection chamber / manhole / gulley trap and other required places of NECO or equivalent make etc. all complete as directed.	1.00	Each	13,786.00	13,786.00
14.06	Providing and fixing 900mm x 450mm rectangular heavy duty ductile iron manhole covers with frame for inspection chamber / manhole / gulley trap and other required places of NECO or equivalent make etc. all complete as directed.	1.00	Each	16,351.00	16,351.00
14.07	Providing and fixing 900mm x 600mm rectangular medium duty ductile iron manhole covers with frame for inspection chamber / manhole / gulley trap and other required places of NECO or equivalent make etc. all complete as directed.	1.00	Each	17,156.00	17,156.00
14.08	Providing and fixing 900mm x 600mm rectangular heavy duty ductile iron manhole covers with frame for inspection chamber / manhole / gulley trap and other required places of NECO or equivalent make etc. all complete as directed.	1.00	Each	21,106.00	21,106.00

14.09	Providing and fixing precast RCC slab for drain cover and chamber cover of required size with M-25 grade concrete and reinforced with 10mm dia main steel bars (along shorter span) and 8mm. dia distribution bars (along longer span) at 100mm center to center including making steel form work, making temporary concrete platform for casting, compaction using surface vibrator, with two lifting hooks of 6mm dia / holes of 25mm dia finishing the surface with smooth cement finish curing, placing the precast slab in proper position etc. complete as directed.	1.00	m3	21,243.00	21,243.00
14.10	Providing and fixing 150mm dia. Salt glazed stoneware pipe including fittings such as bends, tees, single junctions, double junctions, laying, jointing (excluding excavation and refilling the trenches) etc.	3.00	Rmt	593.41	1,780.22
14.11	Providing and fixing 100mm dia. Salt glazed stoneware pipe including fittings such as bends, tees, single junctions, double junctions, laying, jointing (excluding excavation and refilling the trenches) etc.	4.00	Rmt	377.02	1,508.10
14.12	Providing lowering, and laying 150mm dia NP2 class R.C.C. spun pipes conforming to IS 458 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. complete as directed.	4.00	Rmt	494.77	1,979.09
14.13	Providing lowering, and laying 250mm dia NP2 class R.C.C. spun pipes conforming to IS 458 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. complete as directed.	4.00	Rmt	813.90	3,255.61
14.14	Providing lowering, and laying 300mm dia NP2 class R.C.C. spun pipes conforming to IS 458 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. complete as directed.	4.00	Rmt	905.11	3,620.44
14.15	Providing and fixing PE 100 & PN 6 having 225mm dia.(OD) ISI approved HDPE pipes manufactured by ARHAM Engineering/ BERLIA /NOCIL / PIL/ SUPREAM 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.	4.00	Rmt	1,810.00	7,240.00
14.16	Providing and fixing PE 100 & PN 6 having 315mm dia.(OD) ISI approved HDPE pipes manufactured by ARHAM Engineering/ BERLIA /NOCIL / PIL/ SUPREAM 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.	1.00	Rmt	3,135.00	3,135.00

14.17	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 equivalent 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.	0.50	No.	28,159.00	14,079.50
14.18	Extra over item No. 389 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 as specified in item No. 8 above and as directed.	2.00	Rmt	12,695.00	25,390.00
14.19	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 completed as directed by Engineer In-charge.	4.00	No.	910.00	3,640.00
14.20	Providing and fixing HDPE green Braided, Knotted construction 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 Polypropylene (PP) (rope of M/s. Kwaliti Nets Mfg Company or approved equivalent 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.	4.00	m2	356.00	1,424.00
14.21	Providing & fixing 75mm dia. PVC temporary drain pipe line with fittings, necessary Coupling, bends, tees by supporting on scaffolding and maintaining the same from time to time till the new permanent drain pipes are laid and connected	10.00	Rmt	139.00	1,390.00
14.22	Providing & fixing 100mm dia. PVC temporary drain pipe line with fittings, necessary Coupling, bends, tees by supporting on scaffolding and maintaining the same from time to time till the new permanent drain pipes are laid and connected.	2.00	Rmt	188.00	376.00
14.23	Lowering down existing rain water trap as per required depth if possible including cutting and lowering down at a required depth by filling joints make it water tight including labours, tools and plants joint filling material, transport etc complete as directed by Engineer Incharge.	2.00	No	999.00	1,998.00
14.24	Raising manhole cover and frame of any size slab to required level including dismantling existing slab and making good the damage as required (a) Rectangular manhole/ chamber of any size	1.00	No	2,732.89	2,732.89
14.25	Raising manhole cover and frame of any size slab to required level including dismantling existing slab and making good the damage as required (b) Circular manhole of any size	1.00	No	4,002.94	4,002.94

14.26	Providing lowering, and laying NP2 class R.C.C. spun pipes conforming to IS 458 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. complete as directed.	4.00	Rmt	1,486.58	5,946.31
14.27	Providing lowering, and laying NP2 class R.C.C. spun pipes conforming to IS 458 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.	4.00	Rmt	2,105.22	8,420.87
14.28	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.	4.00	Rmt	4,274.80	17,099.22
14.29	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 equivalent 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.	4.00	No.	45,290.00	181,160.00
14.30	Providing and fixing ISI approved HDPE pipes manufactured by NOCIL / PIL of 50mm diameters with wall thickness of 2.60 mm to 10.00mm for taking drain water with all required fittings such as bend, tee, elbows etc. with proper line and gradient connecting all joints with fusion butt welding by using hot plate, keeping hole in wall / pardi etc. filling the patches, with cement concrete 1:1½:3, clamping the pipes on wall / column etc. with the use of scaffolding, testing the line, providing inspection joints with and caps etc. all complete as directed.	4.00	Rmt	547.00	2,188.00
14.31	Providing and fixing 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.	4.00	Rmt	876.00	3,504.00
15	Watersupply				

15.01	Providing and laying in trenches 15 mm dia nominal bore I.S.I. approved 'C class galvanized iron pipe having weight as per IS specification with screwed sockets, joints, and necessary galvanised iron fittings such as backnuts, elbows, bends, tees, reducers, enlargers, plugs, etc. including providing and applying two coats of oil paint with one coat of primer including trenching and refilling etc. complete or as directed.	2.00	Rmt	268.41	536.82
15.02	Providing and laying in trenches 20 mm dia nominal bore I.S.I. approved 'C class galvanized iron pipe having weight as per IS specification with screwed sockets, joints, and necessary galvanised iron fittings such as backnuts, elbows, bends, tees, reducers, enlargers, plugs, etc. including providing and applying two coats of oil paint with one coat of primer including trenching and refilling etc. complete or as directed.	2.00	Rmt	316.42	632.84
15.03	Providing and laying in trenches 25 mm dia nominal bore I.S.I. approved 'C class galvanized iron pipe having weight as per IS specification with screwed sockets, joints, and necessary galvanised iron fittings such as backnuts, elbows, bends, tees, reducers, enlargers, plugs, etc. including providing and applying two coats of oil paint with one coat of primer including trenching and refilling etc. complete or as directed.	2.00	Rmt	419.37	838.74
15.04	Providing and laying in trenches 32 mm dia nominal bore I.S.I. approved 'C class galvanized iron pipe having weight as per IS specification with screwed sockets, joints, and necessary galvanised iron fittings such as backnuts, elbows, bends, tees, reducers, enlargers, plugs, etc. including providing and applying two coats of oil paint with one coat of primer including trenching and refilling etc. complete or as directed.	2.00	Rmt	459.25	918.51
15.05	Providing and laying in trenches 40 mm dia nominal bore I.S.I. approved 'C class galvanized iron pipe having weight as per IS specification with screwed sockets, joints, and necessary galvanised iron fittings such as backnuts, elbows, bends, tees, reducers, enlargers, plugs, etc. including providing and applying two coats of oil paint with one coat of primer including trenching and refilling etc. complete or as directed.	2.00	Rmt	560.24	1,120.49
15.06	Providing and laying in trenches 50 mm dia nominal bore I.S.I. approved 'C class galvanized iron pipe having weight as per IS specification with screwed sockets, joints, and necessary galvanised iron fittings such as backnuts, elbows, bends, tees, reducers, enlargers, plugs, etc. including providing and applying two coats of oil paint with one coat of primer including trenching and refilling etc. complete or as directed.	2.00	Rmt	656.42	1,312.84
15.07	Providing and laying in trenches 65 mm dia nominal bore I.S.I. approved 'C class galvanized iron pipe having weight as per IS specification with screwed sockets, joints, and necessary galvanised iron fittings such as backnuts, elbows, bends, tees, reducers, enlargers, plugs, etc. including providing and applying two coats of oil paint with one coat of primer including trenching and refilling etc. complete or as directed.	2.00	Rmt	771.21	1,542.42
15.08	Providing and laying in trenches 80 mm dia nominal bore I.S.I. approved 'C class galvanized iron pipe having weight as per IS specification with screwed sockets, joints, and necessary galvanised iron fittings such as backnuts, elbows, bends, tees, reducers, enlargers, plugs, etc. including providing and applying two coats of oil paint with one coat of primer including trenching and refilling etc. complete or as directed.	2.00	Rmt	922.22	1,844.44
15.09	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 etc. 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 primer and two coats of oil painting including necessary scaffolding etc. or as directed etc. complete.	2.00	Rmt	305.18	610.36

15.10	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 etc. 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 primer and two coats of oil painting including necessary scaffolding etc. or as directed etc. complete.	2.00	Rmt	374.62	749.23
15.11	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. 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 primer and two coats of oil painting including necessary scaffolding etc. or as directed etc. complete.	2.00	Rmt	492.87	985.73
15.12	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 etc. 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 primer and two coats of oil painting including necessary scaffolding etc. or as directed etc. complete.	2.00	Rmt	565.51	1,131.02
15.13	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 etc. 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 primer and two coats of oil painting including necessary scaffolding etc. or as directed etc. complete.	2.00	Rmt	727.61	1,455.22
15.14	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 etc. 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 primer and two coats of oil painting including necessary scaffolding etc. or as directed etc. complete.	2.00	Rmt	896.23	1,792.46
15.15	Providing and fixing 20mm dia. nominal bore gun metal gate valve with C.I. wheel of approved quality (screwed end) with required fittings and fixtures etc. completed as directed.	2.00	Nos	463.32	926.63
15.16	Providing and fixing 25mm dia. nominal bore gun metal gate valve with C.I. wheel of approved quality (screwed end) with required fittings and fixtures etc. completed as directed.	2.00	Nos	534.16	1,068.31
15.17	Providing and fixing 32mm dia. nominal bore gun metal gate valve with C.I. wheel of approved quality (screwed end) with required fittings and fixtures etc. completed as directed.	2.00	Nos	591.90	1,183.80
15.18	Providing and fixing 40mm dia. nominal bore gun metal gate valve with C.I. wheel of approved quality (screwed end) with required fittings and fixtures etc. completed as directed.	2.00	Nos	709.70	1,419.40
15.19	Providing and fixing 50mm dia. nominal bore gun metal gate valve with C.I. wheel of approved quality (screwed end) with required fittings and fixtures etc. completed as directed.	2.00	Nos	881.23	1,762.46
15.20	Providing and fixing 65mm dia. nominal bore gun metal gate valve with C.I. wheel of approved quality (screwed end) with required fittings and fixtures etc. completed as directed.	2.00	Nos	1,495.76	2,991.52

15.21	Providing and fixing 80mm dia. nominal bore gun metal gate valve with C.I. wheel of approved quality (screwed end) with required fittings and fixtures etc. completed as directed.	2.00	Nos	2,235.16	4,470.32
15.22	Providing and fixing 15 mm dia nominal bore brass stop cock of approved quality with required fittings and fixtures etc. completed as directed.	2.00	Nos	304.88	609.76
15.23	Providing and fixing 20 mm dia nominal bore brass stop cock of approved quality with required fittings and fixtures etc. completed as directed.	2.00	Nos	329.06	658.13
15.24	Providing and fixing 1/2" dia stop cocks and bib cocks of Jaquar (continental series) fittings concealed or open including necessary fittings and fixtures etc. complete as directed.	2.00	Nos	1,018.00	2,036.00
15.25	Providing and fixing 1/2" dia two way taps of Jaquar (continental series) fittings concealed or open including necessary fittings and fixtures etc. complete as directed.	2.00	Nos	1,231.00	2,462.00
15.26	Providing and fixing 1/2" dia angular stop cocks of Jaquar (continental series) fittings concealed or open including necessary fittings and fixtures etc. complete as directed.	2.00	Nos	943.00	1,886.00
15.27	Providing and fixing 12mm dia heavy duty brass chromium plated three way taps with all fittings etc all complete as directed.	2.00	Nos	1,682.00	3,364.00
15.28	Providing and fixing G.I. Pipes 15 mm dia nominal bore complete with G.I. fittings and clamps, making good the walls etc. concealed pipe, including painting with anti corrosive bitumastic paint, cutting chases and making good the wall etc. completed as directed.	2.00	Rmt	486.85	973.69
15.29	Providing and fixing G.I. Pipes 20 mm dia nominal bore complete with G.I. fittings and clamps, making good the walls etc. concealed pipe, including painting with anti corrosive bitumastic paint, cutting chases and making good the wall etc. completed as directed.	2.00	Rmt	542.94	1,085.87
15.30	Providing and fixing 450 x 300 x 150 mm white glazed earthenware sink including waste coupling, PVC pipe upto trap, testing etc. complete.	1.00	Nos	6,340.00	6,340.00
15.31	Providing and fixing 600 x 400x 200 mm white glazed earthenware sink including waste coupling, PVC pipe upto trap, testing etc. complete.	1.00	Nos	9,652.00	9,652.00
15.32	Providing and fixing 100mm dia. chromium plated brass shower rose of approved quality to 15mm dia supply pipe including necessary bend and socket complete.	2.00	Nos	166.91	333.83
15.33	Providing and fixing 150mm dia. chromium plated brass shower rose of approved quality to 15mm dia supply pipe including necessary bend and socket complete.	2.00	Nos	190.74	381.49
15.34	Providing and fixing 450 mm long towel rail PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour etc. completed as directed.	2.00	Nos	575.55	1,151.09
15.35	Providing and fixing 600 mm long towel rail PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour etc. completed as directed.	2.00	Nos	602.39	1,204.77
15.36	Providing and fixing C.P brass toilet roll holder of approved make including necessary socket/ union etc. complete as directed.	2.00	Nos	683.11	1,366.22

15.37	Providing and fixing gun metal pressure reducing valve I.S.I. approved heavy type including removing existing pressure reducing valve , with all required fittings etc. complete as directed a)25 mm dia	2.00	nos	5,078.00	10,156.00
15.38	Providing and fixing gun metal pressure reducing valve I.S.I. approved heavy type including removing existing pressure reducing valve , with all required fittings etc. complete as directed b) 32mm dia	2.00	nos	5,852.00	11,704.00
15.39	Connection of pipe line which is newly laid to old pipe line in wall with 4" to 5" barrel piece, union, elbow & 14" barrel piece etc. required fittings and fixtures including making hole carefully in wall without disturbing existing pipe line, p/f new line of existing dia remaking good the demolished portion from outside to restore the same in original condition neatly, painting to pipe etc. complete. (extra pipe line will be paid in respective item) a) 15mm dia	2.00	Per job	773.00	1,546.00
15.40	Connection of pipe line which is newly laid to old pipe line in wall with 4" to 5" barrel piece, union, elbow & 14" barrel piece etc. required fittings and fixtures including making hole carefully in wall without disturbing existing pipe line, p/f new line of existing dia remaking good the demolished portion from outside to restore the same in original condition neatly, painting to pipe etc. complete. (extra pipe line will be paid in respective item) b) 20mm dia	2.00	per job	992.00	1,984.00
15.41	Providing and laying 100mm dia in trenches centrifugally cast (spun) Iron pipes, water quality conforming to I.S. 1536 specification including lowering down in trenches, connecting with existing and new lines, pumps etc. including cutting to length as per requirement, placing in position to correct line and alignment for jointing, testing the pipes and joints hydraulically with a pressure upto 10 kg. / sq.cm after making necessary joints etc. complete. (joints will be paid separately).	2.00	Rmt	1,214.61	2,429.21
15.42	Providing and laying 150mm dia in trenches centrifugally cast (spun) Iron pipes, water quality conforming to I.S. 1536 specification including lowering down in trenches, connecting with existing and new lines, pumps etc. including cutting to length as per requirement, placing in position to correct line and alignment for jointing, testing the pipes and joints hydraulically with a pressure upto 10 kg. / sq.cm after making necessary joints etc. complete. (joints will be paid separately).	2.00	Rmt	1,830.89	3,661.78
15.43	Providing and laying 200mm dia in trenches centrifugally cast (spun) Iron pipes, water quality conforming to I.S. 1536 specification including lowering down in trenches, connecting with existing and new lines, pumps etc. including cutting to length as per requirement, placing in position to correct line and alignment for jointing, testing the pipes and joints hydraulically with a pressure upto 10 kg. / sq.cm after making necessary joints etc. complete. (joints will be paid separately).	2.00	Rmt	3,094.11	6,188.22
15.44	Providing and laying 250mm dia in trenches centrifugally cast (spun) Iron pipes, water quality conforming to I.S. 1536 specification including lowering down in trenches, connecting with existing and new lines, pumps etc. including cutting to length as per requirement, placing in position to correct line and alignment for jointing, testing the pipes and joints hydraulically with a pressure upto 10 kg. / sq.cm after making necessary joints etc. complete. (joints will be paid separately).	2.00	Rmt	4,044.17	8,088.35
15.45	Providing and laying 300mm dia in trenches centrifugally cast (spun) Iron pipes, water quality conforming to I.S. 1536 specification including lowering down in trenches, connecting with existing and new lines, pumps etc. including cutting to length as per requirement, placing in position to correct line and alignment for jointing, testing the pipes and joints hydraulically with a pressure upto 10 kg. / sq.cm after making necessary joints etc. complete. (joints will be paid separately).	2.00	Rmt	5,445.86	10,891.73
15.46	Providing and laying flanged C.I. standard specials such as tees, bends, collars, tapers, caps etc., suitable for flanged jointing as per IS : 1538 : Up to 300 mm dia	200.00	Kg	82.20	16,439.09

15.47	Providing and making lead caulked joints to cast iron pipes and specials including cost of pig lead, spurn yarn, fuel, labour, lead pouring, caulking etc complete including testing the pipes and joints hydraulically with a pressure upto 10 kg. / sq. cm. (100 mm dia pipe joints with not less than 2.20 Kg. lead per joint.)	2.00	No	411.64	823.28
15.48	Providing and making lead caulked joints to cast iron pipes and specials including cost of pig lead, spurn yarn, fuel, labour, lead pouring, caulking etc complete including testing the pipes and joints hydraulically with a pressure upto 10 kg. / sq. cm. (150 mm dia pipe joints with not less than 2.20 Kg. lead per joint.)	2.00	No	617.84	1,235.68
15.49	Providing and making lead caulked joints to cast iron pipes and specials including cost of pig lead, spurn yarn, fuel, labour, lead pouring, caulking etc complete including testing the pipes and joints hydraulically with a pressure upto 10 kg. / sq. cm. (200 mm dia pipe joints with not less than 2.20 Kg. lead per joint.)	2.00	No	821.13	1,642.25
15.50	Providing and making lead caulked joints to cast iron pipes and specials including cost of pig lead, spurn yarn, fuel, labour, lead pouring, caulking etc complete including testing the pipes and joints hydraulically with a pressure upto 10 kg. / sq. cm. (250 mm dia pipe joints with not less than 2.20 Kg. lead per joint.)	2.00	No	1,026.52	2,053.04
15.51	Providing and making lead caulked joints to cast iron pipes and specials including cost of pig lead, spurn yarn, fuel, labour, lead pouring, caulking etc complete including testing the pipes and joints hydraulically with a pressure upto 10 kg. / sq. cm. (300 mm dia pipe joints with not less than 2.20 Kg. lead per joint.)	2.00	No	1,234.83	2,469.65
15.52	Providing flanged joints to double flanged C.I./ D.I. pipes and specials, including testing of joints : 80 mm diameter pipe	2.00	No	183.47	366.94
15.53	Providing and laying S&S C.I. standard specials such as tees, bends, collars, tapers, caps etc. (Heavy class : Up to 300 mm dia	200.00	Kg	56.69	11,337.64
15.54	Providing and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS : 8329 : 150 mm dia Ductile Iron Class K-9 pipes	2.00	Rmt	1,630.56	3,261.13
15.55	Providing and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS : 8329 : 200 mm dia Ductile Iron Class K-9 pipes	2.00	Rmt	2,235.71	4,471.42
15.56	Providing and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS : 8329 : 250 mm dia Ductile Iron Class K-9 pipes	2.00	Rmt	3,115.74	6,231.47
15.57	Providing and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS : 8329 : 300 mm dia Ductile Iron Class K-9 pipes	2.00	Rmt	3,895.87	7,791.75
15.58	Providing and laying Double Flanged (Screwed/ Welded) Centrifugally (Spun) Ductile Iron Pipes of Class K - 9 conforming to IS : 8329 : 100 mm dia Ductile Iron Double Flanged	2.00	Rmt	1,546.83	3,093.66
15.59	Providing and laying Double Flanged (Screwed/ Welded) Centrifugally (Spun) Ductile Iron Pipes of Class K - 9 conforming to IS : 8329 : 150 mm dia Ductile Iron Double Flanged	2.00	Rmt	2,320.75	4,641.49
15.60	Providing and laying Double Flanged (Screwed/ Welded) Centrifugally (Spun) Ductile Iron Pipes of Class K - 9 conforming to IS : 8329 : 200 mm dia Ductile Iron Double Flanged	2.00	Rmt	2,931.06	5,862.12

15.61	Providing and laying Double Flanged (Screwed/ Welded) Centrifugally (Spun) Ductile Iron Pipes of Class K - 9 conforming to IS : 8329 : 250 mm dia Ductile Iron Double Flanged	2.00	Rmt	4,156.76	8,313.51
15.62	Providing and laying Double Flanged (Screwed/ Welded) Centrifugally (Spun) Ductile Iron Pipes of Class K - 9 conforming to IS : 8329 : 300 mm dia Ductile Iron Double Flanged	2.00	Rmt	5,339.71	10,679.41
15.63	Providing and laying temporary loop connection in type IIB type 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 scaffolding if required and remaking to original connections after repair etc. complete.	2.00	Job	6,163.00	12,326.00
15.64	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 scaffolding if required and remaking to original connections after repair etc. complete.	2.00	nos	3,526.00	7,052.00
15.65	Providing and fixing 15 mm dia nominal bore(concealed) heavy body brass stop cock of jaquar make with required fittings and fixtures etc. completed as directed.	2.00	Nos	1,089.00	2,178.00
15.66	Providing and fixing 20 mm dia nominal bore(concealed) heavy body brass stop cock of jaquar make with required fittings and fixtures etc. completed as directed.	2.00	Nos	1,419.00	2,838.00
16	Aluminium Work				
16.01	Providing and fixing without anodising or powder coating aluminium section for door frame, windows, partitions and any other require 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 etc. completed as directed.	20.00	Kg	437.00	8,740.00
16.02	Providing and fixing 15 micron anodized/ powder coated aluminium section for door frame, windows, partitions and any other require 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 etc. completed as directed.	5.00	Kg	495.00	2,475.00
16.03	Providing and fixing Mortise Lock with handles of Shalimar or equivalent make, 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. (Note: The old dismantled materials should be deposited in Estate store and take certificate of it)	2.00	Each	3,112.00	6,224.00
16.04	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. (Note: The old dismantled materials should be deposited in Estate store and take certificate of it)	2.00	Each	763.00	1,526.00
16.05	Providing and fixing soft-closing clip on hinges without bearings of kich make/ equivalent with nuts etc. complete as directed.	2.00	Each	430.00	860.00
16.06	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 scaffolding etc all complete as directed by Engineer In-charge.	3.00	Rmt	74.00	222.00

16.07	Providing and fixing heavy duty aluminium sliding window bearing roller of approved quality with necessary fittings and fixtures etc. completed as directed.	3.00	Each	108.00	324.00
16.08	Providing and fixing heavy duty stainless steel top pivot for door of approved quality with necessary fittings and fixtures etc. completed as directed.	3.00	Each	155.00	465.00
16.09	Extra over for making glass toughened of any thickness including transport etc. completed as directed.	2.00	m2	1,399.00	2,798.00
16.10	Extra over for edge polishing to glass of any thickness including transport etc. completed as directed.	3.00	Rmt	52.00	156.00
16.11	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).	5.00	m2	5,758.00	28,790.00
16.12	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 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 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).	5.00	m2	6,207.00	31,035.00
16.13	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. complete.(all aluminium sections should be 15 micron anodized / powder coated section)	5.00	m2	7,843.00	39,215.00

16.14	Providing and fixing in position shutter in sliding window using aluminium section for 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 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	m2	2,988.00	14,940.00
16.15	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 ½" (12mm) thick both side decorative prelaminate three layer flat pressed teakwood particle board (phenol Bonded) of BWP type exterior grade for opaque panels and 5mm thick clear plate glass fixed with glazing clips, rubber gasket etc. complete.	5.00	m2	4,169.00	20,845.00
16.16	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 requirement and 5mm thick clear plate glass fixed with glazing clips, rubber gasket etc. complete.	5.00	m2	4,087.00	20,435.00
16.17	Providing, making and fixing fully glazed 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 5mm thick clear plain glass fixed with glazing clips, rubber gasket etc. complete.	5.00	m2	4,036.00	20,180.00
16.18	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. complete.	5.00	m2	4,116.00	20,580.00
16.19	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 prelaminate three layer flat pressed teakwood particle board (phenol Bonded) of BWP type exterior grade fixed with glazing clips etc. complete.	5.00	m2	3,936.00	19,680.00
16.20	Supplying, fabricating and fixing in position fully glazed 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. (All aluminium sections should be 15 micron anodized/ powder coated and fittings should be approved before installation)	5.00	m2	4,535.00	22,675.00

16.21	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. (All aluminium sections should be 15 micron anodized/ powder coated)	5.00	m2	5,885.00	29,425.00
16.22	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. (All aluminium sections should be 15 micron anodized/ powder coated)	5.00	m2	5,851.00	29,255.00
16.23	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. (All aluminium sections should be 15 micron anodized/ powder coated). Width and height of shutter will be measured for payment.	5.00	m2	5,156.00	25,780.00
16.24	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. (All aluminium sections should be 15 micron anodized/ powder coated). Width and height of shutter will be measured for payment.	2.00	m2	5,195.00	10,390.00
16.25	Supplying, fabricating and fixing in position fully glazed 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. (All aluminium sections should be 15 micron anodized/ powder coated and fittings should be approved before installation)	2.00	m2	4,295.00	8,590.00

16.26	Providing and fixing 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. completed as directed.	1.00	m2	21,349.00	21,349.00
16.27	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 etc. all complete as directed	1.00	m2	3,652.00	3,652.00
16.28	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 IS 1254, IS 737, IS 2676. 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, scaffolding, machinery for fixing and approved sealant where required etc. but excluding the cost of purlins, rafters and trusses.	3.00	m2	987.24	2,961.71
16.29	Refixing the old removed aluminium frame partition with existing glass / particle boards etc. with new screws, nails, rubber gasket, beading and other required fittings including cutting making good the partition including scaffolding etc. all complete as directed. (replacement of glass/ particle board will be paid separately in respective items)	2.00	m2	525.00	1,050.00
16.30	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.	2.00	m2	5,965.00	11,930.00
16.31	Providing and fixing aluminium louvered in existing frame using 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.	2.00	m2	8,066.00	16,132.00
16.32	Providing & fixing in position Aluminum partition made using 2.5" x 1.5" Aluminum pipe section 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 on both side, making necessary groves wherever required as per standard practice, making necessary arrangement of raceway with removable type panels for electrical/ lan/ telephone work, making edges smooth with all required fittings and fixtures etc. complete as directed.	2.00	m2	7,031.00	14,062.00
16.33	Replacing roof sheets with new Hook bolt made up of aluminium Alloy in 8 mm thick with Bitumen washer, Neoprene washer, Al washer and Aluminium Nuts and fixing as per manufacturers specification etc. completed as directed.	2.00	Nos	105.00	210.00
16.34	Providing and applying Polyurethane sealants over hooks of roofing sheet not less than as per manufacturer specifications (wherever required) including scaffolding etc all complete as directed by Engineer In-charge.	1.00	kg	2,111.00	2,111.00
16.35	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.	4.00	m2	144.00	576.00

16.36	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.complete all as directed.(sample of blind should be approved before installation)	3.00	m2	1,485.00	4,455.00
16.37	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.complete all as directed.(sample of blind should be approved before installation)	3.00	m2	1,423.00	4,269.00
16.38	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.complete all as directed.(sample of blind should be approved before installation)	3.00	m2	1,547.00	4,641.00
16.39	Providing and fixing reflective type sun control film of approved type of Garware make with cutting, fixing etc. complete as directed.	3.00	m2	1,060.00	3,180.00
16.40	Providing and fixing heavy duty capsule hinges for M.S gate including fixing with gate with necessary welding etc. completed as directed.	3.00	No	352.00	1,056.00
16.41	Providing and fixing medium duty capsule hinges for M.S gate including fixing with gate with necessary welding etc. completed as directed.	3.00	No	254.00	762.00
	Providing and fixing signboards with 3mm thick ACP sheet & radium sticker background including pasting, computerized designing & radium sticker cutting & pasting, fixing with approved fittings and fixtures etc. all complete as directed by Engineer in charge.	1.00	m2	4,924.00	4,924.00
16.43	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.	3.00	sq. inch	18.00	54.00
16.44	Removing existing wallpaper from wall carefully without damaging the wall plaster and Providing & Pasting new wall paper of make Splendor, Royal, STC (Imported) of approved design with required adhesive all complete as directed by Engineer- incharge.	1.00	m2	1,609.00	1,609.00
16.45	Providing, making and fixing fully opaque aluminium partition using 63mm x 37mm x 1.5mm aluminium partition section fitted with 6mm thick shera board on both side of Aluminum frame, including including cutting, fixing and fitting, making Aluminum frame etc. all complete as directed.	2.00	m2	3,075.00	6,150.00
16.46	Providing and fixing fire rated door having 2 hours of fire resistant of Tata Pravesh, Sukriti, Navair, Hormann 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 60mm 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 fastners (Hilti make) and including the following hardwares 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 make 2.Five years warranty for defects/damage of fixtures & fittings for each door will be submiited on Rs 500 non-judicial stamp paper.)	1.00	m2	12,378.00	12,378.00

16.47	Providing and fixing 15 to 20mm thick decorative boards of fibrous plaster of paris at the Mess dining and T.V. room ceiling as per existing pattern with center patta of 9"/4" size with both side moulding,fixing the same with screws mechanically in proper line and level,finishing with jointing,paper tape,one coat of primer and two coats of acrylic oil bound distemper and ceiling painting wherever required including removing the existing damaged sheets and disposing the same in low lying area inside IITB campus,scaffolding etc. All complete as directed.	2.00	Rmt	950.00	1,900.00
16.48	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.	1.00	Nos	3,164.00	3,164.00
16.49	Providing and fixing Aluminium fly proof mesh fixed in frame made of Aluminium section of 37mmx18mmx1.2mm including fixing it on existing wooden frame with all necessary fitting and fixtures with proper locking arrangement and scaffolding etc. all complete as directed.(Note: All aluminium sections should be 15 micron anodized/ powder coated).	1.00	m2	3,410.00	3,410.00
16.50	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, scaffolding etc complete. (all aluminium sections should be 15 micron anodized/ powder coated and shop drawing will be provided by contractor before execution of work.)	1.00	m2	10,711.00	10,711.00
16.51	P/F 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 microwave EPDM rubber gaskets,pump filled structural silicon sealant & hardware, making window watertight, scaffolding etc. completed as directed. (all aluminium sections should be 15 micron anodized/ powder coated and shop drawing will be provided by contractor before execution of work.)	1.00	m2	9,098.00	9,098.00
16.52	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, scaffolding till any height etc complete. (all aluminium sections should be 15 micron anodized/ powder coated and shop drawing will be provided by contractor before execution of work.)	1.00	m2	13,205.00	13,205.00
16.53	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.(Jindal Make)	2.00	m2	4,833.00	9,666.00

16.54	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 number and magnet or tower bolt two numbers etc. complete as directed. (Note: All aluminium sections and fitting are 15 micron anodized and of Jindal make)	2.00	m2	3,777.00	7,554.00
16.55	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 desire shead 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. complete as directed. (Note: All aluminium sections and fitting are 15 micron anodized and of Jindal make)	5.00	m2	5,585.00	27,925.00
16.56	P/F 25mm dia aluminum powder coted heavy duty (58.33gram/ft) approved draftery curtain rod with decorative side holders including required fittings and screws (length upto 1.5m) all complete	5.00	Rmt	357.00	1,785.00
16.57	P/F 25mm dia aluminum powder coted heavy duty (58.33gram/ft)approved draftery curtain rod with decorative side holders and middle brackets including required fittings and screws(length beyond 1.5m) all complete	5.00	Rmt	352.00	1,760.00
16.58	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 all complete	5.00	Rmt	846.00	4,230.00
16.59	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 complete as directed(weight of the trolly should not be less than 55kg/sqm of elevational area)	2.00	Rmt	23,752.00	47,504.00
16.60	Providing and fixing in position aluminium 2 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, Meeti make heavy quality bearing including all necessary fittings required for double glass window , providing silicon sealent if required all complete as directed.(all aluminium section will be Jindhal make)	1.00	m2	12,783.00	12,783.00

16.61	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. (Note: The old dismantled materials should be deposited in Estate store and take certificate of it)	3.00	No.	251.00	753.00
16.62	Providing and fixing Mortise Lock with handles of Shalimar or equivalent make, 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. (Note: The old dismantled materials should be deposited in Estate store and take certificate of it)	2.00	No.	3,148.00	6,296.00
16.63	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. (Note: The old dismantled materials should be deposited in Estate store and take certificate of it)	2.00	No.	773.00	1,546.00
16.64	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. (Note: The old dismantled materials should be deposited in Estate store and take certificate of it)	4.00	No.	130.00	520.00
16.65	Providing and fixing Main door side stainless steel safety chain lock 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. (Note: The old dismantled materials should be deposited in Estate store and take certificate of it)	5.00	No.	348.00	1,740.00
16.66	Replacing by providing and fixing 5mm thick plain /bajari sheet glass of doors and windows etc. Including putty. Make Modi Guard/Saint-Gobain/Pilkington/Asahi Float etc. complete.	5.00	m2	1,358.00	6,790.00
16.67	Providing/fixing toughened laminated thermal insulated glass 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.	5.00	m2	9,934.00	49,670.00
16.68	Providing and fixing SS 304 heavy duty hinges of 3.5" x 4.5" for glass partition wall in bathroom of Enox or any other IITB approved brand including safely removing and refixing by making it in proper alignment and operation. (Note: The old dismantled hinges should be deposited in Estate store and take certificate of it)	5.00	Job	4,557.00	22,785.00
16.69	Carefully removing ACP sheet paneling with aluminium frame work and refixing the same at its original location by correcting slope without damaging it with all necessary fittings, fixtures, screws, gaskets, pump filled structural silicon sealant & hardware, making joints watertight with use of double scaffolding up to any height etc. completed as directed Engineer In-charge..	5.00	m2	551.00	2,755.00
16.70	Providing & fixing in position Aluminum partition made using 2.5" x 1.5" Aluminum pipe section at 600mm c/c as frame (without anodizing) with 12mm thick marine plywood of IITB approved make using screws, nails in proper line and level, 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. complete as directed.	5.00	m2	7,031.00	35,155.00

16.71	Providing and fixing in position two track aluminium sliding shutters for Notice Board using rectangular box section of size 125mm x 38mm x 1.5mm (1.268 kg/m) for outer frame, sections of size 61mm x 31mm x 1.3mm (0.628 kg/m) thick for bottom, sections of size 61mm x 31mm x 1.3mm (0.52 kg/m) thick for sides and top. The shutter should be of bearing bottom of size 40mm x 18mm x 1.25mm (0.493kg/m) thick, top member of size 40mm x 18mm x 1.20mm (0.410 kg/m) thick, interlocking section size of 43mm x 27mm x 1.3mm (0.469 kg/m) thick and handle section of size 40mm x 18mm x 1.3mm (0.410 kg/m) thick including providing and fixing 5mm thk clear glass in the shutter with PVC lining & rubber, approved quality minimum two nos. PVC rollers for each shutter, necessary locking arrangement with keys, handles, PVC lining and other required fittings, including providing & fixing Soft board covered with green cloth complete as directed by Engineer in charge. Note : All aluminium sections and fittings are 15 micron anodized/powder coated).	5.00	m2	7,462.00	37,310.00
16.72	Providing and Fixing 12mm thick Acoustic Sheet for sound proof of approved brand like armstrong 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. -	5.00	m2	4,020.00	20,100.00
16.73	Providing and fixing 25 mm thick neoprene rubber sheet having density not less than 1.35g/cubic cm, and weight not less than 32.5 kg per sqm in desired location pasting or placing it with directed procedure using necessary material etc all complete including transportation, etc all complete. (material is to be approved before placing by Engineer In charge)	5.00	m2	4,477.00	22,385.00
16.74	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 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 5mm thk. glass in the shutter using rubber gasket 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).	5.00	m2	6,207.00	31,035.00
16.75	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 fittings etc. complete as directed by Engineer in charge.(Note: All aluminium sections and fitting are 15 micron anodized/ powder coated).	5.00	m2	5,758.00	28,790.00

16.76	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).	5.00	m2	4,940.00	24,700.00
16.77	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 selent, glazing clips, screws and other required fittings etc. completed as directed. (all alu. fittings should 15 micron anodized or powder coated.)	5.00	m2	7,199.00	35,995.00
16.78	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 of CNR brand having capacity not less than 150kg for each leaf with dorma make 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. complete all as directed Engineer-in Charge.	5.00	m2	8,229.00	41,145.00
16.79	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. complete as directed.	5.00	m2	4,028.00	20,140.00
16.80	P/F in position aluminium two track sliding windows in heavy anodized section 15 micron powder coated 30mm series including fixing of tracks, making holes for drainage water fixing 5mm thick clear double glass including adding silicate gel crystals or equivalent material in between two glasses, glazing clips, silicon sealant, rubber gasket, locks with handles and other require fittings, pressure patti,etc. all completed as directed. (all alu. fittings and sections should be 15 micron anodized or powder coated.)	5.00	m2	8,431.00	42,155.00
16.81	P/F in position aluminium three track sliding windows in heavy anodized section 15 micron powder coated 30mm series including fixing of tracks, making holes for drainage water fixing 5mm thick clear double glass including adding silicate gel crystals or equivalent material in between two glasses, glazing clips, silicon sealant, rubber gasket, locks with handles and other require fittings, pressure patti, etc. all completed as directed. (all alu. fittings and sections should be 15 micron anodized or powder coated.)	5.00	m2	8,513.00	42,565.00
16.82	Providing and fixing perforated aluminium 15 micron anodized sheet having 16 gauge thickness of approved pattern and fixing over existing frame using powder coated nut and bolt of required size and approved make, making panels of required size as per direction, panels should be removable type as and when required, including scaffolding, cutting in required size etc. completed as directed.	5.00	m2	1,064.00	5,320.00

16.83	Supplying, fabricating and fixing in position aluminum anodized openable door 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, providing and fixing 80mm wide and 16 gauge aluminium louvered over 80mm x 16 gauge aluminium plate using 3 nos stainless steel hinges 4" long for each shutter, handles 2 nos. for each shutter, lock, stainless steel tower bolt 8" long 1 no for each shutter, providing and fixing box section of size 63x37mm (not less than 1.054 kg/mtr) for outer frame vertically and horizontally, P/F 'U' channel for border etc. all complete as directed. (All aluminium sections should be 15 micron anodized/ powder coated)	4.00	m2	8,202.00	32,808.00
17	Waterproofing				
17.01	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	5.00	m2	527.00	2,635.00
17.02	Providing & laying brickbat coba on terrace, chajjas & in w.c. and bath in all positions in cement mortar 1:5 with waterproofing compound at the rate of 2% by weight of cement and covering 10 years' guarantee including all leads, lifts including furnishing a guarantee on requisite judicial stamp paper etc. complete.	5.00	m3	6,154.00	30,770.00
17.03	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 including levelling, curing etc.	5.00	m2	421.00	2,105.00
17.04	Providing and applying exterior coating for wall including Cleaning the surface, removing the laitance, greese, old paints, contaminants, curing compound with wire brushing with water pressure wash. 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. Apply one coat of Dr. Fixit Primeseal with water in proportion of 2:1 and stir well until a uniform consistency is achieved. Apply a single coat of diluted Primeseal on the cleaned substrate. Allow it to dry for 2 to 3 hours. Apply 1 coat of undiluted Dr. Fixit Raincoat Waterproof Coating (Base Coat) over the primed surface. Allow the Dr. Fixit Raincoat Waterproof Coating to dry for 4 - 6 Hrs. Apply using brush / roller / airless spray. Apply 1 coat of undiluted High Build durable exterior waterproof wall coating Dr. Fixit Raincoat Select Top coat over the Dr. Fixit Raincoat Waterproof Coating at applied areas. Apply using brush / roller / airless spray to achieve DFT of 170 - 180 microns. Allow the Dr. Fixit Raincoat Select Top coat to dry for 6 - 8 Hrs. Allow the coated surface to air cure fully for 7 days. Work includes scaffolding and covering the floor, window glass with plastic sheet and as directed by this office. Work shall be got executed through certified applicator of the product manufacturing company only and work shall be guaranteed for 07 years by the contractor on requisite stamp paper including submitting written guarantee from said certified applicator.	5.00	m2	341.00	1,705.00

17.05	<p>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 guaranteed for 07 years by the contractor on requisite stamp paper including submitting written guarantee from said certified applicator.</p>	5.00	m2	470.00	2,350.00
17.06	<p>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 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 laying glass fibre cloth of approved quality in top layer including all lead, 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 ten years' guarantee, on requisite stamp paper etc. complete.</p>	5.00	m2	1,528.12	7,640.59
17.07	<p>Providing and laying water proofing cement concrete flooring to terrace to average 50mm thickness 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 at the rate of 1Kg per cement bag, laying in required position flooring of broken china mosaic (broken piece of glazed tiled) of approved colour & pattern over a bed of cement mortar 1:4 adding waterproofing compound as per manufacturer's specification, finishing with neat cement float, giving proper slopes, compaction, curing, finishing preparing bell mouth including all lead and lifts etc. testing the roof by ponding with water for 14 days, providing waterproofing guarantee for 7 (seven) years in requisite non judicial stamp paper in favour of IITB etc. Complete. Note: In case of leakage during monsoon, contractor has to rectify leakage within 24hrs of intimation given by Estate Office, else Estate Office shall cover the surface with tarpaulin sheet at contractor's risk and cost.</p>	5.00	m2	1,021.00	5,105.00
17.08	<p>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. with use of scaffolding and covering the whole treatment with ten years guarantee on requisite five hundred rupees stamp paper. Work Shall be got executed through certified applicator of the product manufacturing company only including submitting written guarantee from said certified applicator. etc. complete as directed. Note: In case of leakage during monsoon, contractor has to rectify leakage within 24 hrs of intimation given by Estate Office, else Estate Office shall cover the surface with tarpaulin sheet at contractor's risk and cost.</p>	5.00	m2	830.00	4,150.00

17.09	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 etc. with use of scaffolding and covering the whole treatment with ten years guarantee, on requisite five hundred rupees stamp paper Work Shall be got executed through certified applicator of the product manufacturing company only including submitting written guarantee from said certified applicator. Etc. complete as directed. Note: In case of leakage during monsoon, contractor has to rectify leakage within 24 hrs of intimation given by Estate Office, else Estate Office shall cover the surface with tarpaulin sheet at contractor's risk and cost.	5.00	m2	730.00	3,650.00
17.10	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 scaffolding and covering the whole treatment with ten years guarantee on requisite five hundred rupees stamp paper. Work Shall be got executed through certified applicator of the product manufacturing company only including submitting written guarantee from said certified applicator. etc. complete as directed. Note: In case of leakage during monsoon, contractor has to rectify leakage within 24 hrs of intimation given by Estate Office, else Estate Office shall cover the surface with tarpaulin sheet at contractor's risk and cost.	5.00	Rmt	2,249.00	11,245.00
17.11	Providing and laying in situ marble mosaic of 10mm thickness with white and coloured marble chips upto maximum size of 6mm in coloured cement in suitable panels including glass strips including providing under layer of IPS 50mm thickness 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 compound at the rate of 1Kg per cement bag, finishing with neat cement float, giving proper slopes, compaction, curing, finishing preparing bell mouth including all lead and lift etc. testing the roof by ponding with water for 14 days, providing waterproofing guarantee for 10 (Ten) years in requisite judicial stamp paper in favour of IITB etc. Complete. Note: In case of leakage during monsoon, contractor has to rectify leakage within 24hrs of intimation given by Estate Office, else Estate Office shall cover the surface with tarpaulin sheet at contractor's risk and cost.	5.00	m2	906.00	4,530.00
17.12	Removing the existing waterproofing sheet bitumen/ dongri cloth/ tarfelt layer coating etc, of any thickness of terrace water proofing without damages to structure,brick bat layer, using electrically operated cutting tools, (pulverising/boshing tool breaking machine to avoid crack and vibration to structure) grinder, leveling and cleaning the surface for providing new waterproofing treatment etc. all complete, and collecting the removed membrane in guny bags and lowering down carefully with tied rope without causing dust nuisance as directed. (throwing down the APP/Tarfelt sheet from terrace will not be allowed)	5.00	m2	211.00	1,055.00
17.13	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 ASTM, D - 5147. The laying of membrane shall be got done through the authorised applicator of the manufacturer of membrane :	4.00	m2	565.41	2,261.65

17.14	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 conforming to IS:2645 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 (1 cement: 3 coarsesand) mixed with water proofing compound in recommended proportions. As directed by Engineer Incharge.	3.00	m2	1,367.57	4,102.72
17.15	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 conforming to IS:2645 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 complete at all levels and as directed by Engineer in charge.	3.00	m2	1,786.34	5,359.02
17.16	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 etc.complete all as directed.	4.00	m2	468.00	1,872.00
17.17	Providing and applying one coat of Walgard Prime followed by 2 coats of Wagard WB PU coating as per manufactures specification.(Apurva India Pvt.Ltd Make) etc complete all as directed.	4.00	m2	433.00	1,732.00
17.18	Dismantling PCC, IPS layer above brick bat coba from terrace floor/chajjas of building carefully without damaging the existing brickbat, levelling the surface, cleaning the site, lowering down the debris and stacking the debris upto 50mtr from building at designated spot etc. complete.	3.00	m3	2,013.91	6,041.73
17.19	Providing and laying water proofing 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 including compaction, filling joints, adding recommended waterproofing admixtures @ 2% by weight of cement, marking lines 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 roof by ponding with water for 14 days, providing waterproofing guarantee for 7 (seven) years in requisite non judicial stamp paper in favour of IITB including all lead and lift etc. complete.	3.00	m2	647.00	1,941.00
18	Hiring Charges				
18.01	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.	5.00	Per Hr.	3,586.00	17,930.00

18.02	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.	5.00	Per Hr.	1,401.00	7,005.00
19	Special Items				
19.01	Providing and erecting 2.00 meter high temporary barricading at site as per drawing/ direction of Engineer-in-Charge which includes writing and painting, arrangement for traffic diversion for day and night, reflective signs, marking, flags, caution tape as directed by the Engineer-in-Charge. The barricading provided shall be retained in position at site continuously including 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 Engineer In-Charge.etc all complete as directed by Engineer In 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).	5.00	Rmt	2,836.99	14,184.96
19.02	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.	5.00	rmt	399.00	1,995.00
19.03	Removing the electrical cable, points, conduits carefully without damage and refixing the same with all necessary fittings etc. all complete as directed by Engineer Incharge.	5.00	Points	130.00	650.00
19.04	Providing & fixing 25mm thick teak wood wooden flooring including cleaning, proper alignment etc all complete as directed by Engineer In-charge.	2.00	m2	4,479.00	8,958.00
19.05	Filling in roads with approved moorum brough from outside sources and filling in layers not exceeding 150mm thick including breaking clods, watering, rolling each layer with power roller of minimum 8 tonnes capacity to attain at least 90% of proctor density, dressing the sides and top to the required profile and grade etc. complete including testing of proctor density and submitting reports etc. complete as directed.	5.00	m3	1,781.00	8,905.00
19.06	Providing making and erecting in position full height partition made using Gyp Board partition both side (Stud type) wall with glass wool insulation with standard GI section for frame work as per manufacturers specification ,with necessary fittings and fixtures,sealing the joints with sealing tapes, 6mm ply on both sides for receiving skirting and as directed as per drawing	5.00	m2	1,047.00	5,235.00
19.07	Providing and fixing in position 10mm thk back painted glass board approved colour and make including necessary edge polish and studs for fixing . Do as directed and drawings	5.00	m2	1,607.00	8,035.00
19.08	Laying old cement concrete interlocking paver blocks of any design/shape laid in required line, level, curvature, colour and pattern over and including 50 mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge. (Old CC paver blocks shall be supplied by the department free of cost).	5.00	m2	363.53	1,817.65

19.09	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 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.	5.00	Sqm	1,043.00	5,215.00
19.10	Providing and laying factory made chamfered edge Cement Concrete paver blocks in foot path, driveway & traffic parking etc. of any colour & 60mm thick of M-30 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.	5.00	Sqm	879.00	4,395.00
19.11	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 over and including 50mm thick compacted bed of fine sand in specified decorative designs with blocks of different colour and pattern including filing the joints with fine sand and cleaning completed as directed.	5.00	m2	1,195.00	5,975.00
19.12	Providing and laying Lacquer finish coloured paver blocks in specified pattern 60mm thick for floor and steps etc. with compressive strength not less than 45 N/sqmm over and including 50mm thick compacted bed of fine sand in specified decorative designs with blocks of different colour and pattern including filing the joints with fine sand and cleaning completed as directed.	5.00	m2	955.00	4,775.00
19.13	Arranging operation and control of water pumps and water supply system of Main Building, Pre-Engineering Building, Pump room located near market and New Computer Center including switching on and off of pumping units, as and when required, controlling water levels of under ground as well as over head water tanks to avoid overflows, providing uninterrupted water supply to all buildings etc. by arranging Two pump operators in a Shift as directed by Engineer In-charge for controls and operations at ground level in and around pump house and checking the overhead tank levels and controlling of all buildings including necessary tools etc complete. The engagement and activities of 1 operator for period of 8 hours will be considered as one job for measurement of the item of work.	5.00	Manday	1,271.00	6,355.00
19.14	Fixing temporary partition during execution of work at site made up of G.I sheets and G.I frame work supplied by Institute including transporting material from Estate store, removing the partition after completion of work and stacking the material at Estate store etc. completed as directed.	5.00	m2	311.00	1,555.00

19.15	<p>Providing and applying Epoxy flooring of total not less than 2mm ESD where surface prepared by mechanical means and should be free from dust prior to application of primer (max. 5% moisture content). Applying one coat of epoxy primer which is thoroughly premixed prior to mixing together contents should be 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 of Dr Cipy or equivalent make. Applying epoxy material underlay screed 1mm coat i.e. base coat after drying of the Primer (usually after 6 - 8 hrs. from application of primer) , applying anti-static conductive black primer ; applying self-adhesive copper strip on to the clean primed substrate at a distance of 1 to 4 meter to each other, lengthwise and breadth wise at the periphery, near to the walls, stick the self-adhesive copper strip at a distance of 6 inches from the walls. at any one end in the room, copper strip should be extended out for connection of earthing.P/A cove finish for skirting wherever required. Applying 1mm-2mm avg top coat in glossy /Matt finish just after the drying of base coat (within at least 12 hrs) of Dr.Cipy or equivalent make in approved design , finish , colour and all proportions as per manufacturers specification with required adhesive(within at least 12 hrs) all complete as directed by Engineer- incharge.</p>	5.00	m2	3,102.00	15,510.00
19.16	<p>Providing and applying Epoxy flooring of total not less than 2mm where surface prepared by mechanical means and should be free from dust prior to application of primer (max. 5% moisture content). Applying one coat of epoxy primer which is thoroughly premixed prior to mixing together contents should be 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 of Dr Cipy or equivalent make. Applying epoxy material underlay screed 1mm coat i.e. base coat after drying of the Primer (usually after 6 - 8 hrs. from application of primer) of Dr.Cipy or equivalent make ;Spreading talc powder before P/A cove finish for skirting wherever required, Applying 1mm-2mm avg top coat in glossy /Matt finish just after the drying of base coat (within at least 12 hrs) of Dr.Cipy or equivalent make in approved design , finish , colour and all proportions as per manufacturers specification with required adhesive all complete as directed by Engineer- incharge.</p>	5.00	m2	2,633.00	13,165.00
19.17	<p>Providing and fixing TURBO VENTILATOR FAN not less than 610mm of FAISAL SHINE Turbo Ventilator Fan 24" inner 30" Outer Dia Hindalco Make Blade 0.47 mm Thickness, Width-85 mm, Length-485 mm, FAISAL SHINE Turbo Ventilator Top & Ring SS 304, Width-Two Ring & Two Small Bearing, FAISAL SHINE Turbo Ventilator Fan Top & Bottom Plate SS (304), Main Saliya 16 mm Thickness, Length-485, Installation Soiled Ribbit-147 Nos Per Nos, FAISAL LITE Polycarbonate Base Plate 2 mm Thickness. (Width-1080, Length-1665 mm)</p>	1.00	nos	9,030.00	9,030.00
19.18	<p>Providing and erecting at site bamboo double scaffolding wherever required to all height as directed by engineer incharge before commencement of work and removing the same after completion of all external work requiring scaffolding.</p>	10.00	m2	77.00	770.00
19.19	<p>Providing and erecting single bamboo scaffolding wherever required to all height as directed by engineer incharge before commencement of work and removing the same after completion of all external work requiring scaffolding.</p>	10.00	m2	40.00	400.00
19.20	<p>Providing and erecting 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 while erection, Execution of works and dismantling etc. All complete as directed by Engineer in charge.</p>	1.00	month	120,750.00	120,750.00

19.21	Detailed survey shall be undertaken using DGPS/Total Station. The contour points will be marked at an adequate number of location at site. All existing above ground features such as buildings, structures, permanent / temporary features, roads, adjoining roads (inclusive width), divider, footpaths, trees (girth inclusive), manhole, light poles, wells, bore wells, and any other existing features within the survey limit will be captured in the survey and final printout (one set) showing all the list of symbols & abbreviations will be submitted in suitable scale along with one soft copy .	50.00	m2	4.00	200.00
19.22	Spot levels shall be taken as per topography of the land w.r.t. to Temporary bench mark. Contours shall be interpolated at 0.50 m. Preparing AutoCAD format drawing and final printout (one set) showing all the list of symbols & abbreviations will be submitted in suitable scale along with one soft copy and X,Y,Z description survey data file in XLS format.	50.00	m2	1.00	50.00
19.23	Arranging welding maintenance works for old or new existing MS structure or gate or any other MS framework including necessary MS part or material not more than 2Kgs in weight, welding finishing, painting for welded part etc.	2.00	Job	1,353.00	2,706.00
19.24	Providing and fixing 900mm x 450mm rectangular medium duty Composite FRP manhole covers with frame for inspection chamber / manhole / gulley trap/ over storm water drain and other required places manufactured by M/s.KK or equivalent etc. all complete as directed.	2.00	Each	5,535.00	11,070.00
19.25	Providing and fixing 900mm x 450mm rectangular Heavy duty Composite FRP manhole covers with frame for inspection chamber / manhole / gulley trap/ over storm water drain and other required places manufactured by M/s.KK or equivalent etc. all complete as directed.	2.00	Each	8,007.00	16,014.00
19.26	Providing and fixing 900mm x 600mm rectangular medium duty Composite FRP manhole covers with frame for inspection chamber / manhole / gulley trap and other required places manufactured by M/s.KK or equivalent etc. all complete as directed.	2.00	Each	6,282.00	12,564.00
19.27	Providing and fixing 900mm x 600mm rectangular Heavy duty Composite FRP manhole covers with frame for inspection chamber / manhole / gulley trap/ over storm water drain and other required places manufactured by M/s.KK or equivalent etc. all complete as directed.	2.00	Each	9,732.00	19,464.00
19.28	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 M/s.KK or equivalent etc. all complete as directed.	2.00	Each	9,962.00	19,924.00
19.29	Providing and fixing 900mm x 900mm rectangular Heavy duty Composite FRP manhole covers with frame for inspection chamber / manhole / gulley trap/ over storm water drain and other required places manufactured by M/s.KK or equivalent etc. all complete as directed.	2.00	Each	15,482.00	30,964.00
19.30	Providing and fixing 900mm x 900mm rectangular Medium duty Composite FRP manhole covers with frame for inspection chamber / manhole / gulley trap/ over storm water drain and other required places manufactured by M/s.KK or equivalent etc. all complete as directed.	2.00	Each	11,227.00	22,454.00
19.31	Providing and fixing 600mm x 600mm rectangular medium duty Composite FRP manhole covers with frame for inspection chamber / manhole / gulley trap and other required places manufactured by M/s.KK or equivalent etc. all complete as directed.	2.00	Each	9,962.00	19,924.00
19.32	Providing and fixing 600mm x 600mm rectangular Heavy duty Composite FRP manhole covers with frame for inspection chamber / manhole / gulley trap and other required places manufactured by M/s.KK or equivalent etc. all complete as directed.	2.00	Each	6,512.00	13,024.00

19.33	Providing and fixing 2nd class teak wood lipping/ moulded beading or taj beading of size 50mm width and 5 mm thick fixed with wooden adhesive of approved quality and screws/ nails on the edges of the podium board as per direction of Engineer-in-charge.	5.00	Rmt	150.00	750.00
19.34	Providing and fixing 2nd class teak wood lipping/ moulded beading or taj beading of size 25mm width and 5 mm thick fixed with wooden adhesive of approved quality and screws/ nails on the edges of the podium board as per direction of Engineer-in-charge.	5.00	Rmt	121.00	605.00
				Gross Amount Rs.	4,194,109.99
				Say Rs.	4,194,110.00
				At Par	
				(In words.....%).....% Above	
				(In words.....%).....% Below	
				Amount Rs.	
				CGST 9%	
				SGST 9%	
				Net Amount Rs.	
				Say Rs.	

Note : Time required for attending each and every complaint or executing the job will be finalised by the Engineer Incharge or his representative at the time of giving the job or handing over the complaint compensation @ Rs. 250 per day, per complaint, per job will be charged against delay in completion of job, if the delay is from contractor's side. Quantity may vary from zero to infinity.

(Rupees.....
.....)

(Rates for all items & net amount of total to be filled with figure and words. If it is not done, it will be assumed as incomplete tender & tender opening committee will reject your offer at the time of opening of tenders/quotations).

If you will engage labourer 20 or more any day, you have to get labour licence as per contract Regulation & Abolition Act 1970 Rule 1971, and also, you have to keep all such recored for inspection to the Principal Employer. If you will engage labour up to 10 Nos. per day, you have to file returns after completion of work as per Building & Construction Act to the Office of Regional Labour Commissioner (Central), Sion, Mumbai. If you will engage labourer 20 or more any day, you have to get labour licence as per contract Regulation & Abolition Act 1970 Rule 1971, and also, you have to keep all such recored for inspection to the Principal Employer. If you will engage labour up to 10 Nos. per day, you have to file returns after completion of work as per Building & Construction Act to the Office of Regional Labour Commissioner (Central), Sion, Mumbai.

2) This schedule of work is legal documents of Estate Office, IIT Bombay and directed to enlisted contractors to get the copy of schedule of work to fill the rates and can submit his offer. No changes in schedule of work is allowed i.e. item description, units, quantity, rates, etc. If noticed his offer will be rejected and the contractor will be blacklisted or any other strict action will be initiated against him.

3) This work is to be executed as per the the clauses mentioned in the tender document signed by you.

4) Tender will be rejected if white ink applied for correction in the schedule of work.

5) Taxes as per government notification time to time.

6) Contractor must pay GST Taxes to concern authority within 30 days time limit after receipt of payment from IIT Bombay & said record must be submitted to IIT Bombay Accounts Section, otherwise action will be taken as deemed fit.

7) If any malpractices / fraud / negligent professional behaviour or any discrepancy / inconsistency / disparity / deviation / disagreement / dissimilarity / mismatch noticed, their contract will be terminated by issuing one month notice by following legal procedure and will be blacklisted and informed to all Government Authorities and Organisations.

-Sd-
Superintending Engineer (I/C)

Signature of the Contractor
Name & Address in full