

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

EO/A/UMBRELLA/CENTRAL, LAKESIDE & HILLSIDE/WKS-220/25-26

ESTATE OFFICE

Name of work :- Term Contract for maintenance and repair works at Central, Lakeside, Hillside area, Hospital, Gulmohar & all Guest houses in IITB Campus.

Sr. No.	Description of work	Qty.	Rate	Unit	Amount
<b>1) Repair work</b>					
1.01	Carefully removing internal or external plaster in patches or any length and at any height without damaging structure or brickwork in the vicinity including scaffolding/stepladder by using electric cutting tools including cutting a groove first to demarcate exact area of damage taken place and removing with chisel & hammer including stacking the debris with in 50 meter, cleaning the site etc. complete. including using stepladder / working platform for internal plaster wherever required covering the furniture, floor, windows and partitions with plastic sheets Note : a) No extra payment shall be made for extra thickness removed. b) The area in vertical plane area shall be measured. (Note : For external work scaffolding will be paid in respective item)	14000.00	51.74	Sqm	7,24,360.00
1.02	Removing the old cement concrete or any type of tiles from flooring manually at any floor including bedding levelling the surface, cleaning the site including sorting our serviceable tiles and lowering to ground level the debris and stacking it upto a distance of 50 meters from building (as directed by Engineer Incharge)	4000.00	69.49	Sqm	2,77,960.00
1.03	Removing the any type of tiles manually from wall/ dado without damaging brick wall or any adjacent structure surface including removing plaster, levelling the vertical surface, cleaning the site including downloading the debris & stacking the debris upto 50 meters from building (as directed by Engineer Incharge)	4000.00	70.00	sqm	2,80,000.00
1.04	Chipping of unsound/weak external or internal concrete of any thickness material from slabs, beams, columns etc. with manual Chisel including tapering of all edges, making square shoulders of cavities including cleaning the exposed concrete surface and reinforcement with wire brushes etc. and disposal of debris for all lead and lifts, including working platform / stepladder / Scaffolding all complete as per direction of Engineer-In-Charge (Note : For external work scaffolding will be paid in respective item)	4500.00	100.00	Sqm	4,50,000.00

1.05	Cleaning of reinforcement from rust from the reinforcing bars to give it a total rust free steel surface by using alkaline chemical rust remover of approved make with paint brush and removing loose particles after 24 hours of its application with wire brush and thoroughly washing with water and allowing it to dry, including working platform / stepladder / Scaffolding all complete as per direction of Engineer-In-Charge. Note- The actual consumption of chemical shall be measured for payment on liter basis . Challans of authorized dealer will be verified (Note : For external work scaffolding will be paid in respective item)	1000.00	864.00	per lit	8,64,000.00
1.06	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 of 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 stepladder/ working platform 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 (Note : For external work scaffolding wil be paid in respective item)	200.00	915.00	Kg	1,83,000.00
1.07	Providing and Placing in position Readymix Polymer mortar manufactured by M/s.Krishna Conchem, Dr.Fixit, Roff or M.C. Bouchmey, Chembond by adding water in the proportion of 1:0.14( Polymer mortar:water) at any floor over the prepared RCC surfaces in layers as directed (thickness of each layer shall not exceed 10 to 15mm ) including mixing the polymer mortar with water using forced action mixer including stepladder/ working platform wherever required mild curing will be done with water for 3 days etc complete.( payment will be paid for the actual quantity of polymer mortar PX used on weight basis.Challans of authorized dealer will be verified) (Note : For external work scaffolding wil be paid in respective item)	320000.00	47.00	Kg	1,50,40,000.00
1.08	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 stepladder/ working platform 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. (Note : For external work scaffolding wil be paid in respective item)	6000.00	351.00	Kg	21,06,000.00

1.09	Providing and Placing in position Readymix Plaster manufactured by M/s. A. V. Conchem, Ultra-Tech Cement, Ready Plast, up to 20mm thick in one coat and adding water in the proportion of 1:0.17( Ready Mix Plaster : water) at any floor over the prepared Brick wall, Solid ,Hollow & AAC block work and Concrete RCC surfaces, as directed mixing the Readymix Plaster with water using forced action mixer including step ladder wherever required, mild curing will be done with water for 3-5 days etc complete. ( Invoice of authorized dealer will be verified)	3000.00	692.00	Sqm	20,76,000.00
1.10	Dismantling R.C.C. work manually/ mechanically including breaking concrete by chiselling, wedging etc., cutting the reinforcement, lowering down debris, stacking the serviceable materials and stacking the debris upto a distance of 50 metres or spreading as directed.	9.00	3361.89	Cum	30,257.01
1.11	Pulling down burnt brickmasonry (in cement mortar) with plaster including sorting out serviceable bricks lowering down at Ground level and stacking the same and debris separately up to a distance of 50 metres beyond building etc. complete.	40.00	1950.35	Cum	78,014.00
1.12	Providing sand face plaster externally to concrete stone or brick surface at any height using approved screened sand including preparing the base, watering and applying base coat of 15 to 20mm thick in cement mortar 1:4 using water proofing compound at the rate of 1 kilogram per cement bag and curing the same for not less than two days and making the surface of base coat rough to receive the sand faced treatment 8 to 10mm thick in cement mortar 1:4 and finishing the surface by taking out grains and curing for 14 days etc. Complete.(Note : For external work scaffolding will be paid in respective item)	4000.00	623.00	Sqm	24,92,000.00
1.13	Providing second class burnt brick masonry with conventional / I.S. Type bricks in cement mortar 1:6 in superstructure at any floor and any height including striking joints, racking out joints, watering wherever required etc. complete .(Note : For external work scaffolding will be paid in respective item)	50.00	8620.40	Cum	4,31,020.00
1.14	Providing uncoursed rubble masonry of trap stones in cement mortar 1:6 in foundation and plinth of inner wall including bailing out water by pumping with suitable pumps, striking joints on unexposed faces and watering complete, including providing header stones @ 1 header per sqm. to the full thickness of wall, providing weep holes, with 100mm dia A. C. pipes if required in walls etc. Complete	150.00	6921.40	Cum	10,38,210.00

1.15	Providing uncoursed rubble masonry (using IITB stones) of trap stones in cement mortar 1:6 (Cement:sand/grit) including racking out joints, striking out joints, watering and pointing with cement mortar 1:3 on outside exposed faces, including providing header stones @ 1 header per sqm. to the full thickness of wall, breaking and making/cutting stone/boulders in required size, lead and lift from any where in the campus etc. complete.	150.00	5187.00	Cum	7,78,050.00
1.16	Pulling down stone masonry in cement mortar with plaster/pointing without dust nuisance including sorting out stone chips and debris separately and stacking upto a distance of 50 metres or spreading the debris etc. Complete.	90.00	245.00	Cum	22,050.00
1.17	Providing and fixing 18 mm thick gang saw cut, mirror polished granite , premoulded and prepolished, machine cut for kitchen platforms, vanity counters, doors and windows cladding , sills, shelf, facias and similar locations at any floor of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 fine sand) or in neat cement as required, 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.  a) area of slab upto 0.5 m2	700.00	5124.84	Sqm	35,87,388.00
1.18	Providing and fixing 18 mm thick gang saw cut, mirror polished granite , premoulded and prepolished, machine cut for kitchen platforms, vanity counters, doors and windows cladding , sills, shelf, facias and similar locations at any floor of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 fine sand) or in neat cement as required, 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.  b) area of slab over 0.5 m2	700.00	4862.42	Sqm	34,03,694.00
1.19	Providing and laying nonskid ceramic tiles at any floor of Johnson &Johnson /Nitco/ Kajaria/ Orient Bell/ Somani for flooring approved by IITB required size upto 300mm x 300mm quality, brand and shade as available in market on cement mortar 1:4 bedding using white cement pigments finished to levels slope or plumb as required including cutting of tiles. Curing, acid washing etc. all complete.	200.00	1038.08	sqm	2,07,616.00
1.20	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4 Coarse sand), Jointing with grey cement slurry @ 3.3 kg/sqm including pointing the joints with white cement and matching pigment etc., complete.	1000.00	1038.08	Sqm	10,38,080.00

1.21	Providing and fixing Ist quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	700.00	1200.34	Sqm	8,40,238.00
1.22	Providing and fixing Ist quality ceramic glazed wall tiles not less than 300 mm x 200 mm conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, including 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	2000.00	1200.34	sqm	24,00,680.00
1.23	Providing and laying in position ready-mixed or machine batched and machine mixed design mix M-25 (1:1:2) grade cement concrete (with minimum cement content 330Kg/Cum) 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.	40.00	9334.62	Cum	3,73,384.80
1.24	Providing and laying in position ready-mixed or machine batched and machine mixed design mix M-25 (1:1:2) grade cement concrete (with minimum cement content 330Kg/Cum) 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.	40.00	8997.94	Cum	3,59,917.60
1.25	Providing and laying in situ plain cement concrete <b>M-20</b> of trap metal for foundation and bedding including bailing out water manually, wherever required , formwork, compacting and curing.as directed.	60.00	7896.10	Cum	4,73,766.00

1.26	Disposing debris, loose stones, boulders, concrete pieces broken and dry leaves etc. collected and stacked as directed including loading in trucks, transporting out of IIT Campus including obtaining all approval of BMC competant authorities for disposing off on to their approved location. The debris are to be removed from site within 48 hours from stacking (30% voids will be deducted from actual stack measurement/ truck measurement for debris, loose stones, boulders etc.).	4000.00	783.00	Cum	31,32,000.00
1.27	Removing excavated earth or debris including loading in trucks and conveying to approved dumping point in IITB campus unloading spreading etc. complete. The debris are to be removed from site within 24 hours from stacking (30% voids will be deducted from actual stack measurement/ truck measurement for debris, loose stones, boulders etc.).	4000.00	247.41	Cum	9,89,640.00
1.28	Dismantling plain cement concrete work at any height & any floor including breaking concrete by chiselling, wedging etc., lowering down debris, stacking the serviceable materials and stacking the debris upto a distance of 50 metres from building or spreading as directed.	100.00	2304.45	Cum	2,30,445.00
1.29	Providing second class burnt brick masonry at any height & any floor with Conventional / I.S. Type bricks in cement mortar 1:4 in half brick thick wall including mild steel longitudinal reinforcement of 2 bars of 6 mm diameter/2 hoop iron strips 25 mm X 1.6 mm at every third course properly bent and bonded at ends, scaffolding , racking out joints and watering etc. Complete.	100.00	1063.88	Sqm	1,06,388.00
1.30	Providing and fixing Kadappa stone slab for kitchen platform/cladding/tank platform of 25 to 30 mm thick in cement mortar 1:4 including providing and fixing border patti on front edge, filling joints, curing, cleaning etc. Complete.	100.00	865.00	sqm	86,500.00
1.31	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20 mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete.	2350.00	1470.62	Sq.m	34,55,957.00
1.32	P/L vitrified tiles for flooring of size not less than 600x600mm (thickness to be specified by the manufacturer) of approved shade and pattern ,with required finish (mirror / Mat ) and decorative type of approved make as available in market <b>Fixing with cement based high polymer modified quick set tile adhesive</b> like fevimate(water based) conforming to IS: 15477, using 5kg adhesive per sqm of tile area, in average 5mm thickness. white cement pigments finished to levels slope or plumb as required including cutting of tiles. Curing, acid washing etc. all complete as directed. ( Floor tiles basic cost up to Rs. 70 per sft.)	800.00	1378.93	Sq.m	11,03,144.00

1.33	Providing and laying vitrified tiles for skirting / dado of approved shade and pattern with required finish and quality laid on a plaster surface with neat cement, filling joints, curing and clearing etc. complete as directed	400.00	1536.51	Sq.m	6,14,604.00
1.34	Excavation for foundation in earth, soil of all types, sand, gravel and soft mueum including removing the excavated materials upto a distance of 50 meters beyond the building area and lift upto 1.50 meters, stacking and spreading as directed including dewatering unless provided elsewhere, preparing the bed for the foundation and necessary back filling, ramming, watering complete excluding shoring and strutting.	200.00	168.04	Cum	33,608.00
1.35	Excavation for foundation in earth, soil of all types, sand, gravel and soft mueum including removing the excavated materials upto a distance of 50 meters beyond the building area and lift upto 3 meters, stacking and spreading as directed including manual dewatering unless provided elsewhere, preparing the bed for the foundation and necessary back filling, ramming, watering complete including shoring and strutting.	135.00	320.00	cum	43,200.00
1.36	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and for all lift, as directed by Engineer-in-charge.	100.00	168.03	cum	16,803.00
1.37	Providing dry trap/ rubble stone soling 150mm to 200 cm thick including hand packing and compacting etc complete.	90.00	1887.00	cum	1,69,830.00
1.38	Laying dry trap/ rubble stone soling of 230mm size thickness including hand packing and compacting using IITB stone including breaking and making/cutting stone/boulders in required size, lead and lift from any where in the campus etc. Complete.	90.00	855.00	Cum	76,950.00
1.39	Mirror polishing on marble work/stone work wher ever required to give high gloss finish complete.	450.00	479.68	Sq.m	2,15,856.00
1.40	Hand polishing to dado, skirting including cleaning, washing etc. complete as directed.	200.00	206.00	Sq.m	41,200.00
1.41	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, conducting water test all complete etc. as directed	3000.00	35.00	Nos	1,05,000.00

1.42	Grouting existing RCC / brickwork structure as per following operations including sealing leak paths with lead wool, removing nipple, plugging the hole with neat cement paste by ram packing, cleaning etc. complete. 1) Add Sunplex 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. (Note : For external work scaffolding will be paid in respective item)	250.00	34.00	Kg	8,500.00
1.43	Providing and sealing hairline / minor cracks in plaster by Paste formed out of polymer (S.B.R.) and cement in the proportion of (1:1 by volume) & adding extra cement for workable hand filling mix, cleaning and wetting the surface, curing and including cutting, demarcating grooves at any height with electrically operated cutter machine between sound and unsound plaster, cracks on external wall, separation cracks. (Note : For external work scaffolding will be paid in respective item)	10000.00	98.00	Rmt	9,80,000.00
1.44	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 double scaffolding etc. Complete.	2000.00	71.00	Rmt	1,42,000.00
1.45	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, 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). (Note : For external work scaffolding will be paid in respective item)	550.00	177.00	Rmt	97,350.00
1.46	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.	125.00	990.00	Kg	1,23,750.00

1.47	Providing and erecting steel tubular H Frame scaffolding with bracing to all height all around the building as directed by engineer in charge before commencement of work for multipurpose use including working platform wherever required, stiffened for all types of work and removing the same after completion of all external work requiring double scaffolding.(payments will be made once irrespective of duration / till completion of all external activity)	35000.00	146.00	Sqm	51,10,000.00
1.48	Providing and laying white/colour veined marble slabs 18mm thick in one piece stone for claddings,platform,treads and risers of steps and stair cases with rounded nosing and grooves for the treads laid on bed/ plaster of cement mortar 1:4 including cement float, filling joints with neat cement slurry, curing , polishing and cleaning complete.	100.00	2221.66	Sq.m	2,22,166.00
1.49	Providing temporary steel supports such as tubular steel props 50mm dia, as required for supporting system till the repaired work of the beam, column, slab, chajja, etc. work completed in all respects as directed and when required in any floor of any height inside and outside of the building and removing the supporting system as directed without damaging the structure etc. all complete as directed by Engineer In-charge.	600.00	92.00	Nos	55,200.00
1.50	Dismantling existing kitchen platform top and support carefully and lowering down the debris at ground level and stacking up to 50 meaters beyond the building area for tacking out the same all complete as directed. ( size approximately 3.5mt X 0.75 mt )	11.00	2104.00	Job	23,144.00
1.51	Providing & levelling the undulation/ sagging of floor with cement mortar 1:4 upto 30 thk to make proper base for floor tileing including levelling, curing, and cleaning etc. complete at any floor	5000.00	161.00	Sqm	8,05,000.00
1.52	Providing and laying super fluid micro concrete of approved manufacturer at any floor after reinforcement treatment coat including providing marine plywood formwork in line and level, sealing the joints/ gaps with POP & cleaning ,curing etc. complete. The compressive strength of super fluid micro concrete should not be less than 20N/mm2. (reinforcement treatment coat shall be paid under respective items). (Consumption of weight of super fluid micro concrete powder shall be measured for payment ; Tax Invoice of authorized dealer will be verified) including stepladder etc. Complete. (Note : For external work scaffolding will be paid in respective item)	70000.00	69.00	kg	48,30,000.00

1.53	Providing and laying super fluid micro concrete of approved manufacturer (Dr. Fixit, Ultratech, Chembond etc.) at any floor after reinforcement treatment coat including mixing with 10mm to 5mm size quartz aggregate in ratio of 1 part to 0.75 part of quartz aggregate by weight providing marine plywood formwork in line and level, sealing the joints/ gaps with POP & cleaning, curing etc. complete. The compressive strength of super fluid micro concrete should not be less than 20N/mm <sup>2</sup> . (reinforcement treatment coat shall be paid under respective items). (Consumption of weight of super fluid micro concrete powder shall be measured for payment ; Tax Invoice of authorized dealer will be verified) etc. Complete. (Note : For external work scaffolding will be paid in respective item)	10000.00	88.00	kg	8,80,000.00
1.54	Providing internal cement plaster 12mm thick in a single coat in Cement mortar 1:4 without neeru finish to concrete or brick surface in all positions at any floor and at any height including stepladder/platform and curing complete.	200.00	328.54	Sq.m	65,708.00
1.55	Providing internal cement plaster 20mm thick in Single coat in cement mortar 1:4 without neeru finish to concrete or brick surface in all positions at any floor and at any height including stepladder/platform curing complete.	4000.00	446.22	Sqm	17,84,880.00
1.56	Providing and fixing in position for steel bar having grade Fe-500 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.	4000.00	102.10	Kg	4,08,400.00
1.57	Providing and fixing hand rail of using 'C' class G.I pipe approved size by welding etc. ladder, fencing pole, gate, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer and two cost of synthetic enamel paint.	2000.00	192.22	kg	3,84,440.00
1.58	Providing and fixing hand rail of using M.S. tubes approved size by welding etc. ladder, fencing pole, gate, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer and two cost of synthetic enamel paint.	2000.00	186.31	kg	3,72,620.00
1.59	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-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	1100.00	731.21	kg	8,04,331.00

1.60	Providing erecting and dismantling (after completion of all related work) double bamboo scaffold with verticals @ 1.2 to 1.8m inner as well outer faces and horizontal and braces. The scaffolding should have struted diagonally to prevent from buckling under the weight of men and materials, at comfort levels for the men to work which is 6" to 9" away from the wall ( Mode of measurement for scaffolding will be elevational area ) Note : Prior approval is required for execution of this item before commencement of work from authority.	300.00	79.00	Sqm	23,700.00
1.61	Providing erecting and dismantling (after completion of work) single bamboo scaffold with verticals @ 1.2 to 1.8m from outer face of bldg as directed by Engineer In Charge( for payment the scaffold height will be measured elevational area. Note : Prior approval is required for execution of this item before commencement of work from authority.	300.00	41.00	Sqm	12,300.00
1.62	Pointing on stone work with cement mortar 1:3 with raised & cut pointing as directed including working platform / stepladder all complete.	300.00	663.67	Sqm	1,99,101.00
1.63	<p>Providing &amp; Applying external waterproof plaster using factory made ready mix polymer cement mortar plaster.</p> <p>1) Providing and rendering the prepared surfaces with new sand faced cement plaster of minimum 20mm thick in two coats by using factory made ready mix polymer modified cement plaster waterproofing plaster of approved make ( M/s Wall plast, M/s. Fare Matt) or equivalent.</p> <p>2) The base coat of minimum 12mm thick using above ready mixed polymer modified mortar plaster to proper plumb level &amp; line including making the plaster surface rough ( all as per the manufacturer's specification ) to receive the top finish coat</p> <p>3)Applying top/finish coat plaster of minimum 8mm thickness with similar ready mix polymer cement mortar plaster finishing in perfect plumb. Line &amp; level so as to obtain fine sand grain finish by using branded approved variety sponge or using machnised devise including adding additional required quantity of cement for managing richer mix preferable ordinary portland cement 43 grade variety of approved brand at no extra cost. Doing regular curing for minimum 7 days.</p>	300.00	669.00	Sqm	2,00,700.00
1.64	Providing and laying vitrified floor tiles of size not less than 800 mm X 800 mm size (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20 mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete.	200.00	1784.96	Sqm	3,56,992.00

1.65	Providing and laying vitrified floor tiles of size not less than 1000 mm X 1000 mm size (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20 mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete.	200.00	1978.23	sqm	3,95,646.00
1.66	Providing and erecting arrester/safety net in double layer meshhaving 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 (6th floor level) to prevent the debris from falling on ground during progress of work and keeping the same during the entire period.Removing after completed of work as directed by engineer incharge	2500.00	78.00	Sq.m	1,95,000.00
1.67	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 IITB approved make of specified type) The safety net to be fixed as per the size required at site. The cost includes all supplying & fixing the materials with labourers , fixing hooks, scaffolding & ropes required for tying / fixing etc all complete as directed by Engineer-In-charge.	300.00	361.00	m2	1,08,300.00
1.68	Providing and laying autoclaved aerated cement blocks (siporex block) approved brand masonry with 100 mm thick AAC blocks in super structure above plinth level up to floor V level in cement mortar 1:4 (1 cement : 4 coarse sand ). The rate includes providing and placing in position 2 Nos 6 mm dia M.S. bars at every third course of masonry work.including cleaning site etc. Complete.	20.00	9651.81	cum	1,93,036.20
1.69	Providing and fixing FRP grills of approved brand, design and required size, manufactured by Ravalsan FRP Industries or equivalent brand for multi storied building upto 14 <sup>th</sup> story height, work includes removing the existing damaged grills lowering down and stacking aside at ground floor, fixing the new grills in position (duct area) with all tools & required fixtures, bonding adhesive etc. (Scaffolding will be paid in respective item if required)	1250.00	2238.00	Sqm	27,97,500.00
1.70	Providing and fixing Jute kantan (Tarat) screen to the scaffolding of external wall at any floor any height removing the same after the work is over etc. complete	2500.00	13.00	Sqm	32,500.00
1.71	Providing and applying acrylic synthetic plaster of IITB approved make manufacturer over existing cement plaster including removing existing paint/synthetic plaster to receive the acrylic synthetic plaster as per manufacturer specification at any floor including all the necessary tools & plants etc, complete all as directed by Engineer in charge.	900.00	466.00	SQM	4,19,400.00

1.72	Providing and laying in position Ready mix or machine batched M-30 grade cement concrete (with minimum cement content 350Kg/Cum) 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.	5.00	9477.52	cum	47,387.60
1.73	Providing and fixing double scaffolding system (cup lock type) on the exterior side, up to seven story height made with 40 mm dia M.S. tube 1.5 m centre to centre, horizontal & vertical tubes joining with cup & lock system with M.S. tubes, M.S. tube chollies, M.S. clamps and M.S. staircase system in the scaffolding for working platform etc. and maintaining it in a serviceable condition for the required duration as approved and removing it there after. The scaffolding system shall be stiffened with bracings, runners, connection with the building etc wherever required for inspection of work at required locations with essential safety features for the workmen etc. complete as per directions and approval of Engineer-in-charge. The elevational area of the scaffolding shall be measured for payment purpose. The payment will be made once irrespective of duration of scaffolding. Note: - This item to be used for maintenance work judicially, necessary deduction for scaffolding in the existing item to be done.	1000.00	320.21	sqm	3,20,210.00
<b>Total Amount of Rs. (1)</b>					<b>7,23,76,072.21</b>

## 2) Extenal/Internal Painting work

2.01	Removing dry or oil bound distemper, water proofing cement paint and the like by scrapping, sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete.	26000.00	23.81	Sq.m	6,19,060.00
2.02	Providing and applying white cement based Birla make wall care putty with uniform thickness upto 1.5mm over the existing internal cement plaster in proper line / level including preparing the wall surface for the application of wall care putty etc. including scaffolding all complete as directed.	4500.00	147.73	Sqm	6,64,785.00
2.03	Providing and applying one coat of seal cement primer over the prepared surface of walls / ceiling, including stepladder / scaffolding and cleaning the surface as directed.	26000.00	14.00	Sq.m	3,64,000.00
2.04	Distempering with 1st quality acrylic distemper (ready mixed) of one or more coats having VOC (Volatile Organic Compound ) content less than 50 gram/ litre, of approved brand and manufacturer including applying additional coats wherever required to achieve even shade and colour	6500.00	59.35	Sqm	3,85,775.00

2.05	Wall painting of two coats with acrylic emulsion paint , having VOC (Volatile Organic Compound ) content less than 50 grams/ litre, of approved brand and manufacture, including applying additional coats wherever required, to achieve even shade and colour.	19500.00	130.12	Sq.m	25,37,340.00
2.06	Wall painting of one coats with acrylic emulsion paint , having VOC (Volatile Organic Compound ) content less than 50 grams/ litre, of approved brand and manufacture, including applying additional coats wherever required, to achieve even shade and colour.	3500.00	87.10	Sq.m	3,04,850.00
2.07	Providing and applying two coats of synthetic enamel paint of IITB approved brand (Asian, Berger, ICI, Jenson & Nicholson, Goodlass Nerolac) & desired shade to old new wood work, steel grill work with the use of step ladder/ scaffolding if necessary, cleaning and preparing surface by solvent, degreasing and derusting by manul scrapping, filing holes with lambi / palti leavelling the surface cleaning etc. Complete.	3500.00	97.32	Sqm	3,40,620.00
2.08	Providing and applying zink priming coat over steel and other metal surfaces including preparing of the surface by thoroughly cleaning oil, grease, dirt and other foreign matter with wire brushing, fine fire steel wool,and sand paper, scaffolding/stepladder etc. Complete.	1200.00	63.81	Sqm	76,572.00
2.09	Applying priming coats with primer of approved brand and manufacture, having low VOC Volatile Organic Compound ) content, With ready mixed pink or grey primer on wood work (hard and soft wood) having VOC content less than 50 grams/ litre	2100.00	66.60	Sqm	1,39,860.00
2.10	Providing and applying two coat of synthetic enamel paint of IITB approved brand (Asian, Berger, ICI, Jenson & Nicholson, Goodlass Nerolac) and shade to ceiling fans with the use of step ladder including scrapping cleaning etc. Complete.	200.00	90.00	Nos	18,000.00
2.11	Providing and applying one coat of acrylic primer and two coats of pure Acrylic exterior paint of IITB approved manufacturer as per manufacturer's specification on old/new plastered surface/ stone work surface at any height & any floor , including cleaning the surface thoroughly with coir brush, watering the surface etc.,levelling the undulation if any with external wall care putty, covering with plasic sheets all complete as directed Engineer incharge.	55000.00	152.04	Sqm	83,62,200.00

2.12	<p>Providing and applying exterior coating for walls of multistoried building including mechanical cleaning of the external surface and treating surface in sound, clean and free from dirt, oil and other loose material and may be done with vacuum cleaning if required. All surface cracks upto 5 mm width will be filled up with Dr. Fixit Crack X paste or similar material. The external surface will be primed with Dr. Fixit Primeseal (or equivalent BASF/ FOSROC/ STP) diluted with potable water in the ratio of 2:1 by volume prior to application of Dr. Fixit Raincoat waterproof coat. Allow it to dry for at least 2 to 3 hours and then apply Dr. Fixit Raincoat waterproof coat or equivalent (BASF/ FOSROC/ STP) having DFT of 100-120 micron DFT. Apply second coat of Dr. Fixit raincoat Select Top Coat with interval of 6-8 hours to achieve DFT of 60-70 microns. Apply with roller or spray allow it to air cure for 7 days. Do not dilute Dr. Fixit Raincoat waterproof Select top coat by any means. Work includes cleaning the surface thoroughly, watering the surface etc. complete including covering the floor, window glass with plastic sheet, removing &amp; refixing existing grill while work in progress and as directed by this office. and work shall be guaranteed for 3 years by the contractor on requisite stamp paper. The maerial having following technical properties : Elongation of &gt;100% as per ASTM D 412; Tensile strength 2.50Mpa per ASTM D 412, passes water resistance as per SS500 standard, complies to anti carbonation test as per EN 1062 part 6. (Double steel scaffolding will be paid in respective item)</p>	2500.00	351.00	sqm	8,77,500.00
2.13	<p>Painting lettering of approved type on the name boards on any surface in English 12cm to 15cm (inclusive) height in synthetic enamel paint of approved quality and shade including surface painting as directed complete.</p>	3000.00	62.00	Per letter	1,86,000.00
2.14	<p>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 preferebly 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 suitable,tools, taking all safety measures, covering the floor area with plastic sheet, removing stains etc complete. NOTE : Mode of measurement will exposed surface area of painted work.</p>	210.00	665.00	Sqm	1,39,650.00
2.15	<p>Providing and erecting suspension construction cradle (gandola) platform length upto 7.5m at any height as per site requirement for maintenance and repair works by well trained operators / workers with proper safety precautions while erection, third party inspection of authorized agency and submission of saftey certificate wherever required as directed, and removing the same after complition of work etc. All complete as directed by Engineer in charge. (Idle chargers will not be counted for measurement)</p>	360.00	4181.00	day	15,05,160.00

2.16	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)	150.00	240.76	Sqm	36,114.00
<b>Total Amount of Rs. (2)</b>					<b>1,65,57,486.00</b>

### 3) Waterproofing work

3.01	Removing the existing loose damaged brick bat coba waterproofing treatment by manually / mechanical means from the top of the terrace /w.c/bath at any floor or sunk surface upto any thickness without making any damages to the roof slab with the use of sharp chisels,levelling and cleaning the roof surface for providing new specialised waterproofing treatment without causing dust nuisance stacking the debris upto 50m distance from building as directed.	300.00	1183.00	Cum	3,54,900.00
3.02	Lowering down the debris of the existing waterproofing treatment from the terrace by head load without causing dust nuisance and damages to structure, stacking the same upto 50m beyond the building area as and where directed including cleaning the site complete.	300.00	377.00	cum	1,13,100.00
3.03	Providing waterproof plaster in w. c. bath, 20mm thick for dado at any floor in cement mortar 1:3 with neat finishing, floating using waterproofing compound at the rate of 1 kg per bag of cement of approved make and manufacturer and curing etc. complete.	150.00	584.15	Sqm	87,622.50
3.04	Providing waterproofing in W.C. and bath including brickbat coba in all position at any floor including all lead ,lifts wherever required including providing and laying 12mm bedding in cement mortar 1:3 on concrete slab & sides of sunken portion with waterproofing compound @ 1kg/per bag of cement laying brick bat coba of required thickness in cm 1:5 with waterproofing compound 1 kg/bag of cement grouting and finishing the top layer with 20mm thick bedding in cm mortar 1:3 with waterproofing compound 1 kg/per bag of cement and testing the treated portion for 48 hours by pond test and covering ten years guarantee on requisite stamp paper etc. Complete.	175.00	6169.00	Cum	10,79,575.00

3.05	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.	800.00	1594.77	Sq.m	12,75,816.00
3.06	Providing waterproof bedding 25 mm thick for flooring of bath and W.C. at any floor, In cement mortar 1:3 using 1 kg of waterproofing compound of approved make and manufacturer per bag of cement including leveling curing etc. complete.	60.00	2050.00	Sqm	1,23,000.00
3.07	Providing and laying water proofing cement concrete flooring to terrace to average 50mm thick with 1:1.5:3 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, including all lead and lift wherever required etc. complete.	300.00	618.00	Sq.m	1,85,400.00

3.08	<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 &amp; 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 03 years by the contractor on requisite stamp paper including submitting written guarantee from said certified applicator. Contractor to submit re-counsillation statement along with challans for work done.</p>	700.00	475.00	sqm	3,32,500.00
3.09	<p>Providing &amp; levelling the exposed area on slab surface with ready mix polymer mortar upto 25mm thk layer including 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, mixing the polymer mortar with water using forced action mixer, mild curing will be done with water for 3 days etc complete to make proper base for applying waterproofing coating including levelling, curing, and cleaning etc. complete on the sloping roof of bungalow.</p>	600.00	1290.00	Sqm	7,74,000.00
3.10	<p>Removing the existing waterproofing sheet bitumen/ dongri cloth/ tarfelt layer coating etc, of any thickness from slopping roof of building without damages to structure,brick bat layer, using manual operated cutting tools, grinder, leveling and cleaning the surface for providing new waterproofing treatment, including lowering down removed material from roof by head load etc. all complete, (throwing down the APP/Tarfelt sheet from terrace will not be allowed)</p>	2900.00	92.00	Sqm	2,66,800.00

3.11	<p>Removing the loose/damaged cement concrete top layer/IPS layer/China chips layer of thickness upto 50mm, manually /by mechanical means without damages/distubring to slab/ beam,column/ Brick bat coba/ any RCC members/ Structural including disposing of material within 50 meter lead as per the direction of Engineer-in-charge (throwing down the material from terrace will not be allowed).</p> <p>Note: This item will be considered for payment only for top layer removal i.e. IPS/China Chips above Brick Bat Coba</p>	200.00	107.31	sqm	21,462.00
3.12	<p>Providing and laying APP (Atactic Polypropylene Polymer) modified prefabricated five layer, 3 mm thick water proofing membrane, black finished reinforced with glass fibre matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 litre/sqm by the same membrane manufactured 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 350/300 N/5 cm.Tear strength in longitudinal and transverse direction as 60/80N. 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 including finishing surface with heat reflective bitumen based silver paint @0.10 ltr/sqm and covering the hole treatment with five years guarantee,on requisite stamp paper etc. complete</p>	2650.00	531.04	sqm	14,07,256.00
3.13	<p><b>Treatment for flat surface /vatta /khurra /parapet top/Junction &amp; support of pipes.</b></p> <p><b>1) Thorough cleaning &amp; base preparation.</b> Cleaning the roof slab by brush and broom, if any cracks found shall be filled with approved cementitious/chemical waterproofing coating for Protecting Concrete and Masonry, mortar and making the surface smooth for receiving the water proofing treatment as per manufacturer's specification.</p> <p><b>2) Primer coat.</b> Applying a primer coat of chemical water proofing products/brands as per the approved painting policy, over the prepared surface to obtain good bonding between surface &amp; waterproofing membrane as per manufacturer's specification.</p> <p><b>3) 1st coat of waterproofing.</b> Applying 1st coat of chemical water proofing products/brands as per the approved painting policy, on the primer coat as per manufacturer's specification.</p> <p><b>4) 2nd coat of waterproofing.</b> Applying 2nd coat of chemical water proofing products/brands as per the approved painting policy.Period for air curing of waterproofing process between the coats as per the manufactureres specification.</p> <p><b>5)Geotextilecloth/polyster fleece/Reinforcement</b> Providing and laying Geo-textile/Reinforcement membrane of required thickness in between the layers of waterproofing as per manufactures specification.</p>	100.00	1553.00	sqm	1,55,300.00

3.14	Providing and laying protective top layer of screeding/chemical coatings as per the manufactureres specification to protect the entire waterproofing system. The rates inclusive of lead & lift of material,etc all inclusive.	100.00	585.00	sqm	58,500.00
3.15	Removing the loose mortar joints between the brickbat coba waterproofing layers on terrace and brick walls carefully with sharp chisels with out damaging the waterproofing treatment and brick walls cleaning washing with water and filling the joints with cement mortar 1:2 adding recommended waterproofing admixture, filling water for 03 days, testing the leakages etc. complete.	100.00	213.00	sqm	21,300.00
3.16	<b>Vertical wall waterproofing for internal &amp; external parapet wall, lift machine room walls &amp; junction of pipes.</b> Providing and applying waterproofing treatment for vertical wall with one coat primer and required coat of chemical water proofing products/brands as per the approved painting policy. The item includes the preparation of vertical surface as per the site condition, filling of the cracks and make the surface smooth to receive the waterproofing treatment as per the manufactureres specification. Necessary arrangement for working platform/ scaffolding/ any mechanical means for execution of the waterproofing treatment to the external vertical walls shall be made by the contractor. Note:- In case of leakage/seepage found during rain, contractor has to cover terrace with tarpaulin sheet to stop the leakage /seepage. If contractor fails to do it during rain, Institute will cover the terrace at contractor's risk and cost.	100.00	683.00	sqm	68,300.00
3.17	Providing and applying one coat of solvent based bitumen primer as per IS 3384 on roof of the building @0.25 liters/sqm. Inculding cleaning and removing defective exting loose layer of membrane thoroughly with wire brush / coir brush rectification of all damages etc.completed as directed.	1450.00	53.00	Sqm	76,850.00
3.18	Providing and dammering to roof with one coat of bitumen 90/15 or 85/25 as per IS 73/ IS 702 @1.5 kg./sqm uniformly and providing dongri cloth including finishing surface with heat reflective bitumen based silver paint @0.10 ltr/sqm etc. Complete as directed and covering the bitumen treatment with the guarantee of 1 monsoon period, on requisite stamp paper etc. diesel operated bitumen heating machine should be used for this activity (Wooden fuel is not allowed) complete as directed.	1450.00	267.00	Sqm	3,87,150.00
3.19	Providing and erecting Mechanical lift on hire basis with steel tubular H – frame double scaffolding with bracings to all heights upto G + 6 ,building ,shifting material and lowering down debris till completion of entire work on building roof as directed by engineer in charge and removing the same as per directions of Engineer In Charge.	12.00	35107.00	per month	4,21,284.00

3.20	Providing and erecting Mechanical lift on hire basis with steel tubular H – frame double scaffolding with bracings to all heights upto G + 16 ,building ,shifting material and lowering down debris till completion of entire work on building roof as directed by engineer in charge and removing the same as per directions of Engineer In Charge.	12.00	42544.00	per month	5,10,528.00
<b>Total Amount of Rs. (3)</b>					<b>77,20,643.50</b>

#### 4) Plumbing and sanitary work

4.01	Taking out C.I. / PVC nahani trap with connecting pieces from floor carefully and taking away the same out of IIT campus etc. Complete.	150.00	211.00	Nos	31,650.00
4.02	Providing and fixing 100 mm PVC nahani trap with S.S grating, etc. complete.	90.00	681.00	Nos	61,290.00
4.03	Providing and fixing 100 mm CI nahani trap with S.S grating, etc. complete.	60.00	912.00	Nos	54,720.00
4.04	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.	30.00	7693.00	No	2,30,790.00
4.05	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.	30.00	2810.00	No	84,300.00
4.06	Providing and fixing ISI 1729/2002 grade 75mm dia. cast iron waste water pipes (Neco or equ.) with lugs 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 praportion and two coats of anti corrosive paint including fixing the pipe on walls by means of nails driven through lugs in wooden holders / battens including removing the existing pipe if necessary and conveying and stacking taking away the same out of IIT campus , necessary complete or as directed. (Recovery of the removed damaged pipe will be done @ Rs. 20 per Rmt)	100.00	1241.00	Rmt	1,24,100.00
4.07	Providing and fixing ISI 1729/2002 grade 100 mm dia. cast iron soil pipes (Neco or equ.) 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 anti corrosive paint including fixing the pipe on walls by means of nails driven through lugs in wooden holders / battens including removing the existing pipe if necessary and conveying and stacking taking away the same out of IIT campus complete or as directed. (Recovery of the damaged pipe will be done @ Rs. 25 per Rmt)	100.00	1419.00	Rmt	1,41,900.00

4.08	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 including removing the same after completion of work.	100.00	165.00	Rmt	16,500.00
4.09	Providing & fixing 110 mm 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.including removing the same after completion of work.	100.00	238.00	Rmt	23,800.00
4.10	Providing and laying 15 mm diameter I.S.I. make TATA / Jindal/ Zenith heavy type C class galvanized iron pipes having weight as per IS specification to walls, ceilings, floors etc. with screwed sockets, backnuts, elbows, tees, reducers, enlargers, plugs, clamps/ GI clamp etc. including necessary drilling in holes in walls / slabs etc, connecting the lines with old / new pipe lines / fittings / fixtures etc as required and remaking good the demolished portion to restore the same in original condition neatly and applying Zinc primer and two coats of oil painting etc. or as directed Complete. (scaffolding will be paid in separate item if required)	400.00	346.86	Rmt	1,38,744.00
4.11	Providing and laying 20mm diameter I.S.I. make TATA / Jindal/ Zenith heavy type C class galvanized iron pipes having weight as per IS specification to walls, ceilings, floors etc. with screwed sockets, backnuts, elbows, tees, reducers, enlargers, plugs, clamps/ GI clamp etc. including necessary drilling in holes in walls / slabs etc, connecting the lines with old / new pipe lines / fittings / fixtures etc as required and remaking good the demolished portion to restore the same in original condition neatly and applying Zinc primer and two coats of oil painting etc. or as directed Complete. (scaffolding will be paid in separate item if required)	400.00	413.98	Rmt	1,65,592.00
4.12	Providing and laying 25mm diameter I.S.I. make TATA / Jindal/ Zenith heavy type C class galvanized iron pipes having weight as per IS specification to walls, ceilings, floors etc. with screwed sockets, backnuts, elbows, tees, reducers, enlargers, plugs, clamps/ GI clamp etc. including necessary drilling in holes in walls / slabs etc, connecting the lines with old / new pipe lines / fittings / fixtures etc as required and remaking good the demolished portion to restore the same in original condition neatly and applying Zinc primer and two coats of oil painting etc. or as directed Complete. (scaffolding will be paid in separate item if required)	200.00	522.28	Rmt	1,04,456.00

4.13	Providing and laying 32mm diameter I.S.I. make TATA / Jindal/ Zenith heavy type C class galvanized iron pipes having weight as per IS specification to walls, ceilings, floors etc. with screwed sockets, backnuts, elbows, tees, reducers, enlargers, plugs, clamps/ GI clamp etc. including necessary drilling in holes in walls / slabs etc, connecting the lines with old / new pipe lines / fittings / fixtures etc as required and remaking good the demolished portion to restore the same in original condition neatly and applying Zinc primer and two coats of oil painting etc. or as directed Complete. (scaffolding will be paid in separate item if required)	150.00	631.43	Rmt	94,714.50
4.14	Providing and laying 40mm diameter I.S.I. make TATA / Jindal/ Zenith heavy type C class galvanized iron pipes having weight as per IS specification to walls, ceilings, floors etc. with screwed sockets, backnuts, elbows, tees, reducers, enlargers, plugs, clamps/ GI clamp etc. including necessary drilling in holes in walls / slabs etc, connecting the lines with old / new pipe lines / fittings / fixtures etc as required and remaking good the demolished portion to restore the same in original condition neatly and applying Zinc primer and two coats of oil painting etc. or as directed Complete. (scaffolding will be paid in separate item if required)	150.00	768.61	Rmt	1,15,291.50
4.15	Providing and laying 50mm diameter I.S.I. make TATA / Jindal/ Zenith heavy type C class galvanized iron pipes having weight as per IS specification to walls, ceilings, floors etc. with screwed sockets, backnuts, elbows, tees, reducers, enlargers, plugs, clamps/ GI clamp etc. including necessary drilling in holes in walls / slabs etc, connecting the lines with old / new pipe lines / fittings / fixtures etc as required and remaking good the demolished portion to restore the same in original condition neatly and applying Zinc primer and two coats of oil painting etc. or as directed Complete. (scaffolding will be paid in separate item if required)	150.00	992.45	Rmt	1,48,867.50
4.16	Providing and laying 25mm diameter I.S.I make heavy type C Class galvanized iron pipes of TATA / Jindal / Zenith make having weight as per IS specification in trenches etc. with elbows, tees, reducers, enlargers, plugs, etc. including connecting the lines with old / new pipe lines / fittings / fixtures etc as required and filling trench with excavated soil and applying metal primer and two coats of oil painting including removing the existing pipe if necessary and as directed etc. complete.	75.00	442.81	Rmt	33,210.75
4.17	Providing and laying 40mm diameter I.S.I make heavy type C Class galvanized iron pipes of TATA / Jindal / Zenith make having weight as per IS specification in trenches etc. with elbows, tees, reducers, enlargers, plugs, etc. including connecting the lines with old / new pipe lines / fittings / fixtures etc as required and filling trench with excavated soil and applying metal primer and two coats of oil painting including removing the existing pipe if necessary and as directed etc. Complete.	75.00	584.15	Rmt	43,811.25

4.18	Providing and laying 50mm diameter I.S.I make heavy type C Class galvanized iron pipes of TATA / Jindal / Zenith make having weight as per IS specification in trenches etc. with elbows, tees, reducers, enlargers, plugs, etc. including connecting the lines with old / new pipe lines / fittings / fixtures etc as required and filling trench with excavated soil and applying metal primer and two coats of oil painting including removing the existing pipe if necessary and as directed etc. Complete.	75.00	721.51	Rmt	54,113.25
4.19	Providing and fixing ISI approved heavy type 15 mm dia brass stop tap(seiko, techno make) including socket, union nut etc. Complete. Including removing the existing damaged tap. (5% cost will be deducted for taking away the removed material outside IIT campus)	110.00	334.41	Nos	36,785.10
4.20	Providing and fixing ISI approved heavy type 20 mm dia brass stop tap(seiko, techno make) including socket, union nut etc. Complete. Including removing the existing damaged tap. (5% cost will be deducted for taking away the removed material outside IIT campus)	120.00	358.98	No	43,077.60
4.21	Providing and fixing screw down 20mm gun metal Gate Valve of techno or uttam make bearing I.S.I. Mark including socket, union nut etc. including removing the old damaged gate valve & depositing Complete. (5% cost will be deducted for taking away the removed material outside IIT campus)	60.00	511.16	Nos	30,669.60
4.22	Providing and fixing screw down 25mm gun metal Gate Valve of techno or uttam make bearing I.S.I. Mark including socket, union nut etc. including removing the old damaged gate valve & depositing Complete. (5% cost will be deducted for taking away the removed material outside IIT campus)	60.00	589.21	nos	35,352.60
4.23	Providing and fixing screw down 32mm gun metal Gate Valve of techno or uttam make bearing I.S.I. Mark including socket, union nut etc. including removing the old damaged gate valve & depositing Complete. (5% cost will be deducted for taking away the removed material outside IIT campus)	30.00	652.83	Nos	19,584.90
4.24	Providing and fixing screw down 40mm gun metal Gate Valve of techno or uttam make bearing I.S.I. Mark including socket, union nut etc. including removing the old damaged gate valve & depositing Complete. (5% cost will be deducted for taking away the removed material outside IIT campus)	30.00	782.05	Nos	23,461.50

4.25	Providing and fixing screw down 50mm gun metal Gate Valve of techno or uttam make bearing I.S.I. Mark including socket, union nut etc. including removing the old damaged gate valve & depositing Complete. (5% cost will be deducted for taking away the removed material outside IIT campus)	15.00	971.91	Nos	14,578.65
4.26	Providing and fixing new sanitary fittings with new fixtures , removing old broken fittings wherever existing. ¼" Flexible pipe – 3 feet long	150.00	121.00	No	18,150.00
4.27	Providing and fixing new sanitary fittings with new fixtures , removing old broken fittings wherever existing. ½" PVC connection 2 feet long	150.00	196.00	No	29,400.00
4.28	Providing and fixing new sanitary fittings with new fixtures , removing old broken fittings wherever existing. ½" PVC connection 1½ feet long	150.00	173.00	nos	25,950.00
4.29	Providing and fixing new sanitary fittings with new fixtures , removing old broken fittings wherever existing. ½" PVC connection 3 feet long	150.00	219.00	Nos	32,850.00
4.30	Providing and fixing new sanitary fittings with new fixtures , removing old broken fittings wherever existing. S.S. Grating 4" dia	150.00	138.00	No	20,700.00
4.31	Providing and fixing new sanitary fittings with new fixtures , removing old broken fittings wherever existing. S.S. Grating 5"dia	150.00	150.00	nos	22,500.00
4.32	Providing and fixing new sanitary fittings with new fixtures , removing old broken fittings wherever existing. 1 1/4" Nirali Sink coupling set	150.00	973.00	Nos	1,45,950.00
4.33	Providing and fixing 40 mm dia 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 removing old damaged pipe, jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Exposed on wall, (scaffolding will be paid in separate item if required) (5% cost will be deducted for taking away the removed material outside IIT campus)	120.00	665.47	Rmt	79,856.40

4.34	Providing and fixing 25 mm dia 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 removing old damaged pipe, jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Exposed on wall, (scaffolding will be paid in separate item if required) (5% cost will be deducted for taking away the removed material outside IIT campus)	120.00	380.14	Rmt	45,616.80
4.35	Providing and fixing 20 mm dia 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 removing old damaged pipe, jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Exposed on wall, (scaffolding will be paid in separate item if required) (5% cost will be deducted for taking away the removed material outside IIT campus)	120.00	317.14	Rmt	38,056.80
4.36	Providing and fixing 15 mm dia I.S.I. approved heavy type C class galvanized iron pipes TATA / Jindal / Zenith make in <b>concealed</b> plumbing having weight as per IS specification complete with G.I. fittings and clamps, including painting with anti corrosive bitumastic paint , cutting chases in walls for fixing concealed pipe and making good the wall by means of leveling with cement plaster and testing of joints complete as per direction of Engineer in Charge.	100.00	549.50	Rmt	54,950.00
4.37	Providing and fixing 20 mm dia I.S.I. approved heavy type C class galvanized iron pipes TATA / Jindal / Zenith make in <b>concealed</b> plumbing having weight as per IS specification complete with G.I. fittings and clamps, including painting with anti corrosive bitumastic paint , cutting chases in walls for fixing concealed pipe and making good the wall by means of leveling with cement plaster and testing of joints complete as per direction of Engineer in Charge.	100.00	601.33	Rmt	60,133.00
4.38	Providing & fixing 40mm dia. PVC pipe for outlet of wash basin , sink etc. (heavy duty) with all fittings & fixtures making connection to old & new pipe line etc. complete as directed by Engineer.	100.00	223.00	Rmt	22,300.00
4.39	Providing and fixing white glazed earthenware wash hand basin of approved brand (Hindware/Cera/ parryware) of 55cm x 40cm size including one cold water pillar tap of jaquar , brackets, rubber plugs and brass chain, stop tap of jaquar and necessary pipe connection including polyethylene waste water pipe and trap	110.00	5091.00	No	5,60,010.00
4.40	Providing and fixing coloured glazed earthenware wash hand basin of approved brand (Hindware/Cera/ parryware) of 55cm x 40cm size including one cold water pillar tap of jaquar , brackets, rubber plugs and brass chain, stop tap of jaquar and necessary pipe connection including polyethylene waste water pipe and trap	40.00	5219.00	No	2,08,760.00

4.41	Providing and fixing white glazed earthenware wash hand basin of approved brand (Hindware/Cera/ parryware) of 45 x 30 cm size including one cold water pillar tap of jaquar , brackets, rubber plugs and brass chain, stop tap of jaquar and necessary pipe connection including polyethylene waste water pipe and trap	150.00	4864.00	No	7,29,600.00
4.42	Providing and fixing coloured glazed earthenware wash hand basin of approved brand (Hindware/Cera/ parryware) of 45 x 30 cm size including one cold water pillar tap of jaquar , brackets, rubber plugs and brass chain, stop tap of jaquar and necessary pipe connection including polyethylene waste water pipe and trap	40.00	4986.00	No	1,99,440.00
4.43	Providing and fixing 100 mm dia chromium plated brass shower rose of Jaquar brand to 15 mm dia. Supply pipe including necessary SS Bend and socket complete.	150.00	1768.00	Nos	2,65,200.00
4.44	Providing and fixing 100 mm dia chromium plated brass shower rose for Cera make brand to 15 mm dia. Supply pipe including necessary G.I. Bend and socket complete.	100.00	810.00	Nos	81,000.00
4.45	Providing and fixing 150 mm dia chromium plated brass shower rose for Jaquar brand to 15 mm dia. Supply pipe including necessary SS Bend and socket complete.	100.00	4701.00	Nos	4,70,100.00
4.46	Providing and fixing 150 mm dia chromium plated brass shower rose for Cera make brand to 15 mm dia. Supply pipe including necessary G.I. Bend and socket complete.	100.00	1101.00	Nos	1,10,100.00
4.47	Providing and fixing white solid plastic seat (Hindware/Cera/ parryware) with lid for european type W.C. pan complete with require fittings and fixtures etc. and including removing existing damaged plastic seat complete as directed.	175.00	648.33	nos	1,13,457.75
4.48	Providing and fixing Hydraulic white plastic seat (Hindware make) with lid for european type W.C. pan complete with require fittings and fixtures etc. and including removing existing damaged plastic seat complete as directed.	30.00	4176.00	Per No	1,25,280.00
4.49	Providing and fixing colour solid plastic seat (Hindware/Cera/ parryware) with lid for european type W.C. pan complete with require fittings and fixtures etc. and including removing existing damaged plastic seat complete as directed.	40.00	559.44	nos	22,377.60
4.50	Providing and fixing good quality 32mm Nelson flush valve to water closet all complete as directed including removing the old damaged /unserviceable flush valve and taking out IITB campus. (5% cost will be deducted from Item of work for material taken outside campus)	150.00	4313.00	nos	6,46,950.00

4.51	Providing and fixing Low / high level 10 liters capacity PVC flushing cistern of parryware / hindware / cera make with all fittings as inlet G.I. pipe with stop tap, brass chromium plated waste coupling and providing and fixing 32mm or required heavy duty PVC outlet bend pipe from flushing cistern upto the pan, 12mm dia PVC connection to the tank etc. all complete. as directed. (5% cost will be deducted from Item of work for material taken outside campus)	300.00	1127.16	Nos	3,38,148.00
4.52	Providing and fixing white color Low level 3/6 liters capacity PVC Dual flushing cistern parryware / hindware / cera make with all fittings as approved by IITB inlet G.I. pipe with stop tap, brass chromium plated waste coupling and providing and fixing 32mm or required heavy duty PVC outlet bend pipe from flushing cistern upto the pan, 12mm dia PVC connection to the tank etc. all complete. as directed. (5% cost will be deducted from Item of work for material taken outside campus)	50.00	4421.00	No	2,21,050.00
4.53	providing and fixing Stainless Steel sink of size <b>485 x 410 x 215mm</b> (Approximate internal size of sink ) of approved make and design( Nirali Make) including all connections of G.I. Supply and PVC waste outlet pipe and coupling , making good damaged surface etc. complete.	110.00	9023.00	Nos	9,92,530.00
4.54	providing and fixing Stainless Steel sink of size <b>615mm x 460mm x 255mm</b> (Approximate internal size of sink) of approved make and design( Nirali Make) including all connections of G.I. Supply and PVC waste outlet pipe and coupling , making good damaged surface etc. complete.	110.00	14551.00	Nos	16,00,610.00
4.55	Providing and fixing stainless steel kitchen sink nirali make with drain board of size 510x915mm bowl depth 200mm approved brand (nirali or equlant) 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	15.00	10939.00	Nos.	1,64,085.00
4.56	Providing and fixing stainless steel cockroach trap of approved pattern, quality and make with all required fittings and fixtures etc. completed as directed.	75.00	318.00	Nos	23,850.00
4.57	Removing the old damaged / worn out plastic water storage tank of any size and capacity from the roof of the building carefully with out damaging any structural members of the building by using chainpulley arrangement and depositing in Estate stores etc. Complete. (5% cost will be deducted for old damaged tank from item of work)	100000.00	1.00	Ltr	1,00,000.00

4.58	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-20 (1:1.5:3) 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.	100.00	2588.41	Nos	2,58,841.00
4.59	Providing and laying temporary loop connection to main water supply inlet and outlet of water tank with 'C' class pipe 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.  For B Type Building (G+2)	10.00	8987.00	Per Job	89,870.00
4.60	Providing and laying temporary loop connection to main water supply inlet and outlet of water tank with 'C' class pipe 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.  For B/C Type Building upto (G+6)	10.00	12557.00	Per Job	1,25,570.00
4.61	Providing and laying temporary loop connection 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 and remaking to original connections after repair etc. complete.  For H2 type building (G+1)	10.00	9460.00	per job	94,600.00
4.62	Providing and laying temporary loop connection 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 and remaking to original connections after repair etc. complete.  For H1 type / Type 1 building upto (G+4)	8.00	10790.00	per job	86,320.00
4.63	Providing and laying temporary loop connection 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 and remaking to original connections after repair etc. complete.  For type 2B building	10.00	11588.00	per job	1,15,880.00

4.64	<p>Providing and laying temporary loop connection to main water supply inlet and outlet of water tank using CPVC pipes of any dia. With all fittings like elbows, tees, reducers, plugs, clamps etc. including other connections and commissioning the water supply line and remaking to original connections after repair / cleaning of tank etc. complete.</p> <p>For C type bldgs in Central area</p>	5.00	5180.00	per job	25,900.00
4.65	<p>Providing and fixing P.V.C. rain water pipes 'A' Type 160mm outer dia. conforming to I.S. including proper rain water receiving recess with P.V.C. plug bend, necessary fittings such as offsets, shoes including fixing the pipe on wall using approved M.S brackets projecting 25mm to 40mm from face of wall &amp; fixing with heavy duty PVC clips of approved quality &amp; number, filling the joints using rubber gasket with solvent cement and properly resting the shoe of pipes on C.C. or masonry blocks, including 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.</p>	110.00	721.00	Rmt	79,310.00
4.66	<p>Providing and fixing P.V.C. rain water pipes 'A' Type 110mm 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 &amp; fixing with heavy duty PVC clips of approved quality &amp; number, filling the joints using rubber gasket with solvent cement and properly resting the shoe of pipes on C.C. or masonry blocks, including 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.</p>	210.00	357.00	Rmt	74,970.00
4.67	<p>Providing and fixing heavy duty P.V.C. waste water pipes of approved brand for 75mm outer dia. conforming to I.S. with P.V.C. plug bend, necessary fittings such as offsets, including fixing the pipe on wall using approved GI brackets projecting upto 50mm from face of wall &amp; fixing with heavy duty PVC clips of approved quality &amp; number, filling the joints using rubber gasket with solvent cement. All the PVC fittings and additional two piece socket clips shall be got approved from engineer in charge complete. (scaffolding will be paid in separate item if required)</p>	150.00	209.00	Rmt	31,350.00
4.68	<p>Arresting leakages from PVC / Plastic storage tank by making necessary welding to cracked portion with all tools and plants etc. completed as directed.</p>	25.00	3476.00	per job	86,900.00
4.69	<p>Providing and fixing 110mm(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 weilding by using suitable welding machine or hot plate, testing the line &amp; joint as per manufacturer specification etc. all complete as directed by Engineer In-charge.</p>	250.00	1039.00	Per Rmt	2,59,750.00

4.70	Providing and fixing 160mm(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 weilding 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.	250.00	1345.00	Per Rmt	3,36,250.00
4.71	Arresting leakage through HDPE pipe by welding/jointing the damaged member with required tools and tackles all complete as directed by Engineer-in-charge.	20.00	183.00	Job	3,660.00
4.72	Providing and fixing health faucet jet spray set with SS tube upto 1.5m length of approved Jaquar make including necessary socket/ union etc. complete as directed.	175.00	2025.00	No	3,54,375.00
4.73	Providing and fixing SS towel ring upto 9 inch dia round flange of approved jaquar make etc. Complete.	150.00	1530.00	No	2,29,500.00
4.74	P/F ½" dia CP Bib Cock / Angle Cock of jaquar ( continental series ) including necessary fitting and fixtures etc. complete as directed	150.00	1240.00	No	1,86,000.00
4.75	Providing & fixing ISI approve heavy type Angle Cock (Cavier make Rienza series) including extension Pipe, C.P Double nippal etc.complete.	150.00	1443.00	No	2,16,450.00
4.76	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.	70.00	5234.00	No	3,66,380.00
4.77	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.	70.00	7464.00	No	5,22,480.00
4.78	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.	30.00	2929.00	No	87,870.00
4.79	Providing & fixing Cera make Platform top white wash hand basin of size 602mm x 433mm including vertical pillar cock, Stop Cock, of approved jaquar / Cavier brand), SS Waste Coupling, Waste Pipe, Connection Pipe, etc complete as directed.	30.00	11453.00	No	3,43,590.00

4.80	Providing hoisting and fixing in position MCGM approved plastic storage water tank on roof of buildings at any height with all fitting, fixtures viz 1" PTMT ball cock, extension nipple, 1" dia coupling and plug for washout and 1" dia coupling and bend for overflow 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 MCGM, using required fitting / fixtures including hoisting till any height using manual/mechanical means without damaging the structure and making good the damaged structure if damaged during hoisting at contractors risk and cost all complete as directed by Estate office.	100000.00	14.00	Ltr	14,00,000.00
4.81	Providing & fixing granite counter wash basin of size upto 750 X 500 for counter including coloured oval / round shape wash basin of size 22'' x 16'' 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.	75.00	15548.00	No	11,66,100.00
4.82	Providing and fixing oval shape coloured earthenware below counter wash hand basin of Parryware make including one cold water angle cock of Jaguar make (Continental series), Stainless steel click clack waste coupling, chromium plated brass bottle trap etc. complete as directed.	10.00	7156.00	Nos	71,560.00
4.83	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	30.00	10089.00	No	3,02,670.00
4.84	Providing & fixing hindware / cera make Platform top wash basin of size 630 mm x 500 mm including ,one cold water contentail series 450mm long swan neck tap of jaquar,Stop Cock, Waste Coupling, jaquar make bottle trap, Connection Pipe, etc complete or as directed.	30.00	8567.00	No.	2,57,010.00
4.85	Providing and fixing European type wall hung white glazed earthenware water closet pan as per existing size of Parryware, Hindware, Cera make with P.V.C seat and lid with chromium plated brass hinges and rubber buffers including PVC heavy type flush pipe with fittings and clamps, cutting and making good walls and floors etc. complete as directed.	60.00	11541.00	No.	6,92,460.00
4.86	Providing & fixing ISI approve long swan neck pillar tap jaquar make including necessary fixtures etc.complete as directed	20.00	1879.00	No	37,580.00
4.87	Providing & fixing ISI approve SS bottle trap below wash basin including necessary fixtures etc.complete as directed	75.00	1071.00	nos	80,325.00

4.88	Providing & fixing ISI approve heavy type Kitchen sink cock with swinging casted spout (wall mounted) jaquar make including necessary fixtures etc.complete as directed	70.00	2163.00	No	1,51,410.00
4.89	Providing & fixing ISI approve heavy type two way bib cock jaquar make including necessary fixtures etc.complete as directed	150.00	1358.00	No	2,03,700.00
4.90	Remvoing & taking out the wash basin with connecting pieces from floor/wall carefully without disturbing base floor/wall and taking away the same out of IIT campus etc. Complete.	200.00	154.00	Nos	30,800.00
4.91	Remvoing & taking out the European WC with connecting pieces from floor/wall carefully without disturbing base floor/wall and taking away the same out of IIT campus etc. Complete.	200.00	234.00	No	46,800.00
4.92	Remvoing & taking out the Flush tank with connecting pieces from floor/wall carefully without disturbing base floor/wall and taking away the same out of IIT campus etc. Complete. (5% cost will be deducted for taking away the removed material outside IIT campus)	400.00	120.00	No	48,000.00
4.93	Removing the existing toilet fittings while the other cement related activities are in progress and refixing the same after the work gets completed.  1)Wash basin	200.00	553.00	Nos	1,10,600.00
4.94	Removing the existing mirror & glsss shelf with screws while the other cement related activities are in progress and refixing the same with new coach screw after the work gets completed.	250.00	346.00	Nos	86,500.00
4.95	Providing and fixing Orrisa type white glazed earthenware 580mm x 440 mm water closet pan of approved make and brand (Cera, Hindware or equivalent) including trap, cast iron soil and vent pipes upto the outside face of the wall including 100mm. diameter cast iron plug bend, cement concrete bedding, 10 litres capacity H.D.P.E. approved flushing cistern with fittings, inlet pipe with brass stop tap(Cico), brackets, 32mm. diameter galvanised iron heavy type flush pipe with fittings and clamps, painting to the exposed pipes and cutting and making good the walls and floors etc. complete. (excluding waterproof brick bat coba)	150.00	6406.55	Nos	9,60,982.50

4.96	Providing and fixing European type white glazed earthenware 580mm water closet pan of approved make and brand (Cera, Hindware or equivalent) with PVC seat and lid with chromium plated brass hinges and rubber buffers including cast iron soil and vent pipes upto the outside face of wall and 100mm. diameter cast iron plug bend, 10 litres approved low level white PVC flushing cistern with all fittings, pipes and stop tap, brackets for fixing the low level flushing cistern, 32mm dia galvanised iron / PVC heavy type flush pipe with fittings and clamps, 20mm dia. PVC galvanised iron overflow pipe with mosquito proof coupling, and exposed pipes and cutting and making good walls and floors etc. complete as directed.	160.00	6168.13	Nos	9,86,900.80
4.97	Providing & fixing Techno / Sicko bib tap ( Min weight 400gm) with new fittings & new screws, removing old broken fittings & taps wherever existing. (5% cost will be deducted for taking away the removed material outside IIT campus)	300.00	811.00	nos	2,43,300.00
4.98	Providing & fixing Jaquar make corner glass shelf set with new fittings & new screws.	35.00	1021.00	per no	35,735.00
4.99	Providing & fixing Jaguar make sink cock with new fittings & new screws, removing old broken sink cock wherever existing. (5% cost will be deducted for taking away the removed material outside IIT campus)	150.00	1984.00	per no	2,97,600.00
4.100	Providing & fixing Jaguar make SS soap dish holder with new fittings & new screws, removing old broken seap dish holder wherever existing. (5% cost will be deducted for taking away the removed material outside IIT campus)	150.00	1137.00	per no	1,70,550.00
4.101	Providing and fixing brass Eye glass of approved quality, peep hole type,make,size and shape etc to door shutter complete including removing existing damaged. Contractor will be allowed to take away old peep glass eye glass if available	150.00	173.00	No	25,950.00
4.102	Carefully removing the existing G.I. pipe 12mm to 50mm diameter from floor / walls / slab etc. with out damaging the structures and Deposting to Estate store including scaffolding if required. (scaffolding will be paid in separate item if required) (5% cost will be deducted from Item of work for material taken outside campus)	1000.00	141.81	Rmt	1,41,810.00
4.103	Connection of pipe line which is newly laid outside to old GI pipe line in wall with required length of barrel piece, union, elbow etc. required fittings and fixtures including making hole carefully in wall without disturbing existing pipe line inside quarter, p/f new GI piece of existing dia remaking good the demolished portion from inside/outside to restore the same in original condition neatly, painting to pipe etc. complete. (scaffolding will be paid in respective item if required)  a) 15mm dia	60.00	610.00	per job	36,600.00

4.104	<p>Connection of pipe line which is newly laid outside to old GI pipe line in wall with required length of barrel piece, union, elbow etc. required fittings and fixtures including making hole carefully in wall without disturbing existing pipe line inside quarter, p/f new GI piece of existing dia remaking good the demolished portion from inside/outside to restore the same in original condition neatly, painting to pipe etc. complete. (scaffolding will be paid in respective item if required)</p> <p>b) 20mm dia</p>	60.00	668.00	per job	40,080.00
4.105	<p>Connection of pipe line which is newly laid outside to old GI pipe line in wall with required length of barrel piece, union, elbow etc. required fittings and fixtures including making hole carefully in wall without disturbing existing pipe line inside quarter, p/f new GI piece of existing dia remaking good the demolished portion from inside/outside to restore the same in original condition neatly, painting to pipe etc. complete. (scaffolding will be paid in respective item if required)</p> <p>C) 25mm dia</p>	60.00	726.00	per job	43,560.00
4.106	<p>Connection of pipe line which is newly laid outside to old GI pipe line in wall with required length of CPVC brass FT, brass MT, CPVC union, CPVC elbow etc. required fittings and fixtures including making hole carefully in wall without disturbing existing pipe line inside quarter, p/f new GI piece/CPVC pipe of existing dia remaking good the demolished portion from inside/outside to restore the same in original condition neatly etc. complete. (scaffolding will be paid in respective item if required)</p> <p>20mm or 25mm dia</p>	20.00	606.00	per job	12,120.00
4.107	<p>P/F ISI approved heavy type ½" dia CP Washing Machine Tap of long bib body Techno/Sieko made including socket, union nut etc. Removing existing damaged tap complete as directed (5% cost will be deducted for taking away the removed material outside IIT campus)</p>	200.00	834.00	Per Nos.	1,66,800.00

4.108	<p>Cleaning the Overhead &amp; Underground water tanks of capacities mentioned below for RCC/Plastic storage water tanks on the roof or underground of buildings by dewatering excess water with portable Electric water pump and/or transferring the water into another tank located near by, before schedule time of cleaning as directed, to ensure minimum wastage of water, then thoroughly cleaning with wire brush / coir brush including cleaning again using water jet cleaner to clean all Algae, sludge and impurity accumulated even in the smallest pores of the water tank. Closing the inlet and outlet water supply line and plugging the outlets inside the tanks with cotton plug and string of Nylon to be tied at fix end. Finally washing the tank with diluted bleaching powder or potassium Permagnate or disinfection of the tank using imported Food Grade Chemical Disinfectant which also has a residual effect, Removing the muddy water and cleaning the bottan surface of tank neatly, removing the plug and opening the inlet valve for filling the tank. Writing the date of cleaning over the existing place by erasing old dates with base coat of plain black enamel paint on the side of tanks and write as "Cleaned on....." etc. complete including collecting water sample and testing for potability at IITB testing lab. Contractor should ensure the water supply is regular in quarters, if not, then regularised the water supply by removing air lock if any etc. <b>Each PVC tank or compartment in RCC tank will be measured in this item as per no..</b></p> <p><b>For capacities upto 5,000 litres.</b></p> <p><b>(NOTE:- The Contractor has to make an own arrangement of Power supply from nearest recommended power point as shown by EMD)</b></p>	174.00	903.00	Per Nos.	1,57,122.00
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4.109	<p>Cleaning the Overhead &amp; Underground water tanks of capacities mentioned below for RCC/Plastic storage water tanks on the roof or underground of buildings by dewatering excess water with portable Electric water pump and/or transferring the water into another tank located near by, before schedule time of cleaning as directed, to ensure minimum wastage of water, then thoroughly cleaning with wire brush / coir brush including cleaning again using water jet cleaner to clean all Algae, sludge and impurity accumulated even in the smallest pores of the water tank. Closing the inlet and outlet water supply line and plugging the outlets inside the tanks with cotton plug and string of Nylon to be tied at fix end. Finally washing the tank with diluted bleaching powder or potassium Permagnate or disinfection of the tank using imported Food Grade Chemical Disinfectant which also has a residual effect, Removing the muddy water and cleaning the bontan surface of tank neatly, removing the plug and opening the inlet valve for filling the tank. Writing the date of cleaning over the existing place by erasing old dates with base coat of plain black enamel paint on the side of tanks and write as "Cleaned on....." etc. complete including collecting water sample and testing for potability at IITB testing lab. Contractor should ensure the water supply is regular in quarters, if not, then regularised the water supply by removing air lock if any etc. <b>Each PVC tank or compartment in RCC tank will be measured in this itemas per no..</b></p> <p><b>For capacities above 5001 litres &amp; upto 10,000 litres.</b></p> <p><b>(NOTE:- The Contractor has to make an own arrangement of Power supply from nearest recommended power point as shown by EMD)</b></p>	48.00	1,371.00	Per nos	65,808.00
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4.110	<p>Cleaning the Overhead &amp; Underground water tanks of capacities mentioned below for RCC tanks on the roof or underground of buildings by dewatering excess water with portable Electric water pump and/or transferring the water into another tank located near by, before schedule time of cleaning as directed, to ensure minimum wastage of water, then thoroughly cleaning with wire brush / coir brush including cleaning again using water jet cleaner to clean all Algae, sludge and impurity accumulated even in the smallest pores of the water tank. Closing the inlet and outlet water supply line and plugging the outlets inside the tanks with cotton plug and string of Nylon to be tied at fix end. Finally washing the tank with diluted bleaching powder or potassium Permagnate or disinfection of the tank using imported Food Grade Chemical Disinfectant which also has a residual effect, Removing the muddy water and cleaning the bontan surface of tank neatly, removing the plug and opening the inlet valve for filling the tank. Writing the date of cleaning over the existing place by erasing old dates with base coat of plain black enamel paint on the side of tanks and write as "Cleaned on. ...." etc. complete including collecting water sample and testing for potability at IITB testing lab. Contractor should ensure the water supply is regular in quarters, if not, then regularised the water supply by removing air lock if any etc. <b>Compartment in RCC tank will be measured in this item as per no..</b></p> <p><b>For capacities above 10,001 litrs to upto 20,000 liters.</b></p> <p><b>(NOTE:- The Contractor has to make an own arrangement of Power supply from nearest recommended power point as shown by EMD)</b></p>	33.00	2,642.00	Per nos	87,186.00
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4.111	<p>Cleaning the Underground RCC water tanks of capacities mentioned below, dewatering excess water with portable Electric water pump and/or transferring the water into another tank located near by, before schedule time of cleaning as directed, to ensure minimum wastage of water, then thoroughly cleaning with wire brush / coir brush including cleaning again using water jet cleaner to clean all Algae, sludge and impurity accumulated even in the smallest pores of the water tank. Closing the inlet and outlet water supply line and plugging the outlets inside the tanks with cotton plug and string of Nylon to be tied at fix end. Finally washing the tank with diluted bleaching powder or potassium Permagnate or disinfection of the tank using imported Food Grade Chemical Disinfectant which also has a residual effect, Removing the muddy water and cleaning the bottom surface of tank neatly, removing the plug and opening the inlet valve for filling the tank. Writing the date of cleaning over the existing place by erasing old dates with base coat of plain black enamel paint on the side of tanks and write as “Cleaned on. ....” etc. complete including collecting water sample and testing for potability at IITB testing lab. Contractor should ensure the water supply is regular in quarters, if not, then regularised the water supply by removing air lock if any etc. <b>RCC tank will be measured in this item. (NOTE:- The Contractor has to make an own arrangement of Power supply from nearest recommended power point as shown by EMD)</b></p> <p><b>For capacities from 20,001 litres to 40,000 liters.</b></p>	21.00	3,624.00	Per nos	76,104.00
4.112	<p>Cleaning the Underground RCC water tanks of capacities mentioned below, dewatering excess water with portable Electric water pump and/or transferring the water into another tank located near by, before schedule time of cleaning as directed, to ensure minimum wastage of water, then thoroughly cleaning with wire brush / coir brush including cleaning again using water jet cleaner to clean all Algae, sludge and impurity accumulated even in the smallest pores of the water tank. Closing the inlet and outlet water supply line and plugging the outlets inside the tanks with cotton plug and string of Nylon to be tied at fix end. Finally washing the tank with diluted bleaching powder or potassium Permagnate or disinfection of the tank using imported Food Grade Chemical Disinfectant which also has a residual effect, Removing the muddy water and cleaning the bottom surface of tank neatly, removing the plug and opening the inlet valve for filling the tank. Writing the date of cleaning over the existing place by erasing old dates with base coat of plain black enamel paint on the side of tanks and write as “Cleaned on. ....” etc. complete including collecting water sample and testing for potability at IITB testing lab. Contractor should ensure the water supply is regular in quarters, if not, then regularised the water supply by removing air lock if any etc. <b>RCC tank will be measured in this item. (NOTE:- The Contractor has to make an own arrangement of Power supply from nearest recommended power point as shown by EMD)</b></p> <p><b>For capacities from 40,001 litres to 1,20,000 liters.</b></p>	10.00	6,226.00	Per nos	62,260.00

4.113	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	50.00	10515.00	Per No	5,25,750.00
4.114	Providing and constructing Brick Masonry Inspection Chamber 90 cm x 45 cm upto 90 cm in depth including cement concrete in M-20 100mm thick foundation with 100mm offset outside of wall , 23 cm thick channels, 230mm width brick masonry, 20mm thick floating plastering from inside surface in 1:3 and 20mm thick single coat plaster outside in 1:4 as required and airtight RCC cover medium duty manufactured by K.K.Manholes, Neco or equivalent as approved by Engineer with frame work fixed in cement concrete 1:1.5:3 etc all complete as directed by Engineer In-charge.	150.00	21286.00	Nos	31,92,900.00
4.115	Providing and constructing Brick Masonry Inspection Chamber 90 cm x 45 cm and 90 cm to 150 cm in depth including cement concrete in M-20 100mm thick foundation with 100mm offset outside of wall , making necessary channel in cement concrete 1:1.5:3 finished with a floating coat of neat cement, all complete as per standard design,, 230mm width brick masonry 1:6, 20mm thick floating plastering from inside surface in 1:3 and 20mm thick single coat plaster outside in 1:4 as required and airtight RCC cover with frame work fixed in cement concrete 1:1.5:3 etc all complete as directed by Engineer In-charge.	30.00	25493.00	Nos	7,64,790.00
4.116	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, Neco 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.	30.00	30319.00	Nos	9,09,570.00
4.117	Extra & above for manhole 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. Complete.	30.00	13585.00	Rmt	4,07,550.00
4.118	Making necessary connection / disconnection to existing chamber / branch line / tank or as specified etc. with making necessary hole / cutting etc. & remaking the same etc.all competed as directed by Engineer In-charge.	60.00	1001.00	Nos	60,060.00

4.119	Providing and fixing 560mm dia. Heavy duty ductile iron manhole covers with frame for inspection chamber / manhole and other required places manufactured by M/s.NECO or equivalent etc. all complete as directed.	30.00	11338.00	Nos	3,40,140.00
4.120	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.	30.00	18914.00	Nos	5,67,420.00
4.121	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.	30.00	23766.00	Nos	7,12,980.00
4.122	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.	30.00	21335.00	Nos	6,40,050.00
4.123	Providing and fixing 900mm x 450mm rectangular Heavy duty FRP grating covers with frame for inspection chamber / manhole / gulley trap/ over storm water drain and other required places manufactured by M/s.KK or equivalent including closing the gaps between frame and surface with cement mortar all complete as directed.	30.00	13080.00	Nos	3,92,400.00
4.124	Providing and fixing 600mm diameter circular Heavy duty composite FRP manhole covers with frame for inspection chamber/ manhole and other required places manufactured by M/s.KK or equivalent etc. all complete as directed.	30.00	13216.00	Nos	3,96,480.00
4.125	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 40mm dia PVC pipe 8 to 10 nos per cover finishing the surface with smooth cement finish curing, placing the precast slab in proper position etc. complete as directed.	20.00	23278.00	m3	4,65,560.00
4.126	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	30.00	2485.50	Nos	74,565.00
4.127	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	30.00	3674.53	Nos	1,10,235.90

4.128	Providing and fixing 300 x 300 mm precast gully trap cover with frame for required places manufactured by approved brand etc. all complete as directed.	150.00	1131.00	Nos	1,69,650.00
4.129	Providing & fixing 15 mm of approved brand brass patti valve with new fittings, removing old broken valve wherever existing. (5% cost will be deducted for taking away the removed material outside IIT campus)	150.00	440.00	Nos	66,000.00
4.130	Providing & fixing 20 mm of approved brand brass patti valve with new fittings, removing old broken valve wherever existing. (5% cost will be deducted for taking away the removed material outside IIT campus)	150.00	510.00	Nos	76,500.00
4.131	Providing & fixing 25 mm of approved brand brass patti valve with new fittings, removing old broken valve wherever existing. (5% cost will be deducted for taking away the removed material outside IIT campus)	90.00	672.00	Nos	60,480.00
4.132	Providing & fixing 40 mm of approved brand brass patti valve with new fittings, removing old broken valve wherever existing. (5% cost will be deducted for taking away the removed material outside IIT campus)	60.00	1102.00	Nos	66,120.00
4.133	Providing & fixing 15 mm of Satyam /Kohinoor brand brass ballcock & rod with new fittings, removing old broken ballcock wherever existing. (5% cost will be deducted for taking away the removed material outside IIT campus)	60.00	556.00	Nos	33,360.00
4.134	Providing & fixing 20 mm of Satyam /Kohinoor brand brass ballcock & rod with new fittings, removing old broken ballcock wherever existing. (5% cost will be deducted for taking away the removed material outside IIT campus)	90.00	626.00	Nos	56,340.00
4.135	Providing & fixing 25 mm of Satyam /Kohinoor brand brass ballcock & rod with new fittings, removing old broken ballcock wherever existing. (5% cost will be deducted for taking away the removed material outside IIT campus)	150.00	788.00	Nos	1,18,200.00
4.136	Providing & fixing 40 mm of Satyam /Kohinoor brand brass ballcock & rod with new fittings, removing old broken ballcock wherever existing. (5% cost will be deducted for taking away the removed material outside IIT campus)	150.00	1485.00	Nos	2,22,750.00
4.137	Providing and fixing 25 mm dia 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 (5% cost will be deducted for taking away the removed material outside IIT campus)	50.00	3457.00	Nos	1,72,850.00
4.138	Providing and fixing 32 mm dia 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 (5% cost will be deducted for taking away the removed material outside IIT campus)	50.00	3584.00	Nos	1,79,200.00

4.139	Providing and fixing 40 mm dia 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 (5% cost will be deducted for taking away the removed material outside IIT campus)	50.00	3759.00	Nos	1,87,950.00
4.140	Providing and fixing 25 mm vertical gun metal non-return valve ISI approved heavy type including removing existing non-return valve. with all required fittings etc. complete as directed. (5% cost will be deducted for taking away the removed material outside IIT campus)	10.00	590.82	per no	5,908.20
4.141	Providing and fixing 32 mm vertical gun metal non-return valve ISI approved heavy type including removing existing non-return valve. with all required fittings etc. complete as directed. (5% cost will be deducted for taking away the removed material outside IIT campus)	10.00	804.91	per no	8,049.10
4.142	Providing and fixing 40 mm vertical gun metal non-return valve ISI approved heavy type including removing existing non-return valve. with all required fittings etc. complete as directed. (5% cost will be deducted for taking away the removed material outside IIT campus)	10.00	1074.20	per no	10,742.00
4.143	Providing and fixing 50 mm vertical gun metal non-return valve ISI approved heavy type including removing existing non-return valve. with all required fittings etc. complete as directed. (5% cost will be deducted for taking away the removed material outside IIT campus)	10.00	1368.09	per no	13,680.90
4.144	Providing and fixing 40 mm foot valve ISI approved including removing existing foot valve, with all required fittings etc. complete as directed. (5% cost will be deducted for taking away the removed material outside IIT campus)	10.00	5190.00	Nos	51,900.00
4.145	Providing and fixing 50 mm foot valve ISI approved including removing existing foot valve, with all required fittings etc. complete as directed. (5% cost will be deducted for taking away the removed material outside IIT campus)	10.00	5527.00	Nos	55,270.00
4.146	Providing & fixing Jaquar spindle for bib tap and removing old broken spindle wherever existing etc. complete as directed. (5% cost will be deducted for taking away the removed material outside IIT campus)	75.00	388.00	Nos	29,100.00
4.147	Providing & fixing Jaquar spindle for mixture and removing old broken spindle wherever existing etc. complete as directed. (5% cost will be deducted for taking away the removed material outside IIT campus)	75.00	388.00	Nos	29,100.00
<b>Total Amount of Rs. (4)</b>					<b>3,28,85,722.45</b>

**5) Wooden joinery / Aluminium / Roofing work**

5.01	Removing door and windows of any size and any height type with frame, mild steel / wrought iron grill work and stacking the same and depositing to Estate stores if required. (scaffolding will be paid in separate item if required) (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)	150.00	347.62	Nos	52,143.00
5.02	Removing flush door and glazed windows shutters carefully without damaging wooden frame of any size and stacking the same and depositing to Estate stores if required. (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)	150.00	135.85	Nos	20,377.50
5.03	Modification of existing door shutter by removing the door shutter and cutting the door shutter from bottom side up to 1/2" to 1 1/2" thick and refixing the same shutter after rectification with new beading patti, painting work with new brass hinges, screws etc. Complete.	250.00	406.22	Nos	1,01,555.00
5.04	Providing and fixing M.S. grills of required pattern in frames of windows etc. fixed to openings / wooden frames with rawl plugs screws etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete.	1000.00	225.64	kg	2,25,640.00
5.05	Providing and fabricating structural steel works in rolled sections like joints, channels, angles, tees etc. as per details designs & approved pattern including fixing in position with connecting plates, braces and welding, riveting, bolting as necessary including zinc primer coat & two coats of synthetic enamel paint etc. (scaffolding will be paid in separate item if required)	2000.00	111.09	Kg	2,22,180.00
5.06	Providing fabricating and fixing Steel work in built up tubular (round, square or rectangular hollow tubes, trusses etc.) in hot finished welded type tubes, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. Complete.	750.00	184.03	kg	1,38,022.50
5.07	Providing and fixing 35mm FRP door manufactured by M/s. Advance Company including brass hinges, both side brass handles, brass aldrop, tower bolt, brass tadi patti etc. complete at any location in residential building as directed.	100.00	3765.00	Sqm	3,76,500.00
5.08	Providing and fixing 3" Anchor Fastener wherever necessary etc. Complete.	100.00	115.00	nos	11,500.00

5.09	Supplying fabricating and fixing in position fully glazed aluminium openable window using aluminium section 42 x 30 x 1.5mm (0.526/rmt) size aluminium single border outer frame of window shutter, 42 x 37 x 1.5mm size(0.724kg/rmt), aluminium Z section for window shutter, 28 x 14.5 x 1.5mm( 0.286kg/rmt) size, aluminium clip for window shutter 45 x 45 x 1.5mm(0.762kg/rmt) ( size, Z aluminium center patti for mullion & intermediate section, 37mm x 37mm (0.820kg/rmt) aluminium angles 2mm thick, 5mm thick plain or frosted glasses with rubber gasket, 3 Nos. S.S. Hinges 75mm size (heavy) on each window shutter, aluminium tower bolt 100mm size 1 Nos on each leaf, aluminium stay 200mm to 250mm long 1 No per leaf, aluminium handle 1 Nos per leaf, provision for fixing AC with teak wood members inside box, (if required).etc. Complete. (all aluminium section should be 15 micron anodized or as directed and of Jindal make.	75.00	8258.00	Sq.m	6,19,350.00
5.10	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 for outer frame and intermediate vertical members as directed including 5mm thick plain or frosted glass (Make Modi Guard/Saint-Gobain) 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 (Aluminium section anodized to 15 microns , Jindal make or as directed.	175.00	6157.00	Sqm	10,77,475.00
5.11	Providing and fixing in position fixed glazing 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 plain glass (Make Modi Guard/Saint-Gobain) fixed to the above frame using glazing clip with rubber gaskets, filling all gaps with appropriate fillers etc. all complete.(Jindal Make)	75.00	5047.00	sqm	3,78,525.00
5.12	Providing and fixing in position two track aluminium sliding windows using track section of size 61mm x45mm x1.3mm(1.055kg/rmt) thick for bottom, section of size 61mmx31mmx1.3mm(0.659kg/rmt)for side & top .The shutter should be of bearing bottom of size 40mm x18mmx1.25mm (0.417kg/rmt)thick, top member of size 40mm x 18mm x 1.20mm(0.475kg/rmt) thick , Interlocking section of size 43mm x 27mm x 1.30mm (0.558kg/rmt)thick , handles section of size 43mm x 18mm x 1.30mm(0.424kg/rmt) thick including providing and fixing <b>SS304 grade flyproof mesh</b> in the shutter using aluminium U clip, approved quality minimum two nos. PVC rollers for each shutter,necessary locks,handles,PVC liningand other required fitting s etc. complete as directed by engineer incharge. (all aluminium section should be 15 micron anodized/ section of Jindal make or as directed.)	75.00	5926.00	Sq.m	4,44,450.00

5.13	<p>Providing and fixing in position two track aluminium sliding windows using <b>rectangular box section</b> of size 63mmx38mmx2.00mm (1.054kg/mtr) for outer frame, bottom section of size 61 mm x 45 mm x 1.3 mm (1.055kg/mtr) thick for bottom, sections of size 61 mm x 31mm x 1.3 mm (0.659kg/mtr) thick for sides and top. The shutter should be of bearing bottom of size 40 mm x18 mm x 1.25 mm (0.417kg/mtr) thick , top member of size 40 mm x 18 mm x 1.20 mm (0.475kg/mtr) thick, Interlocking section size of 43 mm x 27 mm x 1.30 mm (0.558kg/mtr) thick and handle section of size 43mm x 18 mm x 1.30 mm (0.424kg/mtr) thick including providing and fixing <b>S.S. 304 Jali flyproof mesh</b> in the shutter using u channel approved quality minimum two nos.PVC rollers for each shutter, necessary locks, handles, PVC lining and other required fittings,shutter width should not be more than 0.6m etc. complete as directed by Engineer in charge. ( Note: All aluminium sections and fitting are 15 micron anodized Jindal make or as directed).</p>	75.00	6902.00	Sq.m	5,17,650.00
5.14	<p>Providing and fixing in position two track aluminium sliding windows using <b>drain bottom section or equivalent</b> of size 61 mm x 45 mm x 1.3 mm(1.055kg/rmt) thick for bottom, sections of size 61 mm x 31mm x 1.3 mm (0.659kg/rmt)thick for sides and top. The shutter should be of bearing bottom of size 40 mm x18 mm x 1.25mm(0.417kg/rmt) thick , top member of size 40 mm x 18 mm x 1.20 mm (0.475kg/rmt)thick, Interlocking section size of 43 mm x 27 mm x 1.30 mm(0.558kg/rmt) thick and handle section of size 43mm x 18 mm x 1.30 mm(0.424kg/rmt) thick including providing and fixing <b>5mm thk. glass (plain or frosted) (Make Modi Guard/Saint-Gobain)</b>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 Jindal make or as directed).</p>	75.00	5830.00	Sq.m	4,37,250.00
5.15	<p>Providing &amp; fixing in position extruded modular aluminium section two track sliding window mounted on <b>rectangular frame of size 63mm x 38mm x 2.00mm thick</b> (1.054 kg/Rmt) made up of two track drain bottom section of size 61mm x 45mm x 1.3mm thick (1.055 kg/Rmt) and top and sides sections of size 61mm x 31mm x 1.3mm thick (0.659 kg/Rmt) The shutter should be of bearing bottom of size 40mm x 18mm x 1.25 mm (0.417 kg/Rmt) top member of size 40mm x 18mm x 1.20mm thick (0.475 kg/Rmt) Interlocking section size of 43mm x 27mm x 1.30mm thick (0.558 kg/Rmt) and handle sectionof size 43mm x 18mm x 1.30 mm thick (0.424kg/Rmt),selected quality <b>5mm thick clear glass (plain or frosted) (Make Modi Guard/Saint-Gobain)</b> to be fixed in shutter with neoprene gasket with approved quality PVC rollers, necessary locks, handles PVC lining and wooden encasement wherever necessary etc. Complete. (All aluminium sections and fitting should be 15 micron anodized and Jindal make or as directed).</p>	40.00	7591.00	sqm	3,03,640.00

5.16	Providing and fixing in position three track aluminium sliding windows using track sections of size 92 mm x 31mm x 1.3 mm (0.933kg/mtr) thick for bottom, sides and top. The shutter comprising of bottom and top member of size 40 mm x18 mm x 1.25 mm (0.417kg/mtr) thick , interlocking section of size 40 mm x 18 mm x 1.10 mm (0.469kg/mtr) thick and handle section of size 40mm x 18 mm x 1.25 mm (0.417kg/mtr) thick including providing and fixing <b>S.S 304 grade flyproof mesh</b> in the shutter using aluminium U clip, 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 and of Jindal make)	40.00	6357.00	Sq.m	2,54,280.00
5.17	Providing and fixing in position three track aluminium sliding windows using <b>rectangular box section</b> of size 100mmx40mmx1.30mm (0.976kg/mtr) for outer frame, 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 <b>S.S. 304 Jali flyproof mesh</b> in the shutter using u channel approved quality minimum two nos PVC rollers for each shutter, necessary locks, handles, PVC lining and other required fittings, shutter width should not be more than 0.6m etc. complete as directed by Engineer in charge. ( Note: All aluminium sections and fitting are 15 micron anodized and of Jindal make)	40.00	7341.00	Sq.m	2,93,640.00
5.18	Providing & fixing in position extruded modular alluminium section three track sliding window made up of three track drain bottom section of size 92mm x 45mm x 1.05mm thick (1.659 kg/Rmt) three track and top and side sections of size 92mm x31mm x 1.30mm thick (0.933 kg/Rmt) The shutter comprising of bottom and top member of size 40mm x 18mm x 1.25mm thick (0.417 kg/Rmt) interlocking section of size 40mm x18mm x 1.10mm thick (0.469 kg/Rmt)handles section of size of 40mm x 18mm x1.25mm thick (0.417 kg/Rmt) with <b>5mm thick glass (plain or frosted) (Make Modi Guard/Saint-Gobain)</b> fixed in shutter with approved quality neoprene, gasket, P.V.C lining etc. Complete. ( excluding frame. ( Note: All aluminium sections and fitting are 15 micron anodized and Jindal make)	60.00	6974.00	Sq.m	4,18,440.00

5.19	<p>Providing &amp; fixing in position extruded modular aluminium section three track sliding window made up of <b>rectangular box section</b> of size 100mmx40mmx1.30mm (0.976kg/mtr) for outer frame, three track drain bottom section of size 92mm x 45mm x 1.05mm thick (1.659 kg/Rmt) three track and top and side sections of size 92mm x31mm x 1.30mm thick (0.933 kg/Rmt) The shutter comprising of bottom and top member of size 40mm x 18mm x 1.25mm thick (0.417 kg/Rmt) interlocking section of size 40mm x18mm x 1.10mm thick (0.469 kg/Rmt)handles section of size of 40mm x 18mm x1.25mm thick (0.417 kg/Rmt) with <b>5mm thick glass (plain or frosted)</b> (Make Modi Guard/Saint-Gobain) fixed in shutter with approved quality neoprene, gasket, P.V.C lining etc. Complete. ( excluding frame.( Note: All aluminium sections and fitting are 15 micron anodized and Jindal make)</p>	50.00	7427.00	Sq.m	3,71,350.00
5.20	<p>Providing &amp; fixing in position extruded modular aluminium section three track sliding window mounted on <b>rectangular frame</b> of size 100mm x 40mm x 1.30mm thick (wt 0.933 kg/Rmt) made up of three track drain bottom section of size 92mm x 45mm x 105mm thick (1.659 kg/Rmt) three track top and side of size 92mm x31mm x 1.3mm thick (0.933 kg/Rmt) The shutter comprising of bottom and top member of size 40mm x 18mm x 1.10mm thick (0.469 kg/Rmt)handle sides of size 40mm x18mm x 1.25mm thick (0.417 kg/Rmt)with 2 shutter of 5.0mm thick glass (plain or frosted) fixed in shutter with approved quality neoprene gasket, PVC rollers, locks, handles, PVC lining and one shutter with <b>S.S. 304 Jali flyproof mesh</b> in the shutter using u channel approved quality minimum two nos PVC rollers for each shutter, necessary locks, handles, PVC lining and other required fittings, shutter width should not be more than 0.6m etc. complete as directed wherever necessary etc. Complete. ( Note: All aluminium sections and fitting are 15 micron anodized and of Jindal make)</p>	40.00	7398.00	Sq.m	2,95,920.00
5.21	<p>Providing &amp; fixing in position extruded modular aluminium section three track sliding window made up of three track drain bottom section or equivalent of size 92mm x 45mm x 105mm thick (1.659 kg/Rmt) three track top and side of size 92mm x31mm x 1.3mm thick (0.933 kg/Rmt) The shutter comprising of bottom and top member of size 40mm x 18mm x 1.10mm thick (0.469 kg/Rmt)handle sides of size 40mm x18mm x 1.25mm thick (0.417 kg/Rmt)with 2 shutter of 5.0mm thick glass (plain or frosted) (Make Modi Guard/Saint-Gobain) fixed in shutter with approved quality neoprene gasket, PVC rollers, locks, handles, PVC lining and one shutter with <b>S.S. 304 Jali flyproof mesh</b> in the shutter using u channel approved quality minimum two nos PVC rollers for each shutter, necessary locks, handles, PVC lining and other required fittings, shutter width should not be more than 0.6m etc. complete as directed wherever necessary etc. Complete. ( Note: All aluminium sections and fitting are 15 micron anodized and of Jindal make)</p>	40.00	6199.00	Sq.m	2,47,960.00

5.22	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 one number or tower bolt etc. complete as directed. ( All aluminium section of Jindal make)	55.00	3963.00	Sq.m	2,17,965.00
5.23	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 hardner sheet of Bckelite 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. ( All aluminium section of Jindal make)	85.00	6862.00	Sq.m	5,83,270.00
5.24	Providing and fixing with anodising or powder coating aluminium section for <b>door frame, windows, partitions</b> 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 (if required) etc. completed as directed.	175.00	541.00	kg	94,675.00
5.25	Providing and fixing bright finished brass 100 mm mortice latch and lock with 6 levers and a pair of lever handles of approved quality (Godrej make or equivelent) with necessary screws etc. Complete	75.00	809.08	nos	60,681.00
5.26	Providing and fixing 18mm thick commercial plywoods for drawer, panelling, shutters, partition and any other work with necessary fittings and fixtures etc. complete as per the directions of Engineer-in-charge .	100.00	861.00	Sq.m	86,100.00
5.27	Providing and fixing 18mm thick marine plywood for drawer, panelling, shutters, partition and any other work with necessary fittings and fixtures etc. complete as per the directions of Engineer-in-charge .	100.00	1347.00	Sq.m	1,34,700.00
5.28	Providing & fixing 1mm thick designer laminate of approved brand and pattern wherever required including, making necessary groves wherever required as per standard practice with all required fittings and fixtures etc. complete as directed.	200.00	650.00	sq.m	1,30,000.00
5.29	Providing and fixing magnetic catcher of approved quality in cupboard / ward robe shutters, including fixing with necessary screws etc. complete a) Triple strip vertical type	75.00	49.70	each	3,727.50

5.30	Providing and fixing magnetic catcher of approved quality in cupboard / ward robe shutters, including fixing with necessary screws etc. complete b) Double strip (horizontal type)	80.00	37.58	each	3,006.40
5.31	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.	200.00	1514.00	sq.m	3,02,800.00
5.32	Providing and fixing 600 x 450mm x 6mm thk mirrors of approved Indian quality copper plated with 10mm (3/8") thick plywood backing, in the masonry etc. Make Modi Guard/Saint-Gobain etc. complete. contractor will be allowed to take away old mirror if available and for which 5% deduction will be made of schedule rate of this item.	150.00	1522.21	each	2,28,331.50
5.33	Providing and fixing 6mm thk Glass shelf 125mm (5") wide and 610mm (24") long with necessary chromium plated brackets providing teak wood gutties etc. Make Modi Guard/Saint-Gobain etc. complete. contractor will be allowed to take away old glass shelf if available and for which 5% deduction will be made of schedule rate of this item.	150.00	1025.73	each	1,53,859.50
5.34	Providing and fixing chromium plated SS towel rod 20 mm dia and 75 cm. in length including all accessories complete.	200.00	718.00	No	1,43,600.00
5.35	Providing and fixing cement bonded wood particle board (bison panel) of 20mm thick to chajja at any floor, providing suitable hole for fixing nuts and bolts including making suitable groove in walls providing plaster and vatta with proper slope complete as directed. (scaffolding will be paid in separate item if required)	200.00	1467.00	Sqm	2,93,400.00
5.36	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.	120.00	1177.00	Sqm	1,41,240.00
5.37	Providing Second class teak wood in wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length (hold fast lugs or dash fastener shall be paid for separately).	6.00	135327.33	Cum	8,11,963.98
5.38	Shifting all the material inside the flats to nearby location (vacant flat) in IITB campus & relocating the same to the original flats as per original arrangement , removing all fitting like Auqa gard, geyser and carpentry work and refixing the same in alternate as well as reallotted accomendation after reallotment etc., Complete as directed	55.00	9875.00	per job	5,43,125.00

5.39	Shifting all the material inside the flats to any where at the required location (vacant flat) in IITB campus & relocating the same to the original flats as per original arrangement , removing all fitting like Auqa gard, geyser and carpentry work and refixing the same in alternate as well as reallocated accomendation after realloiment including vehicle (tempo/truck) all Complete as directed	15.00	13109.00	per job	1,96,635.00
5.40	Providing and fixing solid core flush door in single or double leaf 35mm thick of commertial type of exterior grade, approved commertial plywood facing both side without glazing and venetians, all necessary beads, moulding and lipping, 300mm long 2 nos. decorotive type S.S handles for each shutters, 8" long stainless steel tower bolt 1 no for each shutter etc. complete (without frame). (fittings will be approved by Engineer in charge before fixing)	60.00	5816.00	Sq.m	3,48,960.00
5.41	Providing and fixing solid core flush door in single or double leaf 35 mm 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)	50.00	6701.00	Sq.m	3,35,050.00
5.42	Providing and fixing country teakwood 2nd class fully glazed single / double leaf windows / ventilators rectangular in shape adopting section of 70mm x 32mm for styles and rails as per drawing including providing and fixing 5 mm thick plain / bajiri glass (Make Modi Guard/Saint-Gobain) with teakwood beading, fixing the window / ventilator shutters with 75mm size butt hinges (Brass oxidized) 2 Nos. for each shutter, aluminium towerbolt 100mm size one for each shutter, aluminium handle 125mm one for each shutter, hooks & eyes 200mm one for each shutter, applying two coats of synthetic enamel paint of approved brand and shade over a coat of wood primer including removing the existing shutter etc. Complete.	150.00	7618.00	sqm	11,42,700.00
5.43	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, <b>marine plywood</b> 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 stianless steel aldrop, other require fittings and fixtures etc. complete.	60.00	5728.00	sqm	3,43,680.00

5.44	Providing & fixing solid core flush door in single leaf 35mm thick commercial plywood facing both side without glazing and venetians, all necessary beads, moulding and lopping , <b>with 1mm thk laminate on both sides</b> including 6" long 2 nos S.S. handle, 8" long S.S. tower bolt 1nos, 4" long brass hinges (heavy type), 6 lever Godrej mortise lock with triplicate keys and other required fittings etc. complete (without frame)	30.00	8086.00	Sq.m	2,42,580.00
5.45	Providing and fixing Fire rated door shutter made with 1.6 mm thick G.I sheet having 2 hours of fire resistant and all necessary required fittings and fixtures etc., door closer, panic bar, SS ball bearing, vision wired panel, D type handle all of approved make, all complete as directed by Engineer In-charge.	20.00	16266.00	Sq.m	3,25,320.00
5.46	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.	250.00	114.31	kg	28,577.50
5.47	Providing and laying 6mm thick plain 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 laying on surface , cleaning etc. All directed.	60.00	5982.00	Sq.m	3,58,920.00
5.48	Providing & replacing in position Godrej night latch without damaging door & frame with automatic locking arrangement, triplicate keys etc. complete as directed.	50.00	2791.00	No	1,39,550.00
5.49	Providing and Replacing 5 mm thick plain/bajri glass (Modi Guard/Saint-Gobain make)of doors and windows etc. including teakwood beading etc. Complete.	150.00	1348.00	sqm	2,02,200.00
5.50	Providing and fixing fly proof stainless steel mesh of approved quality SS 304 grade to windows, doors and any other location using teak wood or aluminium anodised section of require size with necessary fittings and fixtures etc. complete as directed.	200.00	1511.99	Sq.m	3,02,398.00
5.51	Making the wooden doors, windows etc. and all the fittings and fixtures in easily operational condition in all type of quarters by providing necessary screws, oiling the fixtures, removing rust etc. from fittings plaining the frames etc. all complete as directed.	30.00	1066.00	Jobs	31,980.00
5.52	Easying the aluminium sliding windows by means of making freely operationable condition including cleaning the tracks, providing and fixing PVC rollers/ bearing (Heavy quality), concealed locks – 02 Nos etc. all required fittings for window of two track or three track etc. all complete as directed.	100.00	1791.00	Per window	1,79,100.00

5.53	Easying the aluminium sliding windows by means of making freely operationable condition including cleaning the tracks, providing and fixing PVC rollers/ bearing (Heavy quality), concealed locks – 04 Nos etc. all required fittings for window of four tracks and more etc. all complete as directed.	30.00	3024.00	per window	90,720.00
5.54	Removing the existing kitchen trolley & refixing existing sliding channels with oiling and greasing, welding existing broken SS round bars. Providing new screws after that refixing to original place including cleaning site etc. Complete	50.00	1119.00	Per job.	55,950.00
5.55	Replacing by providing and fixing 6 mm thick toughen plain glass of doors and windows etc. including removing existing damaged glass neatly without damaged structure etc. Complete.	30.00	2896.00	Sq.m	86,880.00
5.56	Providing and applying French polishing to new wood work including knotting, preparing the surface including step ladder etc. complete as directed.	30.00	422.46	Sqm	12,673.80
5.57	Providing and applying French polishing for required polish on previously polished wood including knotting, preparing the surface, step ladder etc. complete as directed.	30.00	212.81	Sqm	6,384.30
5.58	Providing and fixing colour coated Galvalume profile pre-coated sheet for roofing and cladding having thickness 0.50mm TCT of Jindal Make with required colour along with necessary accessories like self drilling and tapping screws with weather cap with all leads and lift etc. complete as directed. (scaffolding will be paid in separate item if required)	200.00	957.00	Sq.m	1,91,400.00
5.59	Providing and fixing colour coated Galvalume profile pre-coated sheet for roofing and cladding having thickness 0.80 mm TCT of Jindal Make with required colour along with necessary accessories like self drilling and tapping screws with weather cap with all leads and lift etc. complete as directed. (scaffolding will be paid in separate item if required)	80.00	958.00	Sq.m	76,640.00
5.60	Providing & fixing hydraulic door closer of approved quality and approved make (ISI Marks) to door shutter including making proper adjustment for smooth operation etc. Complete.	40.00	1228.00	Nos	49,120.00
5.61	P/F 25mm dia aluminum powder coated heavy duty (58.33gram/ft) approved draftery curtain rod with decorative side holders including required fittings and screws ( <b>length upto 1.5m</b> ) all complete	125.00	365.00	Rmt	45,625.00

5.62	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( <b>length beyond 1.5m</b> ) all complete	110.00	375.00	Rmt	41,250.00
5.63	P/F Stainless steel SS grade 304, curtain rod 25 mm dia 1.20 mm thick upto 1.5 meter with Stainless steel SS grade 304, brackets ( curtain rod) 25 mm dia 1.20 mm thick including required fittings and screws, all complete.	100.00	547.00	Rmt	54,700.00
5.64	P/F Stainless steel SS grade 304, curtain rod 25 mm dia 1.20 mm thick more than 1.5 meter with Stainless steel SS grade 304, brackets ( curtain rod) 25 mm dia 1.20 mm thick including required fittings and screws, all complete.	100.00	769.00	Rmt	76,900.00
5.65	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)	100.00	30041.00	Rmt	30,04,100.00
5.66	Providing & fixing in position wall unit, overhead storage, made out of using 18mm thick waterproof plywood sides & shutters,6mm thick waterproof plywood backing, 1 mm thick sunmica for all exposed surfaces , CP teakwood frame work / supports fixing the unit on wall , handles with providing & fixing glass shelf of 12mm thick 1 no at 45 cm including necessary edging, moulding , buffing etc. & locking arrangement , hinges & other hardware & required fitting etc. all complete as directed	40.00	10182.00	Sq.m	4,07,280.00
5.67	Supplying fabricating & fixing in position fully galzed aluminium single/double leaf <b>double glass window</b> using 15 micron anodized RZ section 46mm x 33mm x 2mm ( 0.38 kg/Rft )for window shutter , 46mm x 33mm x 2mm aluminium RZ single border outer frame , 21mm x 15mm x 2mm ( 0.38 kg/Rft ) aluminum RZ clip , 60mm x 34mm x 2mm ( 0.4 kg/rft )aluminum RZ centre , aluminum angle , 5mm thick plain double glass with jambo rubber gasket, adjustable hinges 2 nos on each shutter, z handle 2nos, window stay 2 nos, P/F aluminium outer hollow box section of size 50mm x 25mmx 1.5mm (0.18 kg/rft) and fixing the shutter on aluminium outer frame etc. complete as directed(All aluminium section Jindhal make)	40.00	20164.00	Sq.m	8,06,560.00

5.68	Providing,making and fixing in position 19mm thick marine plywood cabinets (kitply/century make) above/below kitchen platform with using 2" x 1 1/2" finished size teak wood frame properly polished and finished and approved sunmica(Marine/greenlamp) of 1mm on both side, Each shutter shall be provided with 4" stainless steel hinges and 6" stainless steel handles of approved quality. The work shall be executed in all respects as directed by the Engineer-in-Charge, ensuring a neat, durable, and high-quality finish.	100.00	6883.00	Sq.m	6,88,300.00
5.69	Providing and fixing in position aluminium <b>2 track sliding double glass window</b> 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 Jindal make)	40.00	12603.00	sqm	5,04,120.00
5.70	Providing and fixing in position aluminium <b>2 track sliding double glass window</b> with <b>top and bottom fixed double glass</b> 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 , shutter section of size 66x26mm of weight 0.774kg/m ,gazing clip of size 38.7x 28.5 mm of weight 0.303kg/m with single groove section of 89x32mm of 2.75 mm thk of weight of 1.933kg/m for fixed glass above and below of sliding window including fixing 5mm thick clear double glass shutter with rubber gasket, concealed lock, Meeti make heavy quality bearing for sliding window 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)	10.00	13884.00	sqm	1,38,840.00
5.71	Providing and fixing in position aluminium <b>3 track sliding double glass window</b> in heavy anodized section 15 micron with including frame work of aluminium hollow pipe section 100mm x 40mm size with 14 gauge thick of weight 1.469kg/m , aluminium sliding track of size 101.5x50mm of weight 1.798kg/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)	40.00	10555.00	Sq.m	4,22,200.00

5.72	Providing and fixing in position three track aluminium sliding windows of six shutter using aluminium section of drain bottom of size 116mm x 25mm x 1.35 mm (1.160kg/mtr) thick ,for sides and top section of size 116mm x 25mm x 1.4 mm (1.005kg/mtr) thick . The shutter comprising of bearing bottom section of 60mm x25mm x1.45mm (0.781kg/rmt) and handle aluminium section member of size 50 mm x25mm x 1.5 mm (0.717kg/mtr) thick , interlocking aluminium section with both side interlocking arrangement 44.5mmx25mmx1.06mm(0.637kg/m) and interlocking section with one interlocking arrangement of 45mmx25mmx1.2mm(0.595kg/m) and for central locking providing F section of of section of 40mm x25mm x1.5mm (0.545kg/rmt) including providing and fixing S.S 304 grade flyproof mesh in two shutter using ,aluminium U clip & 6mm toughen glass in four shutter using rubber gasket,. Heavy type of PVC rollers for each shutter, necessary sliding shutter latch, handles, PVC lining and other required fittings etc. complete as directed by Engineer in charge.( Note: All aluminium sections and fitting are 15 micron anodized & Jindhal make).	20.00	6887.00	Sq.m	1,37,740.00
5.73	Providing and fixing extra shutter of comprising of bottom and top member of size 40 mm x18 mm x 1.25 mm (0.417kg/mtr) thick , interlocking section of size 40 mm x 18 mm x 1.10 mm (0.469kg/mtr) thick and handle section of size 40mm x 18 mm x 1.25 mm (0.417kg/mtr) thick including providing and <b>fixing S.S 304 grade flyproof mesh</b> in the shutter using aluminium U clip, 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 & Jindhal make).	60.00	2383.00	Sq.m	1,42,980.00
5.74	Providing and fixing extra shutter of comprising of bottom and top member of size 40 mm x18 mm x 1.25 mm (0.417kg/mtr) thick , interlocking section of size 40 mm x 18 mm x 1.10 mm (0.40kg/mtr) thick and handle section of size 40mm x 18 mm x 1.25 mm (0.417kg/mtr) thick including providing and <b>fixing 5 mm thick glass (Plain or frosted)</b> in the shutter using neoprene gasket, approved quality minimum two nos.PVC rollers for each shutter, necessary locks, handles, PVC lining and other required fittings, etc. complete as directed by Engineer in charge.( Note: All aluminium sections and fitting are 15 micron anodized & Jindhal make)	80.00	2508.00	Sq.m	2,00,640.00
5.75	Providing & fixing butt hinges heavy aluminium 100mm in brass with new screws, removing old broken hinges wherever existing.	150.00	212.00	Nos	31,800.00
5.76	Providing & fixing butt hinges heavy aluminium 75mm in brass with new screws, removing old broken hinges wherever existing.	150.00	188.00	Nos	28,200.00
5.77	Providing & fixing 150mm tower bolt in aluminium with new screws, removing old broken tower bolt wherever existing.	150.00	107.00	Nos	16,050.00
5.78	Providing & fixing 100mm tower bolt in aluminium with new screws, removing old broken tower bolt wherever existing.	150.00	96.00	Nos	14,400.00

5.79	Providing & fixing buffer stopper with new screws, removing old broken buffer stopper wherever existing.	150.00	145.00	Nos	21,750.00
5.80	Providing and fixing 300mm long stainless steel heavy duty aldrop with require fittings and fixtures etc. Complete.	150.00	592.00	Nos	88,800.00
5.81	Providing and fixing 300mm long heavy duty brass oxidized aldrop with require fittings and fixtures etc. Complete.	40.00	346.00	Nos	13,840.00
5.82	Providing & fixing Jaguar make paper holder with new screws, removing old broken paper holder wherever existing.	80.00	1022.00	Nos	81,760.00
5.83	Providing & fixing Jaguar made towel rack 600mm long with new screws, removing old broken towel rack wherever existing.	65.00	3810.00	No	2,47,650.00
5.84	Providing & fixing Sliding channel of kitchen trolley upto 18 inch long with new screws, removing old broken rusted kitchen trolley channel.	45.00	573.00	Per pair	25,785.00
5.85	Providing & fixing Sliding channel of kitchen trolley upto 20 inch long with new screws, removing old broken rusted kitchen trolley channel.	50.00	1040.00	Per pair	52,000.00
5.86	Providing & fixing Sliding channel of kitchen trolley upto 22 inch long with new screws, removing old broken rusted kitchen trolley channel.	45.00	647.00	Per pair	29,115.00
5.87	Providing & fixing Sliding channel of kitchen trolley upto 24 inch long with new screws, removing old broken rusted kitchen trolley channel.	45.00	684.00	Per pair	30,780.00
5.88	Providing & fixing Hydraulic Sliding channel (Soft Close) of kitchen trolley upto 24 inch long with new screws, removing old broken rusted kitchen trolley channel.	20.00	1214.00	Per pair	24,280.00
5.89	Providing & fixing PVC gasket/ rubber lining with with necessary fitting & fixtures new screws, removing old broken rubber gasket wherever existing.	150.00	86.00	Rmt	12,900.00
5.90	Providing and fixing Galvanised 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	90.00	758.00	Sq.m	68,220.00

5.91	Replacement of damaged wooden window frames with P/F aluminium outer hollow box frame anodized section of size 65mm x 30mm x 1.5mm (0.227 kg/rft) and removing the existing double glass shutter & damaged teak wood frame with making good base surface with neat cement mortar 1:4 and providing & fabricating aluminium frame of same size and including re- fixing the existing aluminium shutter on anodized aluminium frame with proper rubber gaskets and other fittings such as handle,screws,hinges etc. Complete.	50.00	6408.00	Sq.m	3,20,400.00
5.92	Providing and fixing aluminium framing for the existing/new mirror of Ananta with 2" x 1" aluminium handle patti, rubber gasket, 1" x 1" x 2" aluminium 'L' and screws including removing the mirror from the wall safely and refixing it back with necessary fitting and cleaning the site etc complete.	50.00	3898.00	Per No	1,94,900.00
5.93	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 3.11Kg/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.	120.00	4509.00	Sqm	5,41,080.00
5.94	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.	50.00	10829.62	sq.m	5,41,481.00
5.95	Providing and fixing G. I. chain link fencing 50mm x 50mm x 8 guage 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.	150.00	630.00	sq.m	94,500.00

5.96	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.	35.00	5731.00	sq.m	2,00,585.00
5.97	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) (scaffolding will be paid in separate item if required)	30.00	155.00	sq.m	4,650.00
5.98	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.	100.00	2229.14	Sq.m	2,22,914.00
5.99	Providing and fixing Chequerred 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) .	75.00	1327.24	Sq.m	99,543.00
5.100	Providing fabricating and fixing in position required shape precoated 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.	90.00	555.00	per rmt	49,950.00
5.101	Providing fabricating and fixing in position required shape precoated Galvalume with 0.50 mm TCT flashing having 200mm width of Jindal make with required lapping for side of roofing sheet including cutting and fabricating in approved design,fixing the flashing properly as per manufacturers specification including scaffolding etc complete as directed.	90.00	613.00	per rmt	55,170.00
5.102	Providing fabricating and fixing in position required shape precoated Galvalume with 0.50 mm TCT flashing having 610mm width of Jindal make with required lapping for side of roofing sheet including cutting and fabricating in approved design,fixing the flashing properly as per manufacturers specification including scaffolding etc complete as directed.	90.00	1078.00	per rmt	97,020.00

5.103	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.	90.00	578.00	per rmt	52,020.00
5.104	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.	90.00	520.00	per rmt	46,800.00
5.105	Providing and fixing corrugated galvanized iron sheets of 0.63 mm thickness (24 B.W.G.), 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.	100.00	1029.65	sq.m	1,02,965.00
5.106	Providing and fixing 4mm thick exterior grade ACP sheet of approved colour and pattern over existing aluminium 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.	100.00	3280.00	sq.m	3,28,000.00
5.107	Supplying and fixing in position sandwich roofing using color galvalume profile pre-coated sheet for roofing having thickness 0.5mm TCT and jindal make with required colour at top and bottom sheet including necessary accessories like self drilling and tapping screws with weather cap with all leads and lift and fixing as per manufacturers specification, 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 <sup>3</sup> - 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.	80.00	2509.00	sq.m	2,00,720.00
5.108	Providing & fixing 12mm thick Gypsum board on partition, false ceiling including, making necessary grooves 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.	80.00	1149.00	sq.m	91,920.00
5.109	Providing & fixing Z adjustable hinge with new screws, removing old broken Z adjustable hinge.	100.00	479.00	Per No	47,900.00

5.110	Providing & fixing 6 pipes x 5 feet heavy duty SS ceiling cloth hanger with pully including UV protected nylon rope of approved thickness.	20.00	3553.00	Per No	71,060.00
5.111	Providing & fixing UV protected nylon rope of approved thickness for heavy duty SS ceiling cloth hanger.	160.00	30.00	per rmt	4,800.00
5.112	Providing & fixing in position extruded modular aluminium section two track sliding window mounted on <b>rectangular frame of size 63mm x 38mm x 2.00mm thick</b> (1.054 kg/Rmt) made up of two track drain bottom section of size 61mm x 45mm x 1.3mm thick (1.055 kg/Rmt) and top and sides sections of size 61mm x 31mm x 1.3mm thick (0.659 kg/Rmt) The shutter should be of bearing bottom of size 40mm x 18mm x 1.25 mm (0.417 kg/Rmt) top member of size 40mm x 18mm x 1.20mm thick (0.475 kg/Rmt) Interlocking section size of 43mm x 27mm x 1.30mm thick (0.558 kg/Rmt) and handle section of size 43mm x 18mm x 1.30 mm thick (0.424kg/Rmt), selected quality <b>4mm thick ACP sheet of desire shead and pattern</b> to be fixed in shutter with neoprene gasket with approved quality PVC rollers, necessary locks, handles PVC lining and wooden encasement wherever necessary etc. Complete. (All aluminium sections and fitting should be 15 micron anodized and Jindal make or as directed).	10.00	8571.00	Sqm	85,710.00
5.113	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 butt hinges 75x47x1.8 mm IS: 12817 marked (2 nos.) for each shutter, Inos. of Anodised Aluminium tower bolt on each shutter, Ino 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. ( All aluminium section of Jindal make)	10.00	7774.00	Sqm	77,740.00
5.114	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)	10.00	6000.00	Sqm	60,000.00
<b>Total Amount of Rs. (5)</b>					<b>2,65,38,104.48</b>

6) Special Item					
6.01	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.	150.00	417.00	rmt	62,550.00
6.02	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.	175.00	130.00	Points	22,750.00
6.03	Deep cleaning of vacant quarter average area of 75 sqm, before handing over the key including wet mopping entire floor, cleaning of toilets with dilute acid, bathrooms, door and window shutters cleaning, fans, kitchen trolley, floor under sink, cabinet drawers inside and outside, loft, cleaning of slidding window track with air blower as required etc. complete.	275.00	1986.00	per quarter	5,46,150.00
<b>Total Amount of Rs. (6)</b>					<b>6,31,450.00</b>

7) Additional items for utility / public building					
7.01	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.	20.00	478.00	Per Nos.	9,560.00
7.02	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.	20.00	2003.00	m2	40,060.00
7.03	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	200.00	465.00	Rmt	93,000.00

7.04	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.	50.00	1780.00	m2	89,000.00
7.05	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.	200.00	1751.00	m2	3,50,200.00
7.06	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, specifacaton and direction of the Engineer in charge but excluding the cost of painting.	20.00	1435.00	m2	28,700.00

7.07	<p>Providing &amp; fixing 12.5mm thick gypsum board of Gyproc make at all height including providing &amp; fixing of framework made of special section, power pressed from M.S. sheets and galvanised with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleat of size 25mm wide x 1.6mm thick with flanges of 27mm and 37mm, at 1200mm c/c, one flange fixed to the ceiling with dash fastener 12.5mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25 x10 x0.50mm of required length with nuts &amp; bolts of required size and other end of angle hanger fixed with intermediate G.I chanel 45 x15 x 0.90mm running at the spacing of 1200 mm c/ c, to which the ceiling section 0.5mm thick bottom wedge of 80mm with tapered flanges of 26 mm each having lips of 10.5mm, at 450mm c/c, shall be fixed in a direction perpendicular to G.I intermediate channel with connecting clip made out of 2.64mm dia x 230mm long G.I wire at every junction, including fixing perimeter channels 0.50mm thick 27mm high having flanges of 20mm and 30mm long, the perimeter of ceiling fixed to wall/ partitions with the help of Rawl plugs at 450mm centre, with 25mm long dry wall screws @ 230mm interval, including fixing of gypsum Board to ceiling section and perimeter channels with the help of dry wall screws of size 3.5 x25mm at 230mm c/c, including jointing &amp; 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.</p>	1600.00	1351.00	m2	21,61,600.00
7.08	<p>Providing and fixing trap door in existing false ceiling cutting and making 8mm Calcium silicate board / 12 to 18 mm ply wood 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 felling gaps and joints ..etc.all complete as directed by Engineer In-charge.</p>	10.00	1718.00	Sqm	17,180.00
7.09	<p>Providing and fixing in position Calcium silicate board (hilux make) false ceiling as per India gypsum manufacturer's instruction with 12 mm thick Calcium silicate board screw/ fixed to the underside of suspended from the main ceiling as per manufacture's instruction and specification. G. I. Grid should consist of ceiling sections at maximum center to center distance 450 mm, Perimeter channel intermediate 1200 mm. The ceiling section should be fixed to intermediate channel with connection clips G. I. Grid should be fixed to R.C.C.slab above with the help of 25mmX0.5mm strap hanger &amp; soffit cleat. The joints between soffit cleat, strap hanger &amp;G.I. grid should be fixed with nut bolts, Soffit cleats should be fixed to R.C.C. ceiling with W.E.type rawl plug&amp; fastener maximum c/c distance (both ways) of strap hangers should be 1200mm including covering the furniture while working etc.</p>	10.00	1789.00	m2	17,890.00

7.10	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.	20.00	436.00	m2	8,720.00
7.11	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, scaffolding if required etc. complete as directed.	50.00	1044.00	m2	52,200.00
7.12	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.	50.00	443.90	m2	22,195.00
7.13	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)	1600.00	53.35	m2	85,360.00
7.14	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.	50.00	71.00	Rmt	3,550.00
7.15	Providing and fixing urinal sensor ( Hindware / Askon / Jaquar make ) flush valve electrically or battery operated of Askon / Jaquar 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.	5.00	11549.00	Nos	57,745.00
7.16	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)	5.00	1079.00	No.	5,395.00

7.17	Providing and fixing Hand Shower Pack (Single flow 70mm round 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)	5.00	2223.00	No.	11,115.00
7.18	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)	5.00	2124.00	No.	10,620.00
7.19	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)	5.00	2357.00	No.	11,785.00
7.20	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)	5.00	2303.00	No.	11,515.00
7.21	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)	10.00	696.00	No.	6,960.00
7.22	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)	5.00	1248.00	No.	6,240.00
7.23	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)	5.00	4816.00	No.	24,080.00

7.24	Providing and fixing 300mm long stainless steel handles to door of approved quality and design with necessary fittings and fixtures etc. completed as directed.	5.00	632.00	Set	3,160.00
7.25	Providing and fixing 450mm long stainless steel handles to door of approved quality and design with necessary fittings and fixtures etc. completed as directed.	5.00	748.00	Set	3,740.00
7.26	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.	3.00	8366.00	m2	25,098.00
7.27	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	2673.28	Nos	5,346.56
7.28	Providing and fixing Godrej / Enox / Hardwyn make concealed type door closer as per the existing pattern of approved quality and make to door shutter including making proper adjustment for smooth operation etc. Complete.	100.00	4700.00	Nos	4,70,000.00
7.29	Providing, supplying and fixing new (10+10)mm thick doubled clear ( or as per existing pattern) Toughened glass at any height including removing the old damaged/broken glass including fixing with lamination sheet as per site requirements between two (10+10)mm thick doubled glass including required fittings and fixtures, filling the gaps with silicon sealant etc all complete as directed by Engineer Incharge. (Double glass of (10+10)mm will be considered as one Sqm area for payment)	2.00	16054.00	m2	32,108.00
7.30	Providing, supplying and fixing new (8+8)mm thick doubled clear ( or as per existing pattern) Toughened glass at any height including removing the old damaged/broken glass including fixing with lamination sheet as per site requirements between two (8+8)mm thick doubled glass including required fittings and fixtures, filling the gaps with silicon sealant etc all complete as directed by Engineer Incharge. (Double glass of (8+8)mm will be considered as one Sqm area for payment)	2.00	13839.00	m2	27,678.00

7.31	Providing, supplying and fixing new (5+5)mm thick double clear ( or as per existing pattern) Toughened glass at any height including removing the old damaged/broken glass including fixing with lamination sheet as per site requirements between two (8+8)mm thick doubled glass including required fittings and fixtures, filling the gaps with silicon sealant etc all complete as directed by Engineer Incharge. (Double glass of (8+8)mm will be considered as one Sqm area for payment)	2.00	9890.00	m2	19,780.00
7.32	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)	20.00	3188.00	No.	63,760.00
7.33	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)	10.00	783.00	No.	7,830.00
7.34	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	348.00	No.	1,740.00
7.35	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)	12.00	4638.00	Job	55,656.00
7.36	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	1304.00	Per Hr.	6,520.00
7.37	Hiring charge of road roller 8 to 10 ton capacity for rolling and levelling in various locations in IITB campus. The hiring charges are inclusive of wages of roller driver, cleaner, diesel/ oil, incidentals etc, payment will be given for the actual period of roller operated and no breaks will be considered for payment.	5.00	828.00	Per Hr.	4,140.00

7.38	Providing & applying two coats of Fenomastic pure colour (Jotun)/ Beauty gold washable (Nerolac) / Apcolite Premium Emulsion (Asian) as per manufacturer specification and of existing colour and shade to old / new surfaces with uniform finish including one coat of primer of same brand, applying same make putty, lambi / palti wherever required for surface preparation including preparing, cleaning, removing all old surface coating if necessary etc. by using emmery papers including necessary scaffolding, taking all safety precautionary measures, covering the floor area, furniture by plastic sheet, removing stains of paint from floor etc. all complete as directed by Engineer In-charge. (MAKE BY : JOTUN/NEROLAC/ASIAN)	10000.00	344.00	m2	34,40,000.00
7.39	Providing & applying two coats of decorative paint/texture paint of JOTUN/ NEROLAC/ ASIAN as per manufacturer specification and of existing colour and shade to old / new surfaces with uniform finish including applying same make lambi / palti wherever required for surface preparation, applying 1 coat of primer of same brand and 2 coats of Fenomastic pure colour (Jotun)/ Beauty gold washable (Nerolac) / Apcolite Premium Emulsion (Asian) including cleaning, removing all old surface coating etc. by using emmery papers including necessary scaffolding, taking all safety precautionary measures, covering the floor area, furniture by plastic sheet, removing stains of paint from floor etc. all complete as directed by Engineer In-charge. (MAKE BY : JOTUN/ NEROLAC/ASIAN)	1700.00	944.00	m2	16,04,800.00
7.40	Providing and applying polyurethane polish of required finish to wood work by spray machine including knotting and preparing the surface by scrapping, applying French polishing, scaffolding if required, covering the floor area, furniture by plastic sheet, removing stains from floor etc. etc. All complete as directed by Engineer In-charge.	300.00	1086.00	m2	3,25,800.00
7.41	Providing & applying Fenomastic pure colour (Jotun)/ Beauty gold washable (Nerolac) / Apcolite Premium Emulsion (Asian) In one coat over existing colour and shade to old / new surfaces with uniform finish including filling the surface cracks with Dr Fixit Crack X paste , applying same make putty, lambi / palti wherever required for surface preparation applying one coat of primer of same brand, including preparing, cleaning, removing all old surface coating if necessary etc. by using emmery papers including necessary scaffolding/ step ladder, taking all safety precautionary measures, covering the floor area, furniture by plastic sheet, removing stains of paint from floor etc. all complete as directed by Engineer In-charge. (MAKE BY : JOTUN/NEROLAC/ASIAN)	200.00	207.00	m2	41,400.00

7.42	Repairing , re-coating and finishing to old texture paint surface with nearly matching colour as per the existing/approved pattern and shade including applying lambi / palti , filling the surface cracks with Dr Fixit Crack X paste wherever required for surface preparation, applying primer and Fenomastic pure colour (Jotun)/ Beauty gold washable (Nerolac) / Apcolite Premium Emulsion (Asian) including cleaning site including scaffolding/step ladder, taking all safety precautionary measures all complete as directed by Engineer In-charge. (MAKE BY : JOTUN/ NEROLAC/ASIAN)	100.00	735.00	m2	73,500.00
7.43	Providing and replacing Aluminium Die casting front plate / SS front plate with frame suitable for existing sensor ( Hindware / Askon / Jaquar make ) with necessary fittings and fixtures as per manufacturer specifications and necessary plumbing work etc complete as directed by Engineer In-charge.( visiting charges / service charges for mechanic for repairing existing sensor will be paid under respective item )	2.00	1684.00	Per no	3,368.00
7.44	Providing and replacing Integrated electronic control circuit which is suitable for existing sensor ( Hindware / Askon / Jaquar make ) with necessary fittings and fixtures as per manufacturer specifications and necessary plumbing work etc complete as directed by Engineer In-charge.( visiting charges / service charges for mechanic for repairing existing sensor will be paid under respective item )	2.00	3194.00	Per no	6,388.00
7.45	Providing and replacing full solenoid valve which is suitable for existing sensor ( Hindware / Askon / Jaquar make ) with necessary fittings and fixtures as per manufacturer specifications and necessary plumbing work etc complete as directed by Engineer In-charge.( visiting charges / service charges for mechanic for repairing existing sensor will be paid under respective item )	2.00	2904.00	Per no	5,808.00
7.46	Providing and replacing full coil set for solenoid valve ( coil + plunger+spring + Diaphram ) which is suitable for existing sensor ( Hindware / Askon / Jaquar make ) with necessary fittings and fixtures as per manufacturer specifications and necessary plumbing work etc complete as directed by Engineer In-charge. ( visiting charges / service charges for mechanic for repairing existing sensor will be paid under respective item )	2.00	929.00	Per no	1,858.00
7.47	Visiting charges / service charges for mechanic for repairing existing sensor ( Hindware / Askon / Jaquar make ) including minor works like replacement of batteries etc complete as directed by Engineer In-charge.	5.00	465.00	Per visit	2,325.00

7.48	<p>Providing and fixing solid core flush door in single or double leaf 45-50 mm thick of commercial type of exterior grade, approved commercial plywood facing both side including prelaminated sheet/ sunmica as per existing pattern with all necessary beads, moulding and lipping, Mortice lock with handles( shalimar / equivalent make) , 12" long stainless steel heavy tower bolt 1 no , 4 no. of heavy duty butt hinges as per existing pattern, 1 no. Door stopper, 1 no concealed door closer and other required fittings etc as per the existing pattern etc all Complete as directed by Engineer In-Charge. (shade and pattern of door should be matched with existing doors). (fittings will be approved by Engineer in charge before fixing) contractor will be allowed to take away old dismantled material if available for which 5% deduction will be made of schedule rate of this item.</p>	10.00	10441.00	m2	1,04,410.00
7.49	<p>Removing the old cement concrete or any type of tiles very carefully from flooring/dado including back coat plaster (if plaster found loose) levelling the surface, cleaning the site including sorting out serviceable tiles and stacking the same, utilizing the same tiles for dado work as per the instructions and debris disposing off at designated location and taking the debris out of IITB campus as directed by Engineer In charge. ( Note : Fixing of old tiles for dado will be paid under respective item )</p>	2500.00	69.49	Sqm	1,73,725.00
7.50	<p>Providing and laying old removed tiles as per above item wall dado in 300mm x 600mm sizes laid on back plaster of 20 mm ( Avg) thick cement mortar 1:4 (1 cement: 4 coarse sand) laid on back plaster of 20 mm ( Avg) thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement paste including grouting the joints with white cement and matching pigments , proper finishing the wall portion above dado and false ceiling with wall care putty, fenosmastic pure colour to make them stain free etc. The tiles must be cut with the zero chipping diamond cutter only and matching the corner tiles by bevelled edge cutting . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily etc all complete as directed by Engineer Incharge. Note : 1)The joints should be perfectly aligned with floor joints, accordingly tiles has to cut. 2) Plastering will be paid under respective Item. 3) If any tiles broken intensionally while removing from wall or tiles broken due to negligence , this office will be recover the amount equal to ongoing market rate.</p>	1500.00	708.00	Sqm	10,62,000.00

7.51	Providing and laying Vitrified matt finish dado tiles ( design , pattern, shade should match with existing one and need to get the sample approval from Estate office) in wall in 300mm x 600mm sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on back plaster of 20 mm ( Avg) thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement paste including grouting the joints with white cement and matching pigments , proper finishing the wall portion above dado and false ceiling with wall care putty, fenosmastic pure colour to make them stain free etc. The tiles must be cut with the zero chipping diamond cutter only and matching the corner tiles by bevelled edge cutting . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily etc all complete as directed by Engineer Incharge. Note : 1)The joints should be perfectly aligned with floor joints, accordingly tiles has to cut. 2) Plastering will be paid under respective Item.	1000.00	1618.00	Sqm	16,18,000.00
7.52	Removing the glass partition carefully from wash rooms and Refixing the same glass pannels with out any damages, including necessary fittinhs and fixtures etc all complete as directed by Engineer Incharge	120.00	3242.00	Per Job	3,89,040.00
7.53	Providing and laying polythene/ tarpaulin sheet covering for furniture ( cupboards, chairs, shelves, teapoy, wash basin , kitchen platorm,kitchen sink etc) and floor in the room during the process of renovation etc all complete as directed by Engineer Incharge	120.00	653.00	Per room	78,360.00
<b>Total Amount of Rs. (7)</b>					<b>1,27,82,008.56</b>
<b>TOTAL AMOUNT OF Rs. (1+2+3+4+5+6+7)</b>					<b>16,94,91,487.20</b>
Say Rs.					<b>16,94,91,487.00</b>
At Par					
(In words, _____%) (In figures.....%) Above					
(In words, _____%) (In figures.....%) Below					
Gross Total Amount Rs.					
CGST 9%					
SGST 9%					
Net Total Amount Rs.					
Say Rs.					

(Amount in Rs. \_\_\_\_\_ )

(Rates for all items & net amount of total to be filled with figure and words, Percentage for above/below in words as well as in figures should be mention clear & correct. 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).

**Special Condition :**

1. Recovery of scrap material will be done in respective item at the rates mention below -
  - a) Wood scrap – Rs. 25.00/kg
  - b) Aluminium scrap – Rs. 150.00/kg
  - c) MS Steel / Tor steel & structural steel – Rs. 28.00/kg
  - d) Kitchen trolley – Rs. 45.00/kg
  - e) GI / CI Pipe – Rs. 20.00/kg
  - f) Brass taps of all types – Rs. 120.00/kg
2. Existing passenger lifts should not be use for shifting construction materials or debris.
3. Manufacturer & brand list for various items should be supplied as per approved list.
4. Safety precautions should be strictly followed while repair construction work.
5. 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 if delayed for completion of item / job.

**Note:**

- 1) 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. In addition to the existing safety clause of the tender documents a penalty of Rs. 5,000/- (per case) will be recovered from the bills of the particular work, in case any safety violations are noticed.
- 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**