INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
ESTATE OFFICE

EO/A/HILLSIDE/WKS-79/26-27

Name of the Work : Major external repairs and renovation of external walls, staircase, and common areas at QIP Building No. 2 in the Hillside Area of IIT Bombay.

Sr. No.	Schedule / Description of work	Qty.	Unit	Rate in figure & words	Amount
1	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 debrises 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)	420.00	Sqm		
2	Chipping of unsound/weak concrete material from slabs, beams, columns etc. with manual Chisel and/ or by standard power driven percussion type or of approved make 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 all complete as per direction of Engineer-In-Charge 75 mm Avg Thickness	20.00	Sqm		
3	Chipping of unsound/weak concrete material from slabs, beams, columns etc. with manual Chisel and/ or by standard power driven percussion type or of approved make 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 all complete as per direction of Engineer-In-Charge 50mm Avg Thickness	210.00	Sqm		
4	Chipping of unsound/weak concrete material from slabs, beams, columns etc. with manual Chisel and/ or by standard power driven percussion type or of approved make 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 all complete as per direction of Engineer-In-Charge 25mm Avg Thickness	70.00	Sqm		
5	Old reinforcement treatment providing and applying reinforcement treatment, comprising of following operations. Cleaning the reinforcement from all sides by using wire brush, tools etc. Application of rust converter such as Alkaline base(Rust kill A) as per manufacturers specification, cleaning as directed complete. Actual consumption of Alkaline base converter shall be measured for payment on weight basis. Invoice of authorized dealer will be verified. The chemical to be procured in sealed container & seal to be opened in presence of the IITB representatives.	30.00	Kg		

6	Providing, mixing and applying bonding coat of approved adhesive on chipped portion of RCC as per specifications and direction of Engineer-In-charge complete in all respect. SBR Polymer (@10% of cement weight) modified cementitious bond coat @ 2.2 kg cement per sqm of surface area mixed with specified proportion of approved polymer	110.00	Kg		
7	Providing, mixing and applying SBR polymer (of approved make) modified Cement mortar in proportion of 1:4 (1 cement: 4 graded coarse sand with polymer minimum 2% by wt. of cement used) as per specifications and directions of Engineer-in-charge. 12mm avg Thickness	20.00	Sqm		
8	Providing, mixing and applying SBR polymer (of approved make) modified Cement mortar in proportion of 1:4 (1 cement: 4 graded coarse sand with polymer minimum 2% by wt. of cement used) as per specifications and directions of Engineer-in-charge. 25mm Avg Thickness	70.00	Sqm		
9	Providing, mixing and applying SBR polymer (of approved make) modified Cement mortar in proportion of 1:4 (1 cement: 4 graded coarse sand with polymer minimum 2% by wt. of cement used) as per specifications and directions of Engineer-in-charge. 50mm Avg Thickness	210.00	Sqm		
10	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)	420.00	Sqm		
11	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 competants 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 actul stack measurement/ truck measurement for debrises, loose stones, boulders etc.).	49.00	cum		
12	Dismantling plain cement concrete work at any height & any floor including breaking concrete by chiselling, wedging etc., lowering down debrises, stacking the serviceable materials and stacking the debris upto a distance of 50 metres from building or spreading as directed.	0.50	cum		
13	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)	50.00	Rmt		

14	Providing and filling separation crack of 75mm width and 25mm deep with polymer modified cementatious mortar. a) Demarcating groove, removing plaster / concrete carefully, washing with potable water. b) Filling polymer modified cementatious 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 cleaning, finishing to match the plaster in vicinity,disposing of debrises anywhere in IITB campus, cleaning as directed Including step ladder if required 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).	50.00	Rmt		
15	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 equired, 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)	1490.00	Sqm		
16	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	1490.00	Sqm		
17	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.	420.00	Sqm		
18	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 achive DFT of 60-70 microns. Apply with roller or spray allow it to air cure for 7 days.	1380.00	Sqm		

	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 & 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 >100% as per ASTMD 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)				
19	Providing and applying three coats of Dr. Fixit Roof seal coating including preparing surface by pressure washing the surface to remove all algae, mould, dirt, dust, chalking and waste products. All visible hairline cracks more than 0.50mm and not giving hollow sound on the IPS/screed or at the junctions of flat roof & vertical parapet wall, pipe joints, should be cut and widen V shape with mechanical cutter in the size (6mm W x 6mm D) and fill with Dr. Fixit PU Sealant covering the entire area uniformly with suitable gun. Allow sealant to cure a minimum 24 hours. Apply minimum 50mm - 100 mm width 45 GSM Glass Fibre Mesh / non-woven geo textile fleece with the coat of Dr. Fixit Roofseal Select along the length of crack. Apply one coat of Dr. Fixit Primeseal primer dilute with water in the ratio 2:1. Allow it to dry for 2 to 3 hours. Apply 1st coat of Dr. Fixit Roofseal Select at the rate of 2.0 sqmt / litre / coat. An open 45 Gsm glass fibre mesh of 2.5 mm x 2.5 mm must be sandwiched between the first and second coat. While the 1st coat is still wet, place the fibre mesh on it. Allow the first coat to dry for 6-8 hours. Apply second coat of Dr. Fixit Roofseal Select with the same application coverage. Application direction of second coat should be perpendicular to that of the first coat. Allow second coat to dry for 6-8 hours. Apply third coat of Dr. Fixit Roofseal Select at an application direction that is perpendicular to that of the second coat with same application coverage rate. Check to see no void surface is left untreated / uncoated. Allow the system to air cure for 7 days minimum. A total thickness of 1 mm must be achieved when Dr. Fixit Roofseal Select is dry. Work Shall be got executed through certified applicator of the product manufacturing company only and work shall be guaranteed for 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.	100.00	Sqm		
20	Providing and applying Birla wall care white cement based putty as per manufacturer's specifications in approved shade and colour to existing rough surfaces/ plaster surface/brick wall and ceiling as directed by Engineer in charge etc, complete	300.00	Sqm		
21	Providing and applying one coat of cement primer of approved manufacturer (Asian paints Decoprime wall primer or any other approved equivalent product of ICI or Goodlass Nerolac as directed by Engineer and as per manufacture specification with the use of step ladder etc, complete as directed.	500.00	Sqm		
22	Providing and applying two coats of acrylic oil-bound distemper of IITB approved manufacturer & quality colour and shade as per product specification on old/new surfaces including removing the old peeled off neeru finish /pop/ existing luster paint / water proofing cement paint/wall paper by scappring, sand papering and preparing the surface smooth, necessary repairs to scratches including step ladder etc complete	500.00	Sqm		

23	Providing and applying one priming coat to over steel and other metal surfaces etc including preparing the surface by thoroughly cleaning oil, grease, dirt, and other foreign matter with wire brushing, fine fire steel wool, and sand paper as per manufacture specification etc. Complete.	50.00	Sqm		
24	Providing and applying one priming coat to wood and wood based surface etc including preparing the surface by thoroughly cleaning oil, grease, dirt, and other foreign matter with wire brushing, fine fire steel wool, and sand paper as per manufacture specification step ladder etc. Complete. (Note:- Contractors have to procure the paint materials in sealed containers. Containers will be opened in presence of IIT representative. Spilling over paint on other areas externally as well as internally such as wall, floor furniture's etc are not allowed. If it occurs, it has to be cleaned by contractors completely at his own cost.)	10.00	Sqm		
25	Providing and applying two coats of synthetic enamel paint of approved colour to new/old structural steel work and wood work in buildings and workshops including as per manufacture specification step ladder if necessary, cleaning and preparing surfaces by solvent, degreasing and derusting by manual scrapping/mechanically by sand blasting/shot blasting flame cleaning/by chemical methods etc,complete. (excluding primer coat)	50.00	Sqm		
26	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)	10.00	Rmt		
27	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)	10.00	Rmt		
28	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.	10.00	Rmt		
29	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.	10.00	Rmt		

30	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)	10.00	Rmt		
31	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)	10.00	Rmt		
32	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)	10.00	Rmt		
33	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)	2.00	Nos		
34	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)	2.00	nos		
35	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 brakets projecting 25mm to 40mm from face of wall & fixing with heavy duty PVC clips of approved quality & number, filling the joints using rubber gasket with solvent cement and properly resting the shoe of pipes on C.C. or masonry blocks, including 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.	20.00	Rmt		
36	Providing and laying super fluid micro concrete of IITB approved manufacturer for exposed RCC member like slab,column,beam,staircase pardi,lintel mixed proportion as per manufacturers specification at any floor providing and fixing plywood form work in line and level, cleaning, curing etc. complete. the compressive strength of super fluid micro concrete should be 25N/sqmm .including working platform	5000.00	Kg		

37	Providing and fixing 20mm thick cement bonded wood particle board (bison panel) ISI make to cover toilet duct/weather Shed at any floor on M.S. Angle frame and will be paid under respective item, providing suitable hole for fixing nuts and bolts and vent pipe of any diameter including making suitable groove on plaster and vatta, proper slope complete as directed. Note :- Holes to be made on the wall has to be done by using drill machine and groove by groove cutting machine precoated Bolts/ hook to be grouted in the wall by using of approved polymer mortar after cleaning and applying polymer bond coat in cement mortar 1:1 ratio	5.00	Sqm		
38	Providing and fabricating structural steel works in rolled sections angles, flat patii tees for balcony,window,bison board framing as per existing design & pattern including fixing in position with connecting plates, braces and welding,as necessary including a coat of metal primer & two coat of Synthetic Enamel Paint etc. complete.	100.00	Kg		
39	Providing and fixing anodized / powder coated 75+20 micron aluminium fixed glass ventilators having provision for exhaust in WC area using 50mm x 25mm box pipe of 2 mm thick aluminium (Jindal make of weight not less than 0.767kg/m) section for outer frame, 5mm thick modiguard glass. Providing and fixing F-clip for glasses with rubber gasket, filling all joints with proper fillers etc. Including removing the old aluminum window etc.all complete Powder coating of aluminium section will have to be tested in the laboratory of IITB / VJTI / SPCE and the testing charges are to be paid by the contractor.	3.00	Sqm		
40	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	500.00	Sqm		
				Gross Amount	
				9% CGST	
				9% SGST	
				Net Amount	
				Say Rs.	

Amount in Rs._____

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Signature & Stamp of the contractor