

## Financial Bid for proposed AMC for civil R/M works (Schedule of Quantity)

NWork : Repair and maintenance of varlous buildings at IIG Panvel ,staff quartres at Belapur, and Colaba campuses during the period of 2019\_2020

### S Head : Repair and maintanance Works

S No	Description	Quantity	Unit	Rate	Amount
1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :				
	1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	1.00	cum	6668.69	6668.69
2	Providing and fixing up to floor five level precast cement concrete string or lacing courses, copings, bed plates, anchor blocks, plain window sills, shelves, louvers, steps, stair cases, etc., including hoisting and setting in position with cement mortar 1:3 (1 Cement : 3 coarse sand), cost of required centering complete.				
	1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)	2.00	cum	9166.51	18333.02
3	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in :				
	Cement mortar 1:6 (1 cement : 6 coarse sand)	1.00	cum	7556.39	7556.39
4	Random rubble masonry with hard stone in superstructure above plinth level and upto floor five level, including leveling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20 mm nominal size) at window sills, ceiling level and the like.				
	Cement mortar 1:6 (1 cement : 6 coarse sand)	1.00	cum	6490.24	6490.24
5	Marble work gang saw cut (polished and machine cut) of thickness 18 mm for wall lining (veneer work), backing filled with a grout of average 12 mm thick in cement mortar 1:3 (1 cement : 3 coarse sand), including pointing with white cement mortar 1:2 (1 white cement : 2 marble dust) with an admixture of pigment to match the marble shade (To be secured to the backing by means of cramps, which shall be paid for separately).				
	Raj Nagar Plain white marble/ Udaipur green marble/ Zebra black marble.				
	Area of slab upto 0.50 sqm	4.00	sqm	3930.09	15720.36
6	Providing edge moulding to 18 mm thick marble stone counters, Vanities etc., including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.				
	Marble work	10.00	metre	195.85	1958.51
7	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters :				
	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	7.00	sqm	2111.12	14777.85

8	Extra for providing vision panel not exceeding 0.1 sqm in all type of flush doors (cost of glass excluded) (overall area of door shutter to be measured) :				
	Rectangular or square	7.00	sqm	220.08	1540.55
9	Providing and fixing IS : 12817 marked stainless steel butt hinges with stainless steel screws etc. complete :				
	125x64x1.90 mm	75.00	each	87.77	6583.09
10	Providing and fixing bright finished brass 100 mm mortice latch and lock with 6 levers and a pair of lever handles of approved quality with necessary screws etc. complete.	10.00	each	753.16	7531.55
11	Providing and fixing special quality bright finished brass cupboard or ward robe locks with four levers of approved quality including necessary screws etc. complete.				
	50 mm	10.00	each	265.83	2658.27
12	Providing and fixing bright finished brass hanging type floor door stopper with necessary screws, etc. complete.	6.00	each	116.20	697.19
13	Providing and fixing aluminium die cast body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 35 kg and door width upto 700 mm), with necessary accessories and screws etc. complete.	10.00	each	560.96	5609.58
14	Providing and fixing aluminium sliding door bolts, ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868), transparent or dyed to required colour or shade, with nuts and screws etc. complete :				
	300x16 mm	25.00	each	287.55	7188.78
15	Providing and fixing aluminium tower bolts, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868 ) transparent or dyed to required colour or shade, with necessary screws etc. complete :				
	300x10 mm	25.00	each	134.94	3373.60
16	Providing and fixing aluminium handles, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete :			0.00	0.00
	125 mm	50.00	each	69.16	3458.19
17	Providing and fixing Fiber Glass Reinforced plastic (FRP) Door Frames of cross-section 90 mm x 45 mm having single rebate of 32 mm x 15 mm to receive shutter of 30 mm thickness .The laminate shall be moulded with fire resistant grade unsaturated polyester resin and chopped mat . Door frame laminate shall be 2 mm thick and shall be filled with suitable wooden block in all the three legs. The frame shall be covered with fiber glass from all sides. M.S. stay shall be provided at the bottom to steady the frame.	45.00	metre	562.38	25307.07
18	Providing and fixing to existing door frames.				
	30 mm thick Glass Fibre Reinforced Plastic (FRP) panelled door shutter of required colour and approved brand and manufacture, made with fire - retardant grade unsaturated polyester resin, moulded to 3 mm thick FRP laminate for forming hollow rails and styles, with wooden frame and suitable blocks of seasoned wood inside at required places for fixing of fittings, cast monolithically with 5 mm thick FRP laminate for panels conforming to IS: 14856, including fixing to frames.	38.00	sqm	2960.58	112501.97

19	Providing & Fixing decorative high pressure laminated sheet of plain / wood grain in gloss / matt / suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S, including cost of adhesive of approved quality.				
	1.5 mm thick	5.00	sqm	1133.42	5667.10
20	Providing and fixing factory made Fiberglass Reinforced plastics (F.R.P.) chajja 4 mm thick of required colour, size and design made by Resin Transfer Moulding (RTM) Machine Technology, resulting in void free compact laminate in single piece, having smooth gradual slope curvature for easy drainage of water and duly reinforced by 2nos vertically and 1nos horizontally 50x2 mm thick M.S. flat with 12 mm in built hole for grouting on the existing wall along with the 50 mm flanges duly inserted and sealed in the wall complete in one single piece casted monolithically, including all necessary fittings . The FRP Chajja should be manufactured using unsaturated Polyester resin as per IS: 6746, duly reinforced with fibre glass chopped strand mat (CSM) as per IS: 11551 complete with protective Gel coat U/V coating on Top for complete resistance from the extreme of temperature, weather & sunlight.	5.50	sqm	5567.42	30620.81
21	Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - part 1 and M.S. top cover of required thickness for rolling shutters.				
	80x1.20 mm M.S. laths with 1.20 mm thick top cover	22.00	sqm	2492.33	54831.37
22	Providing and fixing ball bearing for rolling shutters.	4.00	each	513.38	2053.53
23	Extra for providing mechanical device chain and crank operation for operating rolling shutters.				
	Exceeding 10.00 sqm and upto 16.80 sqm in the area	22.00	sqm	980.00	21560.04
24	Extra for providing grilled rolling shutters manufactured out of 8 mm dia M.S. bar instead of laths as per design approved by Engineer-in- charge, (area of grill to be measured).	3.24	sqm	424.46	1375.24
25	Welding by gas or electric plant including transportation of plant at site etc. complete.	300.00	cm	3.86	1157.24
26	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.				
	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	350.00	kg	116.33	40716.66
27	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., 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.: Hot finished welded type tubes	70.00	kg	122.15	8550.74
28	Dismantling steel work in single sections including dismembering and stacking within 50 metres lead in:Channels, angles, square tubes, square rods, tees and flats etc.	420.00	kg	1.29	540.05

29	Chequerred precast cement concrete tiles 22 mm thick in footpath & courtyard, jointed with neat cement slurry mixed with pigment to match the shade of tiles, including rubbing and cleaning etc. complete, on 20 mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand). : Light shade pigment using white cement	20.00	sq.meters	1227.29	24545.72
30	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :				
	25 mm thick	5.00	sqm	1567.49	7837.44
31	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	2.00	sqm	1675.90	3351.81
32	Providing and laying premium quality highly glossed /double charged D C 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 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), including grouting the joints with white cement and matching pigments etc., complete.				
	Size of Tile 600x600 mm	125.00	sqm	1515.11	189388.49
33	Providing and laying premium quality, highly glossed / double charged DC , Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.				
	Size of Tile 600x600 mm	25.00	sqm	1536.49	38412.33
34	Painting top of roofs with bitumen of approved quality @ 17kg per 10 sqm impregnated with a coat of coarse sand at 60 cudm per 10 sqm, including cleaning the slab surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil complete :				
	With residual type petroleum bitumen of grade VG - 10	50.00	sqm	138.73	6936.69
35	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.				
	110 mm diameter	25.00	metre	319.90	7997.49
36	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.				
i	Single tee with door				
	110x110x110 mm	3.00	each	245.73	737.18
ii	Bend 87.5°				
	110 mm bend	3.00	each	153.08	459.24
iii	Shoe (Plain)				
	110 mm Shoe	3.00	each	132.64	397.93

37	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.				
	110 mm	10.00	each	245.52	2455.25
38	12 mm cement plaster of mix :				
	1:6 (1 cement: 6 fine sand)	50.00	sqm	217.03	10851.69
39	15 mm cement plaster on the rough side of single or half brick wall of mix :				
	1:6 (1 cement: 6 fine sand)	50.00	sqm	250.67	12533.41
40	Pointing on stone work with cement mortar 1:3 (1 cement : 3 fine sand) :				
	Flush/ Ruled pointing	50.00	sqm	228.00	11399.85
41	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade :				
	New work (two or more coats) over and including water thinnable priming coat with cement primer	2900.00	sqm	126.82	367786.56
42	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade :				
	Two or more coats on new work	50.00	sqm	106.11	5305.72
43	Painting with aluminium paint of approved brand and manufacture to give an even shade .				
	Two or more coats on new work	500.00	sqm	92.51	46255.86
44	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	1000.00	sqm	118.23	118228.23
45	Applying priming coats with primer of approved brand and manufacture, having low VOC (Volatile Organic Compound ) content.				
	With ready mixed red oxide zinc chromatic on steel / iron works having VOC content less than 250 grams/ litre	100.00	sqm	44.06	4405.64
46	Repairs to plaster of thickness 12 mm to 20 mm in patches of area 2.5 sq. meters and under, including cutting the patch in proper shape, raking out joints and preparing and plastering the surface of the walls complete, including disposal of rubbish to the dumping ground within 50 metres lead :				
	With cement mortar 1:4 (1 cement : 4 fine sand)	50.00	sqm	358.41	17920.34
47	Renewing glass panes and refixing existing wooden fillets:				
	Float glass panes of thickness 5.5 mm	5.00	sqm	1284.88	6424.39
48	Renewing Wrought iron or M.S. Wheel or roller of steel door or gate and fitting and fixing the same with necessary clamps, nuts and bolts/welding and erection etc. complete.				
	Wheel 50 mm dia and below	15.00	per wheel	166.01	2490.10
49	Providing and fixing 150 mm bright finished floor brass door stopper with rubber cushion, necessary brass screws etc. to suit shutter thickness complete	10.00	each	285.79	2857.92
50	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.	1000.00	sqm	14.62	14617.80

51	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade :				
	One or more coats on old work	500.00	sqm	69.43	34717.28
52	Polishing on wood work with ready made wax polish of approved brand and manufacture :				
	Old work	175.00	sqm	63.55	11120.69
53	Finishing walls with Acrylic Smooth exterior paint of required shade :				
	Old work (Two or more coat applied @ 1.67 ltr/ 10 sqm) on existing cement paint surface	1000.00	sqm	93.32	93323.83
54	Melamine polishing on wood work (one or more coat).	100.00	sqm	107.60	10760.33
55	Cleaning and de silting of gully trap chamber, includin gremoval of rubbish mixed with earth etc. and disposal of same,all as per the direction of Engineer-in-charge.	80.00	each	64.36	5148.71
56	Disconnecting damaged overhead/terrace PVC water storage tank of any size from water supply line and removing from the terrace including shifting at ground level as per direction of Engineer-in- charge.	1.00	each	246.95	246.95
57	Providing & fixing White vitreous china water closet squatting pan (Indian type) along with "S" or "P" trap including dismantling of old WC seat and "S" or "P" trap at site complete with all operations including all necessary materials, labour and disposal of dismantled material i/c malba, all complete as per the direction of Engineer-in charge.				
	Long pattern W.C Pan of size 580x440 mm	2.00	each	2561.90	5123.81
58	Dismantling W.C. Pan of all sizes including disposal of dismantled materials i/c malba all complete as per directions of Engineer-in- Charge.	2.00	each	75.05	150.10
59	Dismantling 15 to 40 mm dia G.I. pipe including stacking of dismantled pipes within 50 metres lead as per direction of Engineer- in-Charge. (a) exterior face of building - Exposed on wall	200.00	metre	2.71	541.40
60	Taking out existing wooden door shutter, repair by cutting,painting etc. and re-fixing of repaired door shutters to existing door frames, including replacement of hinges with screws,etc. as required, all complete as per the direction of the Engineer-in-charge.	35.00	each	238.76	8356.51
61	Dismantling doors, windows and clerestory windows (steel or wood) shutter including chowkhats, architrave, holdfasts etc. complete and stacking within 50 metres lead :				
	Of area 3 sq. metres and below	35.00	each	213.65	7477.75
62	Taking out doors, windows and clerestory window shutters (steel or wood) including stacking within 50 metres lead :				
	Of area 3 sq. metres and below	35.00	each	82.90	2901.57
63	Dismantling tile work in floors and roofs laid in cement mortar including stacking material within 50 metres lead.				
	For thickness of tiles 10 mm to 25 mm	125.00	sqm	42.70	5337.87
64	Dismantling stone slab flooring laid in cement mortar including stacking of serviceable material and disposal of unserviceable material within 50 metres lead.	7.00	sqm	148.01	1036.04
65	Dismantling barbed wire or flexible wire rope in fencing including making rolls and stacking within 50 metres lead.	50.00	kg	20.37	1018.51

66	Dismantling of flushing cistern of all types (C.I./PVC/Vitrious China) including stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead.	10.00	each	529.49	5294.89
67	Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 metres lead.	350.00	sqm	30.32	10611.44
68	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	22.00	cum	163.16	3589.62
69	Supplying and fixing turn buckles and straining bolts for barbed wire fencing.	50.00	set	203.63	10181.70
70	Fencing with angle iron post placed at required distance embedded in cement concrete blocks, every 15th post, last but one end post and corner post shall be strutted on both sides and end post on one side only and provided with horizontal lines and two diagonals interwoven with horizontal wires, of barbed wire weighing 9.38 kg per 100 m (minimum), between the two posts fitted and fixed with G.I. staples, turn buckles etc. complete. (Cost of posts, struts, earth work and concrete work to be paid for separately). Payment to be made per metre cost of total length of barbed wire used.				
	With G.I. barbed wire	1500.00	metre	17.12	25682.66
71	Providing and placing in position 100mm thick factory made machine batched & machine mixed precast R.C.C. Rectangular Covers on drain of footpath of various sizes of M-25 grade cement concrete for RCC work including cost of centring shuttering, reinforcement of 8mm dia TMT bars of Fe 500 grade @maximum 100mm c/c on both ways, neat cement punning on finished surface, properly encasted on all edges with 1.6mm thick 100mm wide MS sheet duly painted over priming coat, reinforcement to welded on edges with MS sheet and providing 2 nos 12mm dia bar for hooksetc i/c cost of cartage all lead and lift, handling at site etc. all complete as per direction of Enginner-in-Charge.	5.00	sqm	2582.41	12912.05
72	Providing and fixing white vitreous china pedestal type (European type/ wash down type) water closet pan.	4.00	each	1845.70	7382.80
73	Providing and fixing 8 mm dia C.P. / S.S. Jet with flexible tube upto 1 metre long with S.S. triangular plate to Eueorean type W.C. of quality and make as approved by Engineer - in -charge.	10.00	each	344.87	3448.72
74	Providing and fixing P.V.C. low level flushing cistern with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete.				
	10 litre capacity - White	8.00	each	1125.44	9003.48
75	Providing and fixing CP Brass 32mm size Bottle Trap of approved quality & make and as per the direction of Engineer-in-charge.	15.00	each	1076.24	16143.53
76	Providing and fixing white vitreous china wash basin including making all connections but excluding the cost of fittings :				
	Flat back wash basin of size 630x450 mm	5.00	each	1311.95	6559.74
77	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.				
	Semi rigid pipe				
	32 mm dia	10.00	each	102.32	1023.25

78	Providing and fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing :				
i	Rectangular shape 453x357 mm	20.00	each	1018.91	20378.30
ii	Rectangular shape 1500x450 mm	5.00	each	1790.82	8954.08
79	Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10 cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including cost of cutting holes and making good the walls etc. :				
i	For 100 mm dia pipe	5.00	each	226.51	1132.54
ii	For 75 mm dia pipe	5.00	each	223.40	1116.98
80	Repainting sand cast iron/ centrifugally cast iron (spun) iron, soil, waste, vent pipes and fittings with one coat of synthetic enamel paint of any colour such as chocolate, grey or buff etc :				
i	100 mm diameter pipe	50.00	metre	27.34	1367.04
ii	75 mm diameter pipe	50.00	metre	20.44	1021.89
81	Providing and fixing PTMT 15 mm Urinal spreader size 95x69x100 mm with 1/2" BSP thread and shapes, weighing not less than 60 gms.	2.00	each	144.15	288.30
82	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.: External building face - Exposed on wall				
i	32 mm nominal outer dia Pipes	80.00	metre	391.23	31298.33
ii	25 mm nominal outer dia Pipes	140.00	metre	292.63	40967.74
83	Providing and fixing brass bib cock of approved quality :				
	15 mm nominal bore	5.00	each	352.05	1760.23
84	Providing and fixing brass stop cock of approved quality :				
	15 mm nominal bore	5.00	each	352.05	1760.23
85	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :				
i	20 mm nominal bore	4.00	each	536.73	2146.92
ii	32 mm nominal bore	4.00	each	677.77	2711.06
iii	65 mm nominal bore	2.00	each	1741.68	3483.37
86	Providing and fixing G.I. Union in existing G.I. pipe line, cutting and threading the pipe and making long screws, including excavation, refilling the earth or cutting of wall and making good the same complete wherever required :				
i	32 mm nominal bore	4.00	each	621.46	2485.84
ii	65 mm nominal bore	2.00	each	1238.66	2477.31
87	Providing and fixing uplasticised PVC connection pipe with brass unions :				
i	30 cm length				
ii	20 mm nominal bore	20.00	each	88.25	1764.96
88	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, ISI : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.	1000.00	per litre	9.81	9812.88



89	Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms.				
	15 mm nominal bore	5.00	each	666.67	3333.33
90	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.				
	15 mm nominal bore	5.00	each	738.94	3694.72
91	Providing and fixing PTMT stop cock of approved quality and colour.				
	15 mm nominal bore, 86 mm long, weighing not less than 88 gms	5.00	each	139.82	699.08
92	Providing and fixing PTMT pillar cock of approved quality and colour .				
	15 mm nominal bore, 107 mm long, weighing not less than 110 gms	4.00	each	228.61	914.42
93	Providing and fixing PTMT grating of approved quality and colour.				
	Circular type				
	125 mm nominal dia with 25 mm waste hole	6.00	each	61.65	369.91
94	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge . (Cost of aluminium snap beading shall be paid in basic item):				
	With float glass panes of 5.50 mm thickness	5.00	sqm	1358.85	6794.23
95	Providing and fixing double action hydraulic floor spring 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.				
	With stainless steel cover plate minimum 1.25 mm thickness	2.00	each	2780.63	5561.26
96	Providing and laying APP (Atactic Polypropylene Polymer) modified prefabricated five layer 3 mm thick water proofing membrane, black finished reinforced with non-woven polyester matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 litre/sqm by the same membrane manufacture of density at 25°C, 0.87-0.89 kg/ litre and viscosity 70-160 cps. Over the primer coat the layer of membrane shall be laid using Butane Torch and sealing all joints etc, and preparing the surface complete. The vital physical and chemical parameters of the membrane shall be as under : Joint strength in longitudinal and transverse direction at 23°C as 650/ 450N/5cm. Tear strength in longitudinal and transverse direction as 300/250N. Softening point of membrane not less than 150°C. Cold flexibility shall be upto -2°C when tested in accordance with ASTM, D - 5147. The laying of membrane shall be got done through the authorised applicator of the manufacturer				
	3 mm thick	30.00	sqm	564.54	16936.35
97	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				
i	50mm average thickness	25.00	sqm	150.98	3774.57
ii	25 mm average thickness	75.00	sqm	76.07	5705.00

98	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, all complete as per direction of Engineer-In-Charge.				
	Bars upto 12 mm diameter	50.00	metre	5.62	280.85
99	Drilling suitable holes in reinforced or plain cement concrete with power driven drill machine to a minimum depth of 100mm upto 200mm in RCC beams, lintels, columns and slabs to introduce steel bars for sunshades/ balconies including fixing the steel bars in position using epoxy resin anchor grout of approved make but excluding the cost of reinforcement, all complete as per direction of Engineer-In-Charge.				
	Upto and including 12mm dia.	20.00	each	96.30	1926.03
100	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.	100.00	sqm	118.50	11849.89
101	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. Note: Measurement and payment: The pre-measurement of thickness shall be done just after the surface preparation is completed and Payment under this item shall be made only after proper wet curing has been done and surface has been satisfactorily evaluated by sounding / tapping with a blunt metal instrument and / or the 75mm size cube crushing strength at the end of 28 days to be not less than 30 N/ mm <sup>2</sup> ).				
i	50 mm average thickness in 3 layers.	25.00	sqm	895.68	22391.97
ii	12 mm average thickness.	10.00	sqm	275.91	2759.11
iii	25 mm average thickness in 2 layers	75.00	sqm	447.87	33590.49
102	Providing and laying SBR Polymer modified (of approved make @ minimum 2% by wt. of cement used) plain/reinforced concrete jacket for the structural members e.g. columns, pillars, piers, beams etc with concrete having the specified minimum characteristic compressive strength [with ordinary portland cement, coarse sand and graded stone aggregate of 10mm maximum size in proportion as per design criteria] with specified average thickness all-round existing core of RCC member. Note: Rates shall be for finished surface area of concrete and shall include the cost of making holes in existing RCC slab, if required, for pouring concrete in shuttering mould of jacket and appropriate approved Super-Plasticiser for rendering concrete as flowable self compacting and SBR polymer but shall exclude cost of reinforcement, bond coat, Shear Keys, centering and shuttering, strutting, propping etc (Payment under this item shall be made only after proper wet curing has been done and surface has been satisfactorily evaluated by sounding/tapping with a blunt metal instrument) : 75mm thick in Grade M 25 with cement content not less	5.00	sq.meter	971.34	4856.70
103	Shuttering for column: Centering and shuttering including strutting, propping etc. and removal of form for all heights : Columns, Pillars, Piers, Abutments, Posts and Struts	5.00	sq.meter	633.23	3166.17

104	Scaffolding: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 challies, 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 ( viz plumbing , replacement of manglore tiles etc.) judicially, necessary deduction for scaffolding in the existing item to be done.( No extra paymnet for the provision this scaffolding item towards the execution of items eg. internal and external painting, plastering, structural reapiars etc. will be considered .The rates towards theses items are inclusive of the cost for the scaffolding)	60.00	sq.meters	216.76	13005.78
105	crezy tukda water proofing:Crazy ceramic tile flooring, with under layer 12 mm thick cement mortar 1:4 (1 cement: 4 coarse sand), with joints not exceeding 5 mm, including filling the gaps with ordinary cement mixture & mixing with synthetic polyester fibre, triangular in shape having specific gravity of 1.34 to 1.40, cross section size ranging from 10 to 40 micron & length upto 6mm , mixing fibre @ 125 grams per 50 kg of cement in cement mortar, including providing and mixing water proofing material in mortar @ 1 kg per 50 kg of cement, all complete as per direction of Engineer-in-charge	700.00	sq.meter	645.08	451554.67
106	Extra for plastering exterior walls of height more than 10 m from ground level for every additional height of 3 m or part thereof	75.00	sq.meter	55.02	4126.48
107	dismantling of frp/ pvc /Polycarbonate/hard board ceiling sheets:Dismantling cement asbestos or other hard board ceiling or partition walls including stacking of serviceable materials and disposal of unserviceable materials within 50 metres lead.	76.00	sq.meter	32.89	2499.64
108	Providing gola 75x75 mm in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 stone aggregate 10 mm and down gauge), including finishing with cement mortar 1:3 (1 cement : 3 fine sand) as per standard design : In 75x75 mm deep chase	5.00	meter	207.09	1035.43
109	Grouting: Providing and injecting approved grout in proportion recommended by the manufacturer into cracks/honey-comb area of concrete/ masonry by suitable gun/pump at required pressure including cutting of nipples after curing etc. complete as per directions of Engineer-in-Charge. (The payment shall be made on the basis of actual weight of approved grout injected.) : Stirrer mixed SBR Polymer (of approved make) modifiedCement slurry made with Shrinkage Compensating Cement in concrete/RCC work.	100.00	kgs	98.81	9880.55
110	Providing and inserting 12mm dia galvanised steel injection nipple in honey comb area and along crack line including drilling of holes of required diametre (20mm to 30mm) up to depth from 30mm to 80mm at required spacing and making the hole & crack dust free by blowing compressed air, sealing the distance between injection nipple with adhesive chemical of approved make and allow it to cure complete as per direction of Engineer-In-Charge	40.00	each	199.64	7985.65

111	Providing & fixing on roof pressed clay tile (Mangalore tile) of 20 mm nominal thickness and of approved size and as per approved pattern on steel frame work complete (steel frame work to be paid separately).	70.00	sq.meter	322.13	22549.31
112	Dismantling tiled roofing with battens, boarding etc. complete including stacking of serviceable material and disposal of unserviceable material within 50 metres lead	125.00	sq.meter	116.74	14592.42
113	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. :Thermo-Mechanically Treated bars of grade Fe-500D or more	25.00	Kgs.	76.61	1915.20
114	Grading roof for water proofing treatment with : Cement mortar 1:4 (1cement : 4 coarse sand)	2.00	cub.metr	11375.15	22750.30
115	Supplying and fixing C.I. cover 300x300 mm without frame for gully trap (standard pattern) the weight of cover to be not less than 4.5 kg	10.00	each	378.44	3784.39
116	providing carpenter for attending day to day complaints regarding carpentry work such as setting right of fitting, easening of door/ windows shutter for all kinds of doors such as PVC, wooden, metal & aluminium i/c fixing of fixture, stacking of dismantled materials & disposal of rubbish to the nearest dumpping ground etc. all complete as per the detection of engineer in charge. 1(one) no. carpenter shall be engaged per day as required as per complaints. ( Materials required for the works will be supplied by the department free of cost. sundays & national hillidays shall not be measured for payment).	30.00	per day	833.55	25007.00
117	Making necessary arrangement for attending complaints entered in complaint register or given by the site engineer , providing one plumber such as setting right flusing cistern of any type including repaing /replacement of fitting such as ball valve , syphone washer, chain pully etc.complete and repair of washbasin ,sink including replacement of damaged waste coupling ,water pipe, pvc drainage pipe and setting brackets including tap leakage repaing of gi pipes &fitting and miscellaneousplumbing works etc. complete as per direction of engineer in charge each complaint shall be attended with in 24 hours from the date of entry in the complaint register otherwise recovery shall be made for the delay if any at the rate of RS 500/- (RS FIVE HUNDRED ONLY ) PER DAY OF DELAY . All nesecarry T&P required for day to day maintanance will be arranged by the agency under contract . (Sunday and national holidays shall not be measured for payment)	30.00	per day		25007.00
118	Providing helper for assisting carpainter ,plumber, mason and other maintanance related works such as cleaning of terraces ,grass,and other vegetation in thepremises & removing plants from the building wherever required etc.all complete as per direction of engineer in charge . 1(one)helper shall be engaged per day as required sunday and national holidays shall not be measured for payment .( labour called as and when required )	40.00	per day	717.15	28686.00
119	Taking out and refixing the aluminium shutter of sliding windows and providing and fixing PVC roller to the same of approved brand and manufacturer to aluminium windows	50.00	each	45.70	2285.00

120	Credit for taking away the dismantled materials (unserviceable) received during execution of work etc. all complete as per direction of engineer of charge wooden door frames and shutters ,PVC shutters etc.	50.00	per kg	-10.00	-500.00
121	wooden door frame&shutters, PVC shutters, and C.P brass stop cock,bib cock.angle valve, wheel valve etc.	100.00	kg	-200.00	-20000.00
122	Aluminium Section	100.00	Kg	-120.00	-12000.00
123	Steel and G.I.Pipes	200.00	Kg	-12.00	-2400.00
124	Arresting leakage from the rainface wall by applying Polymeric water proof coating in two coats with Polyproof(M/s Resikon) or Polyalk WP (M/s Sunanda) or equivalent in the proportion 1.1.25 (1 polymer : 1.25 Cement ) over the entire surface of the wall by brush and air curing for 24 hours and thereafter application of second coat as per manufactures specification. Then water curing for minimum 7 days including required scaffolding with bamboos up to the full height of the building and removal of scaffolding after the completion of the work all as per direction of Engineer- in-charge.(Polyalk WP shall be supplied free of cost at site of work).( apprx coverage is 6sq.meter per kg per coat )	500.00	Sqm	46.55	23275.00
125	"Providing and laying water proofing treatment at all levels on external wall plaster by making U /V groovesof required depth over the cracks followed by its proper cleaning /washing then applying /packing Elastomeric Acrylic Crack filler -AR of m/s Sunanda speciality Coating Pvt. Ltd or equivalent as per manufacturers specification in the grooves, allowing it to air cure for 24 hours followed by applying a coat of polymer water proofing solution (by making one part of WP solution with 1.25 parts of grey cement) over the crack, curing for 7 days and making good the external walls as directed by the Engineer-in-Charge including scaffolding etc complete.(Elastomeric Acrylic Crack Filler and Polumeric water proofing solution W P shall be supplied free of cost at site of work) (Polymetric water proofing solution consumption @ 0.22 kg / 10 meter )"	625.00	Metre	25.85	16156.00
126	Providing and applying 18 mm thick ( average ) premixed formulated one coat readymade plaster such as " wallplast / Ultra Tech Readiplast " readymix plaster having additives and aggregates oven dried and mixed with cement in cement mortar 1 : 4 and polymers, in two layers under layer 12 mm thick and top layer 6 mm thick 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.	300.00	Sqm	528.80	158640.00

127	Providing and fixing 10mm thick multiwall polycarbonate sheet of LEXAM or G.E. plastic made homogeneous material with (UV resistant layer) physical & chemical characteristics of the sheet as specified of colour & shade as approved, cut to required size and shape bent to the required profile as per the Architectural drawing including fixing into the structural steel frame using self driving , self tapping screw with EPDM washers nut bolts & washer EPDM gaskets, colour anodised (Minimum 20 micron thick with glossy finish) Aluminium pressure plates/ profiles (top & bottom) top capping profiled edge capping profiles (including U shaped EPDM gasket) structural silican sealent to make it waterproof etc. complete as specified and as directed by E-in-C. The item includes cost of all inputs of labour. Material (including anodised aluminium pressure plates capping sealent EPDM gasket but excluding providing & fixing structural steel frame work) T & P all incidental charges etc. involved in the work, however for the purpose of payment, the area of polycarbonate sheet provided and fixed in position shall be measured in sqm.	76.00	Sqm	2580.20	196095.00
128	Providing and applying 12 mm thick (average) premixed formulated one coat readymade plaster such as "WALLPLAST" readymix plaster having additives and aggregates oven dried and mixed with cement in CM (1:4) and polymner, applied on hacked/uneven background such as bare brick/ c.c. block/RCC work on walls and ceiling at all floors and locations and as per manufacturers specification finished in smooth line and level etc complete		Sqm	683.25	
129	Credit item for taking away dismantled material such as PVC high/low level flushing cistern received from the site of work	10.00	Each	32.30	323.00
130	Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 ( 1 Cement :6 coarse sand : 12 graded stone agregate 20mm nominal size ) at Plinth level with: Cement mortar 1:6 (1 cement : 6 coarse sand) (Random rubble stone shall be used received from dismantling of existing compound wall,which shall be issued at free of cost)	1.75	Cum	3367.89	5894.00
131	"Providing and fixing 80 mm to 100 mm wide glass sheets in grooves in clerestory window frames, excluding the cost of frames ( actual quantity of glass sheets used, shall be measured for the purpose of payment ): 4 mm thick pin headed glass sheet."	10.00	Sqm	644.10	6441.00
132	Easing of Aluminium window (for normal functioning) by cleaning of dust, oiling to the hinges etc. complete as per direction of Engineer in charge.	5.00	each	1594.08	7970.00
133	Providing and fixing Fly proof Stainless steel grade 304 wire guage to windows and door shutters wiremesh 0.5mm dia and 1.4mm aperature including required Welding of MS flat to fix with MS safety door/ providing and fixing aluminium U beading etc. all complete as per direction of engineer incharge	5.00	sqm	1243.12	6216.00
134	Removing the unclosable MS collapseble shutter of site 2.5x3 m at main entry of the building and repair the same including providing MS flats,Ball bearing channel,welding repairing ,lubricating and making the same smooth all complete as per the direction of engineer incharge.	2.00	Each	2632.05	5264.00

135	Dismantling old damaged APP modified water proofing tretment at roof / terrace and disposal of unserviceable material within 50 metres lead.	30.00	sqm	27.00	810.00
136	Supplying and stacking at site of work the following chemicals of M/s Sunanda Speciality Coating Pvt. Ltd , Resikon or equivalent brand and manufacture as approved by engineer-in-charge in sealed containers and in packing as dircted by Engineer-in-Charge. : Alkaline Rust Remover "Rusticide"	5.00	kgs	127.77	638.85
137	Supplying and stacking at site of work the following chemicals of M/s Sunanda Speciality Coating Pvt. Ltd , Resikon or equivalent brand and manufacture as approved by engineer-in-charge in sealed containers and in packing as dircted by Engineer-in-Charge. : Rust Passivator Polyalk FixoPrime or equivalent	5.00	kgs	313.61	1568.05
138	Supplying and stacking at site of work the following chemicals of M/s Sunanda Speciality Coating Pvt. Ltd , Resikon or equivalent brand and manufacture as approved by engineer-in-charge in sealed containers and in packing as dircted by Engineer-in-Charge.: Polymer Modified Mortar Polyalk EP or equivalent	40.00	kgs.	255.53	10221.20
139	Supplying and stacking at site of work the following chemicals of M/s Sunanda Speciality Coating Pvt. Ltd , Resikon or equivalent brand and manufacture as approved by engineer-in-charge in sealed containers and in packing as dircted by Engineer-in-Charge. :Polymer water proofing solution Polyalk W.P. or equivalent	160.00	kgs.	300.83	48132.80
140	Supplying and stacking at site of work the following chemicals of M/s Sunanda Speciality Coating Pvt. Ltd , Resikon or equivalent brand and manufacture as approved by engineer-in-charge in sealed containers and in packing as dircted by Engineer-in-Charge. "Elastomeric Acrylic Crack Filler Poly Fill AR" or equivalent	25.00	kgs.	210.23	5255.75

141	Only labor rate for Providing & fixing on roof pressed clay tile (Mangalore tile) of 20 mm nominal thickness and of approved size and as per approved pattern on steel frame work complete (steel frame work to be paid separately and materials will be supplied by the Institute).	50.00	sq.meter	186.60	9330.00
142	Renewing glass panes and refixing existing wooden fillets:				
	5.5 mm thk .Toughned reflective glass of AIS or Modi or equivalent as per approved colour	6.50	sqm	1860.00	12090.00
	<b>GRAND TOTAL COST</b>				2997337.52

Item Nos: 20,29,34,part 43,69,70,96,part104,108,111,112, part116,part117, part 118 and 141 will be carried out at our Colaba Mumbai. Nothing extra will be paid to the agency on a/c of Mumbai cost index and transportation. Work carried out at colaba observatory will be paid as per agreement rate.

-----% Above / Below the estimated cost

Name and sign of the agency

Date