

**CONSTRUCTION OF RESIDENTIAL BUILDINGS FOR 5th VAHINI
U.P. SPECIAL SECURITY FORCE AT DISTRICT SAHARANPUR (U.P.)**

Tender BOQ - Civil Works

S.N.	DESCRIPTION OF ITEM OF WORK	UNIT	QTY.
1	2	3	4
1	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 1 0 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. All kinds of soil	CUM.	8922.63
2	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.	cum	5125.26
3	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.	CUM.	1063.06
4	Supplying & Laying chemical emulsion in sealed containers including delivery as specified. Chlorpyriphos/Lindane emulsifiable concentrate of 20%.	SQM	665.47
5	Treatment of soil under existing floors using chemical emulsion @ one litre per hole, 300 mm apart including drilling 12 mm diameter holes and plugging with cement mortar 1 :2 (1 cement : 2 Coarse sand) to match the existing floor: With Chlorpyriphos/Lindane E.C. 20% with 1% concentration	S.Q.M.	4259.41
6	Applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7 kg per square metre on Plinth Beam after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	S.Q.M.	117.74
7	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)	CUM.	933.04
8	Thermo-Mechanically Treated bars work such as in reinforced concreted or reinforced brick work (when not included in overall rates) wrought to required shape as necessary including bending for proper completion of the work and including supply of steel its wastage.	qui	13224.05
9	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.		
	All works upto plinth level. Concrete of M30 grade with minimum cement content of 350 kg /cum	CUM.	7188.29
10	Add for using extra cement in the items of design mix over and above the specified cement content therein.	qtl	545.86
11	Brick Work with common burnt clay F.P.S (non modular) brick of class designation 7.5 in foundation and plint in : Cement mortar 1:6 (1 cement : 6 coarse sand)	CUM.	92.05
12	Boring with hydraulic piling rigs with power units, providing and installing cast in situ single under reamed piles of specified diameter and length below pile cap in M-25 cement concrete, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and the length of the pile to be embedded in pile cap etc. all complete. (Length of pile for payment shall be measured upto to the bottom of pile cap) :		
	550 mm dia piles	RMT.	20564.00

13	Vertical load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform by Kentledge/Anchor piles method and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of Engineer in-charge. Note: 1. Initial and Routine Load Test shall not be carried out by Dynamic method of testing. Note: 2. Testing agency shall submit the design of loading platform for the approval of Engineer-in-charge.		
	Group of two or more piles upto 50 tonne Safe capacity		
	Initial test (Test Load 2.5 times the Safe capacity)	NOS.	10.00
	Routine test (Test Load 1.5 times the Safe capacity)	NOS.	20.00
14	Centering and shuttering including strutting, propping etc. and removal of form for :		
	Foundations, footings, bases of columns, etc. for mass concrete	sqm	1164.09
	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	sqm	307.21
	Lintels, beams, plinth beams, girders, bressumers and cantilevers	sqm	2531.89
	Columns, Pillars, Piers, Abutments, Posts and Struts	sqm	6064.82
15	Thermo-Mechanically Treated bars work such as in reinforced concrete or reinforced brick work (when not included in overall rates) wrought to required shape as necessary including bending for proper completion of the work and including supply of steel its wastage.	qui	38514.57
16	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.		
	All works above plinth level upto floor V level. Concrete of M30 grade with minimum cement content of 350 kg /cum	CUM.	21153.30
17	Add for using extra cement in the items of design mix over and above the specified cement content therein.	qtl	5.55
18	Extra for R.C.C./ B.M.C/ R.M.C. work above floor V level for each four floors or part thereof.		
	V level for each four floors or part thereof.	CUM.	5773.04
	IX level for each four floors or part thereof.	CUM.	7009.56
19	Centering and shuttering including strutting, propping etc. and removal of form for :		
	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	Sqm	800.50
	Suspended floors, roofs, landings, balconies and access platform	Sqm	56735.06
	Lintels, beams, plinth beams, girders, bressumers and cantilevers	Sqm	43480.66
	Columns, Pillars, Piers, Abutments, Posts and Struts	Sqm	87153.14
	Stairs, (excluding landings) except spiral-staircases	Sqm	3501.85
	Edges of slabs and breaks in floors and walls Under 20 cm wide	RMT.	413.27
20	Providing and fixing double scaffolding system (cup lock type) on the exterior side of building/structure, upto 25 metre height, above ground level, including additional rows of scaffolding in stepped manner as per requirement of site, made with 40mm dia M.S. tube, placed 1.5 metre centre to centre, horizontal & vertical tubes joint with cup & lock system with M.S. Tubes, M.S. tube chalis, M.S. clamps and staircase system in the scaffolding for working platform etc. and maintaining it in a serviceable condition for execution of work of cleaning and/ or pointing and/ or applying chemical and removing it thereafter. The scaffolding system shall be stiffened with bracings, runners, connecting with the building etc, wherever required, if feasible, 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. Note:- (1) The elevational area of the scaffolding shall be measured for payment purpose. (2) The payment will be made once only for execution of all items for such works.	sqm	36739.52
21	Brick Work with common burnt clay F.P.S (non modular) brick of class designation 7.5 in super structure above plinth level up to floor V level in all shapes and sizes in : Cement mortar 1:6 (1 cement : 6 coarse sand)	CUM.	17622.14
22	Half Brick masonry with common burnt clay F.P.S (non modular) brick of class designation 7.5 in super structure above plinth level up to floor V level Cement mortar 1:4 (1 cement : 4 coarse sand)	SQM	889.91
23	Providing and fixing bright /matt finished Stainless Steel sliding door bolt of approved quality & make with necessary screws etc all complete. 250x16 mm	Nos	4152.00
24	Providing and fixing bright /matt finished Stainless Steel tower bolt of approved quality & make with necessary screws etc all complete. 250x10 mm	Nos.	16557.00

25	Providing and fixing bright /matt finished Stainless Steel handles of approved quality & make with necessary screws etc all complete. 125mm	Nos.	19569.23
26	Providing and fixing bright finished brass hanging type floor door stopper with necessary screws, etc. complete.	Nos.	2608.00
27	Providing and fixing aluminium extruded section body tubular type universal hydraulic door closer (having brand logo with IS : 3564, embossed on the body, door weight upto 36 kg to 80 kg and door width from 701 mm to 1000 mm), with double speed adjustment with necessary accessories and screws etc. complete.	Nos.	2424.00
28	Providing and fixing carbon steel galvanised (minimum coating 5 micron) dash fastener of 10 mm dia double threaded 6.8 grade (yield strength 480 N/mm ²), counter sunk head, comprising of 10 mm dia polyamide PA 6 grade sleeve, including drilling of hole in frame , concrete/ masonry, etc. as per direction of Engineer-in-charge.		
	10 x 60 mm	each	19984.00
29	Providing 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).	CUM	9.20
30	Providing and fixing cup board shutters 25 mm thick, with Pre-laminated flat pressed three layer particle board or graded wood particle board IS: 12823 marked, exterior grade (Grade I Type II), having one side decorative lamination and other side balancing lamination, including IInd class teak wood lipping of 25 mm wide x12 mm thick with necessary screws and bright finished stainless steel piano hinges, complete as per direction of the Engineer-in-Charge	SQM.	2741.35
31	Providing 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).	CUM	1.52
32	Providing and fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer. Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	SQM.	9511.04
33	9.21.1 - 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: 9.127.2 - 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.		
	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	Sqm	6218.84
34	9.21.1 - 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: 9.127.2 - 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.		
	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	Sqm	73.19
35	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.	Sqm	1505.28
36	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.	Rmt	4480.00
37	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete. Fixed to steel windows by welding	K.G.	65621.30
38	Providing and fixing M.S. Tubular frames for doors, windows, ventilators and cupboard with rectangular/ L-Type sections, made of 1.60 mm thick M.S. Sheet, joints mitred, welded and grinded finish, with profiles of required size, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer.		
	Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	K.G.	100846.45

39	Providing and fixing factory made uPVC white colour sliding lazed window upto 1.50 m in height dimension comprising of uPVC multi-chambered frame with in-built roller track and sash extruded profiles duly reinforced with 1.60 ± 0.2 mm thick galvanized mild steel section made from roll forming process of required length (shape & size according to uPVC profile), appropriate dimension of uPVC extruded glazing beads and uPVC extruded interlocks, EPDM gasket, wool pile, zinc alloy (white powder coated) touch locks with hook, zinc alloy body with single nylon rollers (weight bearing capacity to be 40 kg), G.I fasteners 100 x 8 mm size for fixing frame to finished wall and necessary stainless steel screws etc. Profile of frame & sash shall be mitred cut and fusion welded at all corners, including drilling of holes for fixing hardware's and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of required size and of approved quality, all complete as per approved drawing & direction of Engineer-in-Charge. (Single / double glass panes, wire mesh and silicon sealant shall be paid separately). Variation in profile dimension in higher side shall be accepted but no extra payment on this account shall be made.		
	Three track three panels sliding window with fly proof SS wire mesh (Two nos. glazed & one no. wire mesh panels) made of (small series) frame 92 x 44 mm & sash 32 x 60 mm both having wall thickness of 1.9 ± 0.2 mm and single glazing bead of appropriate dimension (Area of window upto 1.75 sqm).	SQM	6318.24
40	Providing and fixing fly proof galvanised M.S. wire gauze to windows and clerestory windows using galvanised M.S. wire gage with average width of aperture 1.4 mm in both directions with wire of dia. 0.63 mm. With 12 mm mild steel U beading.	SQM	6318.24
41	Providing and fixing wire gauge shutters using stainless steel grade 304 wire gauge with wire of dia 0.5 mm and average width of aperture 1.4 mm in both directions for doors, windows and clerestory windows with necessary screws :		
	35mm thick shutter		
	With ISI marked stainless steel butt hinges of required size		
	Second class teak wood	Sqm	3589.37
42	Providing and fixing 1mm thick M.S. sheet door with frame of 40x40x6 mm angle iron and 3 mm M.S. gusset plates at the junctions and corners, all necessary fittings complete, including applying a priming coat of approved steel primer.		
	Using M.S. angels 40x40x6 mm for diagonal braces	Sqm	40.68
43	Providing and fixing chromium plated brass curtain rod having wall thickness of 1.25mm with two chromium plated brass brackets fixed with C.P. brass screws and PVC sleeves etc., wherever necessary complete : 20 mm dia	Rmt	10410.34
44	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	SQM	7797.31
45	Providing and fixing wire gauge shutters using galvanized M.S. wire gauge of average width of aperture 1.4 mm in both directions with wire of dia 0.63 mm, for doors, windows and clerestory windows with hinges and necessary screws : 35 mm thick shutters With ISI marked stainless steel butt hinges of required size Second class teak wood	SQM	99.98
46	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.	EACH	30.00
47	Providing and fixing glazed shutters for doors, windows and clerestory windows using 4 mm thick float glass panes, including ISI marked M.S. pressed butt hinges bright finished of required size with necessary screws. 30mm thick Second class teak wood	SQM	21.68
48	Providing and fixing angle iron frames for doors, windows and ventilators of mild steel Angle sections of size 35x35x5 mm, joints mitred and welded by angle iron 35x35x5 mm or 35x 5 mm flat pieces to the existing T-iron frame or to the wall with dash fastener, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer, all complete as per the direction of Engineer-In-charge.	KG	782.55
49	Providing and fixing stainless steel (Grade 304) railing made of hallow tubes, chanells, plates etc. including welding grinding buffing, polising and making corvechare (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing railing with necessary accessories and 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 assessories such as nuts, bolts, fasteners etc.	Kg.	69454.68
50	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. 80x1.25 mm M.S. laths with 1.25 mm thick top cover	SQM	61.40
51	Providing and fixing ball bearing for rolling shutters.	Each	16.45

52	Providing and laying water proofing treatment to vertical and horizontal surfaces of depressed portions of W.C., kitchen and the like consisting of: (i) Ist course of applying cement slurry @ 4.4 kg/sqm mixed with water proofing compound conforming to IS 2645 in recommended proportions including rounding off junction of vertical and horizontal surface. (ii) IInd course of 20 mm cement plaster 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound in recommended proportion including rounding off junction of vertical and horizontal surface. (iii) IIIrd course of applying blown or residual bitumen applied hot at 1.7 kg. per sqm of area. (iv) IVth course of 400 micron thick PVC sheet. (Overlaps at joints of PVC sheet should be 100 mm wide and pasted to each other with bitumen @ 1.7 kg/sqm).	Sqm	6653.20
53	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations: A-Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300 mm height including cleaning the surface before treatment. B-Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineerin- charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineerin- charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs. C-After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge.		
	D-Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep. E-The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test.“All above operations to be done in order and as directed and specified by the Engineer-in-Charge :	SQM.	4046.36
54	Making grooves 10 to 12 mm wide x 8 mm deep in plaster the all or in ceiling vertically of horizontally as required.	R.M.	33071.05
55	Add for plaster drip course in plastered surface or moulding to R.C.C. projections.	R.M.	4021.46
56	Providing and fixing 1st quality ceramic glazed floor 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.	SQM.	3656.24
57	Providing and fixing 1st 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.	SQM.	22613.14
58	Providing and laying rectified Glazed Ceramic floor tiles of size 300x300 mm or more (thickness to be specified by the manufacturer), of 1st quality conforming to IS : 15622, of approved make, in colours 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 grouting the joints with white cement and matching pigments etc., complete.	SQM.	21.36
59	Providing and laying Vitrified tiles in floor in different 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 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. The tiles must be cut with the zero chipping diamond cutter only . 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.		
	Double charge vitrified tile polished finish of size of Tile 600 x 600 mm	SQM.	34736.03
60	Glazed Vitrified tiles Matt/Antiskid finish of size of Tile 600 x 600 mm	SQM.	3453.58
61	Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge. Polished Granite stone slab colour of Black, Cherry/Ruby Red or equivalent	SQM.	12271.49

62	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 over 0.50 sqm	SQM.	1064.56
63	Providing and fixing 18mm thick gang saw cut mirror polished premoulded and prepolished) machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size of approved shade, colour and texture laid over 20mm thick base cement mortar 1:4 (1 cement : 4 coarse sand) with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edge to give high gloss finish etc. complete at all levels.		
	Granite of any colour and shade		
	Area of slab over 0.50 sqm	SQM.	2474.38
64	Providing and laying tactile tile (for vision impaired persons as per standards) of size 300x300x9.8mm having with water absorption less than 0.5% and conforming to IS:15622 of approved make in all colours and shades in for outdoor floors such as footpath, court yard, multi modals location etc., laid on 20mm thick base of cement mortar 1:4 (1 cement : 4 coarse sand) in all shapes & patterns including grouting the joints with white cement mixed with matching pigments etc. complete as per direction of Engineer-in-Charge.	SQM.	297.04
65	12 mm cement plaster :		
	1:6 (1 cement : 6 coarse sand)	SQM.	98559.62
66	15 mm cement plaster on rough side of single or half brick wall of mix:		
	1:4 (1 cement : 4 coarse sand)	SQM.	133.45
	1:6 (1 cement : 6 coarse sand)	SQM.	96819.56
67	6 mm cement plaster of mix : 1:3 (1 cement : 3 fine sand) In Ceiling	SQM.	
68	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete. 40 mm thick with 20 mm nominal size stone aggregate	SQM.	149.90
69	Distempering with 1st quality acrylic distemper (ready mixed) having VOC content less than 50 gms/litre, of approved manufacturer, of required shade and colour complete, as per manufacturer's specification.		
	New work (two or more coats) over and including water thinnable priming coat with cement primer having VOC content less than 50 gram/litre	SQM.	209599.43
70	Cement plaster skirting (up to 30 cm height) with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement. 18 mm thick.	SQM.	14.98
71	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.	SQM.	258203.42
72	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade: New work (Two or more coats applied @ 1.43 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)	SQM.	48603.97
73	Painting Steel work with Deluxe Multi Surface Paint to give an even shade. Two or more coat applied @ 0.90 ltr/ 10 sqm over an under coat of primer applied @ 0.80 ltr/ 10 sqm of approved brand and manufacture	SQM.	15460.97
74	Painting wood work with Deluxe Multi Surface Paint of required shade. Two or more coat applied @ 0.90 ltr/10 sqm over an under coat of primer applied @0.75 ltr/10 sqm of approved brand and manufacture)	SQM.	4500.60
75	French spirit polishing : Two or more coats on new works including a coat of wood filler	SQM.	6698.93
76	Making plinth protection 50 mm thick of cement concrete 1:3:6 (1 cement: 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including finishing the top smooth.	SQM.	1079.84
77	Brick edging 7cm wide 11.4 cm deep to plinth protection with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 including grouting with cement mortar 1:4 (1 cement : 4 fine sand).	MT.	1199.83

78	Providing and fixing GI Clip in Metal Ceiling System of 600x600 mm module which includes providing and fixing 'C' wall angle of size 20x30x20 mm made of 0.5 mm thick pre painted steel along the perimeter of the room with help of nylon sleeves and wooden screws at 300 mm center to centre, suspending the main C carrier of size 10x38x10 mm made of G.I steel 0.7 mm thick from the soffit with help of soffit cleat 37x27x25x1.6 mm, rawl plugs of size 38x12 mm and C carrier suspension clip and main carrier bracket at 1000 mm c/c. Inverted triangle shaped Spring Tee having height of 24 mm and width of 34 mm made of GI steel 0.45 mm thick is then fixed to the main C carrier and in direction perpendicular to it at 600 mm centers with help of suspension brackets. Wherever the main C carrier and spring T have to join, C carrier and spring T connectors have to be used. All sections to be galvanized @ 120 gms/sqm (both side inclusive), fixing with clip in tiles into spring T with :		
	GI Metal Ceiling Clip in plain Beveled edge global white color tiles of size 600x600 and 0.5 mm thick with 25 mm height, made of G I sheet having galvanizing of 100 gms/ sqm (both sides inclusive) and 20% perforation area with 1.8 mm dia holes and having NRC of 0.5, electro statically polyester powder coated of thickness 60 microns (minimum), including factory painted after bending and perforation.	Sqm	3370.75
79	Providing and fixing false ceiling at all height including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 5x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the spacing of 1200 mm centre to centre, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm centre to centre, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I. wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25mm long dry wall screws @ 230 mm interval,		
	including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3 layers covering upto 150 mm on both sides of joint and two coats of primer suitable for board, all as per manufacturer's specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer in Charge but excluding the cost of painting with :		
	12.5 mm thick tapered edge gypsum moisture resistant board	SQM.	108.08
80	Providing and fixing fire resistant door frame of section 143 x 57 mm having built in rebate made out of 16 SWG G.I. sheet (zinc coating not less than 120 gm/sqm) duly filled with vermiculite based concrete mix, suitable for mounting 60 minutes fire rated door shutters. The frame is fitted with intumescent fire seal strip of size 10x4 mm (minimum) around the frame and fixing with dash fastener of approved size and make, including applying a coat of approved brand fire resistant primer etc. complete as per direction of Engineer-in-charge (Dash fastener to be paid for separately).	M	763.80
81	Providing and fixing 50 mm thick glazed fire resistant door shutters of 60 minutes fire rating conforming to IS:3614 (Part-II), tested and certified as per laboratory approved by Engineer-in-charge, with suitable mounting on door frame, consisting of vertical styles, lock rail, top rail 100 mm wide, bottom rail 200 mm wide, made out of 16 SWG G.I.sheet (zinc coating not less than 120 gm/m2) duly filled FR insulation material and fixing with necessary stainless steel ball bearing hinges of approved make, including applying a coat of approved fire resistant primer etc. all complete as per direction of Engineer-in-charge (panneling to be paid for separately).	SQM.	435.60
82	Providing and fixing glazing in fire resistant door shutters, fixed panels & partitions etc., with G.I. beading made out of 1.6 mm thick G.I. sheet (zinc coating not less than 120 gm/m ²) of size 20 x 33 mm screwed with M4 x 38 mm SS screws at distance 75 mm from the edges and 150 mm c/c , including applying a coat of approved fire resistant primer/ powder coating of not less than 30 micron on G.I. beading, & special ceramic tape of 5 x 20 mm size etc complete in all respect as per NBC 2016, IS 16231 (Part 3):2016 and as per direction of Engineer-in-charge with glass of required thickness having 60 minutes of fire resistance both integrity & radiation control (EW60) and minimum 20 minutes of insulation (EI20). The manufacturer have to give test report/certification of fire glass and the glass should have the stamp showing the value of E, EW & EI. The glass shall be tested in approved NABL accredited lab or by any other accreditation body which operates in accordance with ISO/IEC 17011 and accredits labs as per ISO/IEC 17025 for testing and calibration scopes shall be eligible. The maximum glazing size shall not be more than 1100x2200 mm (w x h) or 2.42 sqm.	SQM.	61.00
83	Providing and fixing panic bar / latch (Double point) fitted with a single body, Trim Latch & Lock on back side of the Panic Latch of reputed brand and manufacture to be approved by the Engineer- in- charge, all complete.	EACH	114.00
84	Providing and fixing 18mm thick both sides Pre-laminated cement bonded wood particle board as per IS : 15786:2008 of approved brand and shade with suitable full threaded steel screws etc. in partitions, boxes, shelves, racks and cupboard, kitchen cabinet under kitchen counter etc. all complete as per direction of Engineer-in-charge (Note: Fittings to be paid separately). 18 mm thick	SQM.	76.46

85	Providing and fixing stainless steel soft closing spring hinges at 0 degree hinges (hydraulic type) of approved make/brand to cupboard shutters with full threaded steel screws including making necessary recess in board and finished etc. complete as per direction of Engineer-in-charge.	EACH	90.00
	PLUMBING		
86	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required :		
	White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests	Each	464.00
87	Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete including cutting and making good the walls and floors wherever required :		
	W.C. pan with ISI marked white solid plastic seat and lid	Each	466.00
88	Providing and fixing wash basin with C.I.brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls where required :		
a	White Vitreous China Wash basin size 550x400 mm with a pair of 15 mm C.P. brass pillar taps	Each	1387.00
89	Providing and fixing Salem Stainless Steel A ISI 304 (18/8) kitchen sink as per IS: 13983 with CI brackets and stainless steel waste with plug 40mm including painting of fittings and brackets, cutting and making good the walls wherever required.		
a	Sink with drain board		
	510x1040 mm bowl depth 200 mm	Each	456.00
90	Providing & fixing PVC waste pipe for sink oncluding PVC waste fitting Complete		
	Flexible Pipe		
	32mm Dia	Each	1387.00
	40mm Dia	Each	456.00
91	Providing and fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing :		
	Circular shape 450 mm dia	Each	1387.00
92	Providing and fixing 600x120x5 mm glass shelf with edges round off, supported on anodised aluminium angle frame with C.P. brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc., complete.	Each	1387.00
93	Providing and fixing toilet paper holder :		
	C.P. brass	Each	466.00
94	Providing and fixing soil, waste, vent pipes		
	PVC SWR PIPE		
	110mm dia PVC SWR PIPE	Rmt.	18905.00
95	Providing and fixing MS holder bat clamps of approved design to cast iron (spun) pipe embedded in and Including cement concrete blocks 10 x10 x10cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc.		
	For 100mm dia. Pipe	Each	3779.00
96	Providing and fixing heel rest sanitary bend, in PVC SWR PIPE		
	110mm	Each	61.00
97	Providing and fixing bend of required degree with access door, insertion rubber washer 3mm thick, bolts and nuts complete.		
	110X110X110mm		
	PVC SWR PIPE	Each	2773.00
98	Providing and fixingPLAIN JUNCTION of required degree		
	110X110X110mm		
	PVC	Each	2773.00
99	Providing and fixing terminal guard:		
	110mm		
	PVC	Each	61.00
100	Providing and fixing collar.		
	110mm		
	PVC SWR PIPE	Each	2317.00
101	Providing and PVC joint with Primer & Cement etc.		

	110 Dia	Each	30529.00
102	Providing and fixing pvc swr trap of self cleansing design with cast iron screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors.		
	110 mm inlet and 110 mm outlet, PVC SWR PIPE & S as per IS: 3989	Each	2773.00
103	Providing and fixing PTMT liquid soap container 109 mm wide, 125 mm high and 112 mm distance from wall of standard shape with bracket of the same materials with snap fittings of approved quality and colour weighing not less than 105 gms.	Each	1387.00
104	Providing & fixing PTMT towel ring trapezoidal shape 215 mm long 200 mm wide with minimum distance of 37 mm from wall face with concealed fittings arrangement of approved quality and colour weighing not less than 88 gms	Each	1386.00
105	Providing and fixing PTMT towel rail complete with brackets fixed wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour.		
	600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 gms	Each	929.00
106	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..Internal work - Exposed on wall		
	15 mm dia nominal bore	Rmt.	12706.00
	20 mm dia nominal bore	Rmt.	9947.00
	25 mm dia nominal bore	Rmt.	7775.00
	32 mm dia nominal bore	Rmt.	4917.00
	40 mm dia nominal bore	Rmt.	2830.00
107	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. Concealed work, including cutting chases and making good the walls etc.		
	15 mm nominal outer dia pipes	Rmt.	14262.00
	20 mm nominal outer dia pipes	Rmt.	7372.00
108	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer in Charge.		
	50 mm dia, nominal bore	Rmt.	341.00
	65 mm dia, nominal bore	Rmt.	331.00
	80 mm dia, nominal bore	Rmt.	219.00
109	Providing and fixing of gun metal gate valve with CI wheel of approved quality (screwed ends)		
a	25mm dia, nominal bore	Each	387.00
b	32 mm dia, nominal bore	Each	248.00
c	40 mm dia, nominal bore	Each	139.00
d	50 mm dia, nominal bore	Each	17.00
e	65 mm dia, nominal bore	Each	16.00
f	80 mm dia, nominal bore	Each	11.00
110	Providing and fixing uplasticised PVC connection pipe with brass unions :		
	45 cm length		
	15 mm nominal bore	Each	3704.00
111	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet 100 mm diameter	Each	929.00
112	Providing and fixing C.P. brass bib cock of approved quality confirming to IS:8931		
	15mm nominal bore	Each	930.00
113	Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms.		
	15mm nominal bore	Each	1368.00
114	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS 8931 a)		
	15 mm nominal bore.		
	15 mm nominal bore	Each	3704.00
115	Providing and fixing PTMT grating of approved quality and colour		
	Circular type		
	100 mm nominal dia	Each	2773.00

116	Excavating trenches of required width for pipes, cables, etc, including excavation for sockets, depth upto 1.5 m including getting out the excavated materials, returning the soil as required in layers not exceeding 20 cm in depth including consolidating each deposited layers by ramming, watering etc. stacking serviceable material for measurements and disposal of unserviceable material as directed, within a lead of 50m :		
	Pipes, cables etc. exceeding 80 mm dia but not exceeding 300 mm dia.	Rmt.	555.00
117	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) all-round S.W. pipes including bed concrete as per standard design :		
	150 mm dia rcc pipe	Rmt.	349.00
	250 mm dia rcc pipe	Rmt.	206.00
118	Providing and fixing square-mouth S.W. gully trap grade 'A" complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than		
	100x100 mm size P type		
	With F.P.S. Bricks class designation 75	each	38.00
119	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :		
	150 mm dia rcc pipe	Rmt.	349.00
	250 mm dia rcc pipe	Rmt.	206.00
120	Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand) R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 grade		
	Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) :		
	With F.P.S. bricks with class designation 150	each	30.00
121	Inside size 120x90 cm and 90 cm deep including C.I. cover with frame (medium duty) 500 mm internal diameter, total weight of cover and frame to be not less than 116 kg (weight of cover 58 kg and weight of frame 58 kg) :		
	With F.P.S. bricks class designation 150	each	7.00

CONSTRUCTION OF RESIDENTIAL BUILDINGS FOR 5TH VAHINI U.P.S.S.F. AT DISTRICT SAHARANPUR (U.P.)

TENDER BOQ (ELECTRICAL & MECHANICAL WORKS)

TYPE-5, TYPE-4, TYPE-A & TYPE-B (INTERNAL ELECTRICAL & FIRE FIGHTING WORK, LIFT WORK ,, SOLAR POWER GENERATION WORK)

S.No.	Description of Item	UNIT	Quantity
	Sub-Head : WIRING		
1	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS/HFFR PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS/HFFR PVC insulated copper conductor single core cable etc. as required.		
	Group A	Point	13949.00
	Group B	Point	494.00
2	Wiring for twin control light point with 1.5 sq.mm FRLS/HFFR PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, 2way modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS/HFFR PVC insulated copper conductor single core cable etc. as required.	Point	242.00
3	Wiring for circuit/ submain wiring along with earth wire with the following sizes of FRLS/HFFR PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required.		
	2 X2.5 sq. mm + 1X2.5 sq. mm earth wire	Metre	77390.00
	2 X 4 sq. mm + 1 X 4 sq. mm earth wire	Metre	29678.00
	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	51962.00
	2 X 10 sq. mm + 1 X 6 sq. mm earth wire	Metre	2800.00
	2 X 16 sq. mm + 1 X 6 sq. mm earth wire	Metre	315.00
	4 X 10 sq. mm + 2X6 sq. mm earth wire	Metre	675.00
	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Metre	21476.00
4	Supplying and drawing co-axial TV cable RG-6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/ recessed steel/ PVC conduit as required.		
	2 Pair	Metre	27400.00
5	Supplying and drawing co-axial TV cable RG-6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/ recessed steel/ PVC conduit as required.	Metre	88660.00
6	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.		
	20 mm	Metre	27400.00
	32 mm	Metre	88660.00
7	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.		
	5/6 A switch	No.	7555.00
	15/16 A switch	No.	2771.00
	3 pin 5/6 A socket outlet	No.	7555.00
	6 pin 15/16 A socket outlet	No.	2771.00
	Telephone socket outlet	No.	464.00

	TV antenna socket outlet	No.	1496.00
	Bell push	No.	457.00
8	Supplying and fixing two module stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	No.	1964.00
9	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	No.	2468.00
10	Supplying and fixing following size/ modules, GI box along with modular base & cover plate for modular switches in recess etc. as required.		
	1 or 2 Module (75mmX75mm)	No.	2417.00
	3 Module (100mmX75mm)	No.	2771.00
	6 Module (200mmX75mm)	No.	3778.00
	8 Module (125mmX125mm)	No.	17.00
	12 Module (200mmX150mm)	No.	34.00
11	Installation, Testing, Commissioning of wall bracket/ceiling fittings of all sizes and shapes containing upto two GLS/CFL/LED lamps per fitting, complete with all accessories including connections etc. as required.	No.	7126.00
12	Supplying and fixing call bell/ buzzer suitable for single phase, 230 V, complete as required.	No.	457.00
13	Installation of exhaust fan in the existing opening, including making good the damage, connection, testing, commissioning etc. as required.		
	Up to 450 mm sweep	No.	1498.00
14	Extra for fixing the louvers/ shutters complete with frame for a exhaust fan of all sizes.	No.	1498.00
15	Supplying & fixing suitable size GI box with modular plate and cover in fronton surface or in recess including providing and fixing 25 A modular socket outlet and 25 A modular SP MCB, "C" curve including connections, painting etc. as required.	No.	2428.00
16	Supplying and fixing PVC batten/ angle holder including connections etc. as required.	No.	5566.00
	Sub-Head : MCCB, MCB & OB'S		
17	Providing and fixing following rating and breaking capacity and pole MCCB with thermomagnetic release and terminal spreaders in existing cubicle panel board including drilling holes in cubicle panel, making connections, etc. as required.		
	100 A.30KA.FPMCCB	No.	8.00
	125 A.36KA.FPMCCB	No.	224.00
18	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)		
	8 way , Double door	No.	56.00
	12 way , Double door	No.	7.00
19	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)		
	4 way (4 + 12), Double door	No.	15.00
	6 way (4 + 18), Double door	No.	337.00
	8 way (4 + 24), Double door	No.	125.00
20	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note : Vertical type MCB TPDB is normally used where 3 phase outlets are required.)		
	4 way (4 + 12), Double door	No.	120.00

21	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.		
	Single pole	No.	8936.00
22	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	No.	702.00
23	Supplying and fixing following rating, double pole, the existing MCB DB complete with connections, testing and commissioning etc. as required.		
	40 A	No.	56.00
	63 A	No.	7.00
24	Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.		
	63 A	No.	477.00
25	Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.		
	40 A	No.	56.00
	63 A	No.	7.00
26	Supplying and fixing following rating, four pole, (three phase and neutral), 415 volts, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.		
	63 A	No.	477.00
27	Providing and fixing M.V. danger notice plate of 200 mm X 150 mm, made of mild steel, at least 2 mm thick, and vitreous enameled white on both sides, and with inscription in single red colour on front side as required.	No.	61.00
	Sub-Head : RISING MAINS & BUS TRUNKING		
28	Supplying, installing on wall, testing and commissioning of following capacity Air Insulated Compact Type Rising Mains for use on 3 phase 4 wire 415 volts, 50Hz A.C. supply with enclosure having IP-54 rating after fixing the tap off boxes and all accessories, made of 1.6mm thick steel sheet duly powder coated in convenient sections complete with 4 Nos aluminium bus bars having current density of 130 A/ sq cm at nominal current rating, necessary joints & expansion joints, fire barrier at each floor, provision of tapping at every metre, continuous earthing with 2 Nos aluminium strip of suitable size (one on each side) including, G.I. clamping brackets, angle iron bracket, steel fasteners, connecting to earthing system etc. as required.		
	800 A, I _{sc} = 50kA for 1 second	Metre	336.00
29	Supplying, installation, testing & commissioning of following capacity End Feed Unit for the existing Air Insulated Compact Type bus trunking/ rising mains for use on 3 phase 4 wire 415 volts, 50Hz A.C. supply made with 1.6mm thick steel sheet enclosure (IP54) duly powder coated with provision of MCCB/ACB (but without MCCB/ACB) complete with necessary joints including clamping brackets, angle iron bracket, steel fasteners, connecting to earthing system etc. as required		
	800 A, I _{sc} = 50 kA for 1 sec	No.	8.00
30	Supplying, installation, testing & commissioning of following capacity Plug In/ tap off box on the existing Air Insulated Compact Type bus trunking/ rising mains for use on 3 phase 4 wire 415 volts, 50Hz A.C. supply made with 1.6mm thick sheet steel enclosure (IP54) duly powder coated with provision of MCCB/ACB (but without MCCB/ACB) complete etc. as required		
	125 A, I _{sc} = 15kA for 1 sec	No.	112.00
	Sub-Head : CABLE TRAYS		

31	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray (Galvanisation thickness not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.		
	300 mm width X 50 mm depth X 1.6 mm thickness	Metre	400.00
	Sub-Head : EARTHING		
32	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	Set	52.00
33	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	Set	32.00
34	Supplying and laying 6 SWG G.I. wire at 0.50 metre below ground level for conductor earth electrode, including connection/ termination with GI thimble etc. as required.	Metre	520.00
35	Supplying and laying 25 mm X 5 mm copper strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of brass nut bolt & spring washer spaced at 50mm)	Metre	320.00
36	Supplying and laying 25 mm X 5 mm G.I. strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with G.I. nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of G.I. nut bolt & spring washer spaced at 50mm)	Metre	520.00
37	Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required.	Metre	320.00
38	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	Metre	520.00
39	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing as required.	Metre	520.00
	Sub-Head : LIGHTNING CONDUCTOR		
40	Fixing of lightning conductor finial (single prong) with base plate including holes etc. complete as required.	Each	16.00
41	Jointing copper / G.I. tape (with another copper/ G I tape, base of the finial or any other metallic object) by riveting / nut bolting/ sweating and soldering etc as required.	Each	404.33
42	Fixing of copper/ G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For horizontal run)	Metre	954.45
43	Fixing of copper/ G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	258.55
44	Laying copper/ G.I. tape 32 mm X 6 mm from earth electrode directly in ground as required.	Metre	1320.00
	Sub-Head : MV CABLE JOINTING & END TERMINATION		
45	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.		
	3-1/2X 25 sq.mm	No.	14.00
	3-1/2 X 35 sq.mm	No.	26.00
	3-1/2 X50 sq.mm	No.	224.00
	3-1/2 X 185 sq. mm	No.	2.00
	3-1/2 X300 sq.mm	No.	24.00
	Sub-Head : MISC. CIVIL ITEMS		

46	Providing and fixing circular/Hexagonal G.I. Box for ceiling fan clamps, of internal dia 140 mm, 73 mm height, top LID of 1.5 mm thick G.I. sheet with its top surface hacked for proper bonding, top LID shall be screwed into the G.I. box by means of 3.3 mm dia rounded screws, one lock at the corners. Clamps shall be made of 12 mm dia M.S. bar bent to shape as per standard drawing. (DSR Civil-2014 item no. 10.18)	Each	1964.00
	Sub-Head : LIGHT & FAN FIXTURE		
47	LED Down lighter (SMD Type) (System lumen efficacy $\geq 120 < 135$ lm/Watt)		
	Supplying, installation, Testing & Commissioning of LED Recessed/surface Down lighter (Round/ square/ Rectangular) SMD type of following body material with PMMA and prismatic diffuser and construction as per IS : 10322 with driver as per the requirement with Driver efficiency $>85\%$, Operating voltage AC 140-270 Volt, frequency 50/60 hz, Operating temp range -5 0C to 40 0C centigrade, internal surge protection of 2.5 KV with Short & Open circuit protection ,THD $< 10\%$, P. F. ≥ 0.95 , IP20, CRI >80 , UGR (Unified Glare Rating) <19 , Flicker free (flicker should be below 5 %), life time (LED, Driver & electrical circuitry), life time of minimum 50000 Burning Hours with 70% of initial Lumen maintained till life ends, CCT 3000°K / 4000°K / 5700°K /6500°K (As per ANSI Bin), SDCM(Standard Deviation Color Matching) <3 , Maximum power consumption should not more than the specified rating and Fixture shall be of relevant BIS standard. Manufactures Word Mark/ Name Engraved/ Embossing/ Screen printing on housing Complete in all respect i/c external connections with 1.5 sq mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy $\geq 120 < 135$ lm/Watt output . LM79 & LM80 Test report and all testing required for LED fixtures as per BIS shall be submitted.. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C). Powder coated die cast /Extruded aluminium Body including trim .		
	18 watt	Each	1222.00
48	LED Batten light (System lumen efficacy $\geq 120 < 135$ lm/Watt)		
	Supplying, installation, Testing & Commissioning of LED surface mounted Batten light of following body material and construction as per IS : 10322 with driver (Replaceable) as per the requirement with Driver efficiency $>85\%$, Operating voltage AC 140- 270 Volt, frequency 50/60 hz, Operating temp range -5 0C to 40 0C, internal surge protection of 2.5 KV with Short & Open circuit protection ,THD $< 10\%$, P. F. ≥ 0.95 , IP20, CRI >80 , Flicker free (flicker should be below 5 %), life time (LED,Driver & electrical circuitry), of minimum 50000 Burning Hours with 70% of initial Lumen maintained till life ends, CCT 3000°K / 4000°K / 5700°K /6500°K (As per ANSI Bin), SDCM(Standard Deviation Colour Matching) <3 , Maximum power consumption should not more than the specified rating and Fixture shall be of relevant BIS standard. Manufactures Word Mark/ Name Engraved/ Embossing/ Screen printing on housing. complete in all respect i/c external connections with 1.5 sq.mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy $\geq 120 < 135$ lm/Watt output . LM79 & LM80 Test report and all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C).		
	Powder coated die cast / Extruded aluminium Body (Thickness ≥ 1.20 mm)		

	18- 22 watt	Each	2386.00
49	LED Flood Light, powder coated pressure die cast aluminum (System lumen efficacy ≥ 120 and < 135 lm/Watt)		
	Supplying, Installation, Testing & Commissioning of Flood Light, powder coated pressure die cast aluminium body with built in or separate driver as per the requirement with Driver efficiency $> 85\%$, Input voltage: Input voltage: 140-270 Volt AC, frequency 50/60 hz, Operating temp range -5 0C to 50 0C, internal surge protection of 5 KV L,N,E as per IEC 61000-4-5, Driver efficiency $> 85\%$, THD $< 10\%$ as per IEC 61000-3-2, P. F. ≥ 0.95 , IP-66, IK-10, CRI > 70 , under voltage and over voltage protection, EMI-EMC as per CISPR-15, lenses for beam angle 30 deg-120deg as per the application and the project requirement, suitable tilt able fitting, life time (LED, Driver & electrical circuitry) of minimum 50000 Burning Hours with 70% of initial Lumen maintained till life ends as per LM80 extrapolation IES TM-21-11 report, CCT 3000°K / 4000°K / 5700°K / 6500°K (As per ANSI Bin), SDCM (Standard Deviation Colour Matching) < 5 , Maximum power consumption should not more than the specified rating and Fixture shall be of relevant BIS standard complete in all respect i/c external connections with 1.5 sq.mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy ≥ 120 and < 135 lm/Watt output . LM79 & LM80 Test report and all testing required for LED fixtures as per BIS shall be submitted.. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C).		
	150 watt	Each	32.00
50	Brush Less Direct Current (BLDC) Fan with Remote		
	Supply, Installation, Testing and Commissioning of ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. metal (Aluminium alloy) blades, 30 cm long down rod, 2 nos. canopies, shackle kit, safety rope, copper winding, steel/Al body. Power Factor not less than 0.9, Service Value (CM/M/W) minimum as below, 350 RPM (tolerance as per IS : 374-2019), THD (Total Harmonic Distortion) less than 10%, remote (preferably mobile app based) for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 0C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC supply Ceiling Fan compliant to IS 374:2019 fan i/c external connections with 1.5 sq.mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required.		
	1200mm, service value ≥ 6.0 CM/Min/Watt, air delivery 210 CM/Min (Minimum)	Each	22.00
	1400mm, service value ≥ 6.0 CM/Min/Watt, air delivery 245 CM/Min (Minimum)	Each	38.00
51	Brush Less Direct Current (BLDC) Fan without Remote		

	Supply, Installation, Testing and Commissioning of ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. metal (Aluminium alloy) blades, 30 cm long down rod, 2 nos. canopies, shackle kit, safety rope, copper winding, steel/Al body Power Factor not less than 0.9, Service Value (CM/M/W) minimum as below, 350 RPM (tolerance as per IS : 374-2019), THD (Total Harmonic Distortion) less than 10%, suitable for operation with regulator for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 °C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC supply, Ceiling Fan compliant to IS 374:2019 fan i/c external connections with 1.5 sq.mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required.		
	1200mm, service value ≥ 6.0 CM/Min/Watt, air delivery 210 CM/Min (Minimum)	Each	1792.00
	1400mm, service value ≥ 6.0 CM/Min/Watt, air delivery 245 CM/Min (Minimum)	Each	112.00
	Sub-Head : Non-Schedule Items		
52	Supply of AC 300mm Sweep, 230/250 Volts, 50 Hz exhaust fan (Heavy Duty) with blades, cover etc. complete as required.	each	456.00
53	Supply of AC 200mm Sweep, 230/250 Volts, 50 Hz exhaust fan (Light Duty) with blades, cover etc. complete as required	each	1042.00
54	Supply of Factory made 12 to 20 Watt LED Bulb fitting, cool day light, (65000 K temp.) suitable for Baton/Angle holder including making connection. Complete in all respect.	each	5566.00
55	Supply of LED Tube Light with batten suitable for up to 1 X 10 watt LED tube light fitting including tube on Surface complete in all respect. (2ft) CAT- AAA	each	1378.00
56	Supply of water tight oblong 10 Watt LED bulk head luminaire having die cast housing with driver set confirming to IP 65 and above Protection. Complete in all respect.	each	182.00
57	Supply & Fixing of LAN socket outlet modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.	each	
58	Supply and fixing of Three phase multifunctional electronic energy meter 10 to 60 Amp. Capacity fitted in integral box on wall complete in all respect.	each	452.00
59	Supplying and laying of aluminium conductor PVC insulated armoured served sheathed cable 1100 volts grade at the depth of 750 mm below ground level over a cushion of 75 mm thick sand all around and protected with burnt bricks on side and on top as directed by Engineer-Incharge, complete in all respect including excavation and refilling. The armouring of the cable shall be properly connected with the earth conductor by clamps etc.		
	25 sq. mm 3-1/2 core	Mtr.	175.00
	35 sq. mm 3-1/2 core	Mtr.	820.00
	50 sq. mm 3-1/2 core	Mtr.	2240.00
	185 sq. mm 3-1/2 core	Mtr.	450.00
	300 sq. mm 3-1/2 core	Mtr.	2400.00
60	Supply of Lightning Finial, 25mm dia X 300 mm long, copper	each	16.00
61	Supply of 20 mm X 3 mm copper tape (.533 kg/mtr.)	Mtr.	1213.00
62	Supply of 32 mm X 6 mm copper tape (1.705 kg/mtr.)	Mtr.	1600.00
63	Providing and fixing following rating and breaking capacity 1250 A 50kA ACB with thermomagnetic release and terminal spreaders in existing cubicle panel board including drilling holes in cubicle panel, making connections, etc. as required.	each	2.00

	Providing and fixing following rating and breaking capacity 800 A 50kA ACB with thermomagnetic release and terminal spreaders in existing cubicle panel board including drilling holes in cubicle panel, making connections, etc. as required.	each	6.00
	Supply & Erraction of factory fabricated & wired metal clad dust and vermin proof floor mounting, M.S. Channel Base with bottom and top cable entreis Electrical control panel with TPN MCCB's (Four Pole 36 KA with thermal magnatic release) Switches Complete and instrument chamber etc. complete in all respects. The instrument chamber shall be separate and shall comprise of flush type digital metering system for phase to phase voltage and single phase voltage, current and other parameters (KVA, P.F, KW etc) in each phase with touch type selector switches for different readings, instrument fuses, current transformer etc. The panel board shall have suitable capacity electrolytic alumininum busbars as per IS8623 or above istulated with heat shrink sleeving and mounted on non hygroscopic supports such as CMC/BMC support with deteachable side covers and shall be suitable for extension on the sides. The MCCB's shall be complete with suitable cable end boxes, compression glands and indicating lamp on incoming etc. The Job includes the grounting of the board as per directions of Engineer-in charge. All out goings of 100 Amp and above shall have an Ammeter. The panel board shall be fabricated with CRCA sheet with a minimum thickness of 1.6mm/2mm. Cubicle type switch board shall be of cat B Only.		
	Incoming		
	Incoming		
	200 Amp. MCCB-1 No		
	Outgoing		
64	100 Amp. MCCB-2 Nos.+(100 AMP. MCCB-8 NOS.+63 AMP FPMCB-2 NOS.) AS BUILDING PANEL	each	1.00
65	100 Amp. MCCB-2 Nos.+(100 AMP. MCCB-3 NOS.+63 AMP DP MCB-16 NOS.) AS EMERGENCY PANEL		1.00
66	100 Amp. MCCB-2 Nos.+(100 AMP. MCCB-3 NOS.+63 AMP DP MCB-16 NOS.) AS EMERGENCY PANEL	each	3.00
67	Supply and fixing of 25 ltr. Geyser with accessories complete in all respects	each	938.00
	INTELLIGENT FIRE ALARM SYSTEM		
68	Supplying, installation, testing and commissioning of micro processor based intelligent addressable main fire alarm panel, central processing unit with the following loop modules and capable of supporting not less than 240 devices (including detectors) and minimum 120 detectors per loop and loop length up to 2 km, network communication card, minimum 320 character graphics/ LCD display with touch screen or other keypad and minimum 4000 events history log in the non volatile memory (EPROM), power supply unit (230 ± 5% V, 50 hz), 48 hrs back-up with 24 volt sealed maintenance free batteries with automatic charger. The panel shall have facility to connect printer to printout log and facility to have seamless integration with analog/digital voice evacuation system (which is part of the schedule of work under SH: PA System) and shall be complete with all accessories . The panel shall be compatible for IBMS system with open protocol BACnet/ Modbus over IP complete as per specifications.		
	Two Loop Panel.	No.	8.00
69	Supplying, installation, testing & commissioning of central graphical fire alarm management system to centrally monitor and operate the fire alarm system complete as required.	No.	8.00

70	Supplying, installation, testing & commissioning of addressable fire control module complete as required.	No.	112.00
71	Supplying, installation, testing & commissioning of addressable phone control module complete as required.	No.	112.00
72	Supplying, installation, testing & commissioning of addressable manual call point complete as required.	No.	112.00
73	Supplying, installation, testing & commissioning of addressable horn cum strobe complete as required.	No.	112.00
74	Supplying, installation, testing & commissioning of addressable strobe complete as required.	No.	112.00
75	Supplying, installation, testing & commissioning of fire fighter telephone handset complete as required.	No.	112.00
76	Supplying, installation, testing & commissioning of fire fighter phone jack complete as required.	No.	112.00
	PUBLIC ADDRESS SYSTEM		
77	Supplying, installation, testing & commissioning of 6 zone, voice alarm controller with USB, MP3 player (including 6 zone button paging station) with seamless integration facility with main fire alarm panel for voice evacuation complete as required.	No.	8.00
78	Supplying, installation, testing & commissioning of 6 inches dia, 2 watts, 70/100 volts ceiling speaker complete as required.	No.	395.00
	CABLING & WIRING		
79	Supplying and drawing of cable Fire Retardant PVC insulated copper conductor cable in the existing surface / recessed steel conduit of following pairs, cores and size including connections and interconnections etc. as required.		
	speaker cable Single pair, 2-core, 1.5 sqmm	Metre	10653.00
80	Supplying and fixing 25 mm dia MS flexible pipe with PVC coating along with all ancillaries and accessories like coupler etc. as required.	Metre	215.00
81	Supplying, installation, testing and commissioning of electric driven terrace pump suitable for automatic operation and consisting of following, complete in all respects, as required: (Terrace Pump)		
	a) Horizontal type, multistage, centrifugal, split casing pump of cast iron body & bronze impeller with stainless steel shaft, mechanical confirming to IS : 1520		
	b) Suitable HP squirrel cage induction motor TEFC type suitable for operation on 415 volts, 3 phase, 50 Hz, AC supply with IP55 class of protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS-325.		
	c) M.S.fabricated common base plate, coupling, coupling guard, foundation bolts etc.as required.		
	d) Suitable cement concrete foundation duly plastered and with anti vibration pads.		
	450 lpm at 35 m Head	Set	1.00
82	Providing, laying, testing & commissioning of 'C' class heavy duty MS pipe conforming to IS 3589/IS 1239 including Welding, fittings like elbows, tees, flanges, tapers, nuts bolts, gaskets etc. and fixing the pipe on the wall/ceiling with suitable clamp/support frame and painting with two or more coats of synthetic enamel paint of required shade complete as required :		
	80 mm dia	m	200.00
	100 mm dia	m	3920.00
83	Supplying and fixing single headed internal hydrant valve with instantaneous Gunmetal/Stainless Steel coupling of 63 mm dia with cast iron wheel ISI marked conforming to IS 5290 (Type -A) with blank Gunmetal/Stainless Steel cap and chain as required :		
	Single headed Stainless steel	Set	171.00

84	Supplying, fixing, testing and commissioning of butterfly valve of PN 1.6 rating with bronze/gunmetal seat duly ISI marked complete with nuts, bolts, washers, gaskets conforming to IS 13095 of following sizes as required :		
	80 mm dia	Set	13.00
	100 mm dia	Set	13.00
85	Supplying, fixing, testing & commissioning of double flanged sluice valve of rating PN 1.6 with non rising spindle, bronze/gun metal seat, ISI marked complete with nuts, bolts, washers, gaskets and conforming to IS 780 of following sizes as required :		
	80mm dia	Set	13.00
	100mm dia	Set	13.00
86	Supplying and fixing orifice plate made out of 6 mm thick stainless steel (Grade 304) with orifice of required size to be fitted between flange & landing valve of external and internal hydrants to reduce pressure at the outlet to the level of 3.5 kg/cm ² complete as required.	No.	171.00
	Providing, installation, testing and commissioning of non-return valve of following sizes confirming to IS: 5312 complete with rubber gasket, GI bolts, nuts, washers etc.as required :		
	100mm dia	Set	13.00
87	Providing, installation, testing and commissioning of stainless steel Y-strainer fabricated out of 1.6 mm thick stainless steel, Grade 304, sheet with 3 mm dia holes with stainless steel flange.		
	100mm dia	No.	1.00
88	Supplying and fixing 63 mm dia, 15 m long RRL hose pipe with 63 mm dia male and female couplings duly bound with GI wire, rivets etc. conforming to IS 636 (type-A) as required :		
	Stainless Steel (Grade 304)	Set	342.00
89	Supplying and fixing first-aid Hose Reel with MS construction spray painted in post office red, conforming to IS 884 complete with the following as required. 20 mm nominal internal dia water hose thermoplastic (Textile reinforced) type -2 as per IS: 12585 20 mm nominal internal dia gun metal globe valve & nozzle.		
	Drum and brackets for fixing the equipments on wall. Connections from riser with 25 mm dia stop gun metal valve & M.S. Pipe and socket.		
	30 m	Set	171.00
90	Supplying & fixing 63 mm dia gun metal short branch pipe with 20 mm nominal internal diameter size nozzle conforming to IS 903 suitable for instantaneous connection to interconnect hose pipe coupling as required :		
	Stainless Steel (Grade 304)	Nos.	171.00
91	Supplying and fixing of fire brigade connection of cast iron body with gun metal male instantaneous inlet couplings complete with cap and chain as reqd. for suitable dia MS pipe connection conforming to IS 904 as required :		
	2 way-100 mm dia M.S. Pipe	Set	168.00
92	Supplying and fixing air vessel made of 250 mm dia, 8 mm thick MS sheet, 1200 mm in height with air release valve on top and flanged connection to riser, drain arrangement with 25 mm dia gun metal wheel valve with required accessories, pressure gauge and painting with synthetic enamel paint of approved shade as required.	Set	4.00
93	Providing & fixing of pressure switch in M.S. pipe line including connection etc. as required.	No.	171.00

94	Providing, fixing, testing & commissioning of installation control valve of cast iron body, brass/bronze working parts comprising of water motor alarm, bronze seat clapper, clapper arm and hydraulically driven mechanical gong bell to sound continuous alarm when the wet riser/sprinkler system activates, pressure gauges, emergency releases, strainer, pressure switch, cock valve complete with drain valve and bypass, test control box, ball valves, MS pipe of required size, flanges, orifice plate, gasket etc of following sizes as required :		
	100mm dia	Set	171.00
	FIRE EXTINGUISHERS		
95	Supply and fixing of fire extinguisher, ABC Type (ISI Marked IS : 15683 & TAC approved) complete with initial charge and wall bracket, along with supply of all materials and labour for proper completion of work.		
	4.0 kg. capacity	Each	244.00
96	Supply and fixing of C02 type fire extinguisher (ISI Marked IS : 2878 & TAC approved) complete with initial charge and wall bracket, along with supply of all materials and labour for proper completion of work.		
	4.5 kg. capacity	Each	244.00
97	Providing & fixing carbon steel Fire Man Axe with rubber insulated handle tested to 20000 volts.	Each	241.00
98	Supplying and installing at approved location approved make fire buckets of 24 gauge galvanized steel sheet, standard of round bottom shape, painted white inside and red outside and black on the bottom, inscribed with letter "FIRE" in black and gold. Cost shall be inclusive of providing MS stand duly painted over a coat of primer (one stand shall be suitable for hanging 5 buckets).	Each	5.00
99	1200x900 mm (Indoor Cabinet) Only Frame	Each	171.00
100	Providing and Fixing of Self illuminated /Auto Glow Exit Signs printed on photo-luminescent sheet containing self illuminated base chemical, of appropriate size not less than 400x150mm, suspended from ceiling or fixed to the walls with accessories as required and as directed at site.	Each	339.00
101	Providing & fixing cast iron air release valve of 25 mm dia including 25 mm dia Ball valve with fittings etc. as per the requirement.	Each	13.00
	LIFT WORK		
102	Supply Installation , Testing & Commissioning of LIFTS with power operated centre opening doors and AC variable voltage & variable frequency control, car safety & Governor, Guides, guide rails, ropes, car platform, cabin finishes (stainless steel), car & landing doors (stainless steel), hoist motors, braking system, Automatic Rescue Device (ARD) etc. complete as per the CPWD Specifications and related IS standards upto date.		
	13 Passenger, 1.5 mps, 14 stops , 14 Openings	SET	8.00
	Goods Lift , 1.5 mps, 14 stops , 14 Openings	SET	4.00
	SOLAR PHOTO VOLTAIC POWER GENERATION SYSTEM		
103	Supplying Installation, Testing and Commissioning of on-grid Solar Photovoltaic Power Plant conforming to various applicable standards BIS, IEC, MNRE guidelines, the Central Electricity Authority Regulations and CPWD Specifications as amended up to date, consisting of Mono/Poly Crystalline silicon solar cells module, net metering facility, necessary control, protections, earthing, cabling, mounting structure, junction boxes, power conditioning units, Real time online web interfaced Data Monitoring System, Distribution panels, grid connecting arrangement, conduits, pipes, cable trays and other accessories etc. as required.		

	<p>a)High Energy Efficiency Solar Photovoltaic Module of capacity 330 Wp or above, manufactured in India, conforming to IS 14286/IEC 61215, IS/IEC 61730-Part-1, IS/IEC 61730-Part-2. Solar Photovoltaic Module conversion efficiency shall not be less than 23% at STC with temperature coefficient of Pmax better than -0.30% per 0C. PV module s used in solar power plants/ systems must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years. Solar Modules shall be designed to operate in relative humidity upto 100% with temperature between -10 0C and +85 0C. Further, each PV module used in any solar power project must have Radio frequency identification tag with information such as name of manufacturer, month and year of manufacturing, country of origin (separately for Solar cell and module), I-V curve, Unique Serial No and Model No of the module, Wattage, Im, Vm and FF, name of test lab issuing IEC certificate.</p>		
	<p>b)Power Conditioning Unit (PCU) of 350-800 V DC Power Conditioning Unit (PCU) of 350-800 V DC meter and data logger, MPPT, switching devices IGBT/MOSFETs and controller Microprocessor /DSP. PCU/inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown. The PCU shall be able to withstand unbalanced load conforming to IEC standard with shutdown/standby mode. It must be provided with grid islanding along with manual disconnect pole isolation switch besides automatic disconnection. Minimum protections: Mains Under / Over Voltage, Over current, Over/Under grid frequency, Over temperature, Surge voltage induced at output due to external source, Short-circuit, Lightening, Anti Islanding (for grid synch. Mode) and other protections as per applicable standards. LCD/LED display of minimum parameters: DC input voltage, DC current, AC Voltage and current (all 3 phases, in case of 3 phase), Instantaneous & cumulative AC output power, Daily DC energy produced and other parameters applicable standard. Communication interface RS 485 / RS 232.</p>		
	<p>c)Module mounting structure: The roof top solar plantgeneration units shall be installed by using supporting Aluminium/Galvanized MS structure (mass of zinc coating shall be as per IS4759) having minimum head room clearance of 2.4 meter above the terrace level /ground level. The mounting structure would be designed to sustain wind load and seismic parameter of the site of installation. All the structure shall be design as per applicable BIS code and the material shall also confirm the applicable BIS Code. Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts. The suitable arrangements for maintenance and cleaning shall be provided.</p>		
	<p>d)Real time online web interfaced Data Monitoring System complete with accessories for various parameters such as Solar Irradiance, temperature, AC Output Voltage and current, Output Power, Power factor, DC Input Voltage and Current, Time Active, Time disabled, Time Idle, Power produced and other parameters as per standard practices.</p>		

	e)Array junction box & Main junction box with IP 65 protection and termination arrangement for incoming and outgoing cable along with glands, lugs and other accessories etc. as required. Each junction box shall be made of GRP/FRP/Powder Coated Aluminium /cast aluminium alloy with full dust, water & vermin proof arrangement with High quality Suitable capacity Metal Oxide Varistors(MOVs) (semiconductor diode with resistant applied voltage)/ surge arrestors and suitable Reverse Blocking Diodes, isolation switches isolate the DC input to Inverter, copper bus bar etc.		
	f)Lightning, surge voltage protection, earthing protection and grid islanding.		
	g)Cables: Connections & Interconnections required size IR/UV protected XLPE insulated copper conductor 1.1 kV grade armored power and control cables(ISI Marked) along with supplying & fixing of necessary channel/conduit, GI cable trays, supports, lugs, thimble and other accessories etc. as required.		
	h)DC Distribution Board And AC Distribution Panel Board: IP65, free standing, metal cladded, having copper bus bar, having required protection and control gears, connection-interconnection, etc. as required.		
	SOLAR CAPACITY	KWP	210.00