

Construction of clinical lab and scanning centre at Sector-39 ,Gurgaon,Haryana					
Schedule of Quantities					
Item no.	Specification	Quantity	Unit	Rate (In figure & words)*	Amount
A	CIVIL WORKS				
A1	Taking out doors,windows and clerestory window shutters (steel or wood) including stacking within 50 metres lead .	115.00	Sqm		
A2	Dismantling steel work in window frames, door frames and built up sections in angles, tees, flats and channels including all gusset plates, bolts, nuts, cutting rivets, welding etc. including dismembering and stacking within 50metres lead.	1262.00	Kg		
A3	Dismantling tile work in floors,walls and roofs laid in cement mortar including stacking material within 50 metres lead. For thickness of tiles up to 40 mm	613.00	Sqm		
A4	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.	97.00	Sqm		
A5	Removing white or colour wash by scrapping and sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete	44.00	Sqm		
A6	Demolishing brick work manually/ by mechanical means including stackingof serviceable material and disposal of unserviceable material within 50metres lead as per direction of Engineer-in-charge.In cement mortar	85.00	Cum		
A7	Dismantling aluminium/ Gypsum partitions, doors, windows, fixed glazing and false ceiling including disposal of unserviceable surplus material and stacking of serviceable material with in 50 meters lead as directed by Engineer-in-charge.	130.00	Sqm		
A8	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in-charge. For dismantaling of Existing Lintel Beam	0.50	cum		
A9	Dismantling of wall mounted or other types of cup boards, Tables etc. made up of wooden boardings including stacking of serviceable and nonserviceble materials within 50 metres lead.	43.00	Sqm		
A10	Cleaning of fixed tiles / granite/ marble by using stain remover / tile cleaner and clean water, using a rag or chamois-type mop rather than a sponge mop.And make the surface clean and shiny.	25.00	Sqm		
A11	Dismantling stone slab flooring laid in cement mortar including stacking of serviceable material and disposal of unserviceable material within 50 metres lead.	21.00	Sqm		
A12	Half brick masonry 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.Cement mortar 1:4 (1 cement :4 coarse sand)	114.00	Sqm		
A13	Extra for providing and placing in position 2 Nos 6mm dia. M.S. bars at every third course of half brick masonry.	114.00	Sqm		
A14	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 1:4 (1 cement : 4 coarse sand)	80.00	Cum		
A15	15 mm cement plaster on the rough side of single or half brick wall of mix :1:4 (1 cement: 4 coarse sand)	453.00	Sqm		
A16	12 mm cement plaster of mix : 1:4 (1 cement: 4 coarse sand)	559.00	Sqm		
A17	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 outjoints 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)	20.00	Sqm		

A18	Applying one coat of water thinnable cement primer of approved brand and manufacture on wall surface : Water thinnable cement primer	283.00	Sqm		
A19	Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth complete.	172.00	Sqm		
A20	Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade : Two or more coats	880.00	Sqm		
A21	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.	675.00	Sqm		
A22	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622, of approved make, in all colours and shades, laid on 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 sqm	453.00	sqm		
A23	Providing and laying antiskid ceramic/premium range tile flooring of approved quality, size, colour and thickness according to the dimensions of tiles and having scratch hardness and other parameter conforming to IS 13630 (Bell or Navin or Spartek or Jhonson or Kajaria or Somany or equivalent make) laid over a bed/backing with cement mortar (using manufactured sand) of mix and thickness as specified below, with cement slurry at 3.30kg/sqm, close jointed and pointed with matching white cement slurry mixed with approved pigment and finishing to required level, curing etc., complete all as per specification and as directed by engineer in charge at all floors: In flooring with approved colour floor tiles (regular/light or dark colour) of size 300mmx300mm over bed/backing of 20mm thick in CM 1:4	47.00	Sqm		
A24	<p>Providing and fixing tiled false ceiling of approved materials of size 595x595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanized steel sections (galvanized @ 120 grams/ sqm, both side inclusive) consisting of main "T" runner with suitably spaced joints to get required length and of size 24x38 mm made from 0.30 mm thick (minimum) sheet, spaced at 1200 mm center to center and cross "T" of size 24x25 mm made of 0.30 mm thick (minimum) sheet, 1200 mm long spaced between main "T" at 600 mm center to center to form a grid of 1200x600 mm and secondary cross "T" of length 600 mm and size 24x25 mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of</p> <p>the 1200x600 mm panel to form grids of 600x600 mm and wall angle of size 24x24x0.3 mm and laying false ceiling tiles of approved texture in the grid including, required cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main "T" runners to be suspended from ceiling using GI slotted cleats of size 27 x 37 x 25 x 1.6 mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4mm GI adjustable rods with galvanised butterfly level clips of size 85 x 30 x 0.8 mm spaced at 1200 mm center to center along main T, bottom exposed width of 24 mm of all T-sections shall be pre-painted with polyester paint, all complete for all heights as per specifications, drawings and as directed by Engineer-in-charge.</p> <p>12.5 mm thick square edge PVC Laminated Gypsum Tile of size 595x595 mm, made of Gypsum plasterboard, manufactured from natural gypsum as per IS 2095 part I and laminated with white 0.16mm thick fire retardant PVC film on the face side and 12micron metalized polyester on the back side with all edges sealed with the face side PVC film which goes around and wraps the edges and is bonded to the edges and the back side metalized polyester film so as to make the tile a completely sealed unit.</p>	407.00	Sqm		

A25	<p>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 25x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate</p> <p>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</p> <p>12.5 mm thick tapered edge gypsum moisture resistant board</p>	35.00	Sqm		
A26	Extra for sunk or raised mouldings in the false ceiling.	35.00	Sqm		
A27	<p>Providing and laying APP (Atactic Polypropylene Polymer) modified prefabricated five layer, 3 mm thick water proofing membrane, blackfinished reinforced with glass fibre matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 litre/sqm by the same membrane manufactured of density at 25°C, 0.87 - 0.89 kg/litre and viscosity 70 -160 cps. Over the primer coat the layer of membrane shall be laid using butane torch and sealing all joints etc., and preparing the surface complete. The vital physical and chemical parameters of the membrane shall be as under : Joint strength in longitudinal and transverse direction at 23°C as 350/300 N/5 cm.</p> <p>Tear strength in longitudinal and transverse direction as 60/80N. Softening point of membrane not less than 150°C. Cold flexibility shall be upto -2°C when tested in accordance with ASTM, D - 5147. The laying of membrane shall be got done through the authorised applicator of the manufacturer of membrane : 3 mm thick</p>	70.00	sqm		
A28	Providing and fixing 12 mm thick frameless toughened glass door shutter of approved brand and manufacture, including providing and fixing top & bottom pivot & spring type fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer-in-charge (Door handle, lock and stopper etc.to be paid separately).	22.00	Sqm		
A29	Providing and laying in position specified grade of reinforced cement concrete, including the cost of centering, shuttering, finishing and reinforcement -1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size)	8.00	Cum		
A30	Providing and fixing 18 mm 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, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.Area of slab over 0.50 sqm	42.00	Sqm		
A31	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.Granite work	125.00	Metre		
A32	Extra for providing opening of required size & shape for wash basin/ kitchen sink in kitchen platform, vanity counter and similar location in marble/ Granite/stone work, including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete.	16.00	Each		

A33	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). Second class teak wood	1.10	Cum		
A34	Providing and fixing panelled or panelled and glazed shutters for doors, windows and clerestory windows including ISI marked Stainless Steel butt hinges bright finished of required size with necessary screws excluding, panelling which will be paid for separately, all complete as per direction of Engineer-in-charge. Second class teak wood: 35 mm thick shutters	10.00	Sqm		
A35	Providing and fixing panelling or panelling and glazing in panelled or panelled and glazed shutters for doors, windows and clerestory windows (Area of opening for panel inserts excluding portion inside grooves or rebates to be measured). Panelling for panelled or panelled and glazed shutters 25 mm to 40 mm thick : Second class teak wood	10.00	Sqm		
A36	Extra for providing and fixing 2mm thick lead lining over inner side of the door shutter & frame with 8mm thick plywood and 1mm thick approved laminated finish including all fixing accessories and fixer etc complete	10.00	Sqm		
A37	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 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	55.00	Sqm		
A38	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).	62.00	Sqm		
A39	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):Circular	27.00	sqm		
A40	Extra if louvers (not exceeding 0.2 sqm) are provided in flush door shutters (overall area of door shutters to be measured):Decorative type door	18.00	sqm		
A41	Providing and fixing factory made uPVC door frame made of uPVC extruded sections having an overall dimension as below (tolerance ± 1 mm), with wall thickness 2.0 mm (± 0.2 mm), corners of the door frame to be Jointed with galvanized brackets and stainless steel screws, joints mitred and Plastic welded. The hinge side vertical of the frames reinforced by galvanized M.S. tube of size 19 X 19 mm and 1mm (± 0.1 mm) wall thickness and 3 nos. stainless steel hinges fixed to the frame complete as per manufacturer's specification and direction of Engineer-in-charge. Extruded section profile size 48x40 mm	45.00	Metre		
A42	30 mm thick factory made Polyvinyl Chloride (PVC) door shutter made of styles and rails of a uPVC hollow section of size 60x30 mm and wall thickness 2 mm (± 0.2 mm), with inbuilt decorative moulding edging on one side. The styles and rails mitred and joint at the corners by means of M.S. galvanised/ plastic brackets of size 75x220 mm having wall thickness 1.0 mm and stainless steel screws. The styles of the shutter reinforced by inserting galvanised M.S. tube of size 25x20 mm and 1 mm (± 0.1 mm) wall thickness. The lock rail made up of 'H' section, a uPVC hollow section of size 100x30 mm and 2 mm (± 0.2 mm) wall thickness fixed to the shutter styles by means of plastic/ galvanised M.S. 'U' cleats. The shutter frame filled with a uPVC multi-chambered single panel of size not less than 620 mm having over all thickness of 20 mm and 1 mm (± 0.1 mm) wall thickness . The panels filled vertically and tie bar at two places by inserting horizontally 6 mm galvanised M.S. rod and fastened with nuts and washers, complete as per manufacturer's specification and direction of Engineer-in-charge	15.00	Sqm		

A43	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing and paneling to be paid for separately) :				
A43.1	For fixed portion: Powder coated aluminium (minimum thickness of powder coating 50 micron)	640.00	Kg		
A43.2	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately): Powder coated aluminium (minimum thickness of powder coating 50 micron)	262.00	Kg		
A44	Providing and fixing 12 mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-in-charge.	30.00	Sqm		
A45	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. With float glass panes of 5.50/6 mm thickness.	48.00	Sqm		
A46	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.	29	Each		
A47	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	33	Each		
A48	Providing and fixing aluminium hanging floor door stopper, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade, with necessary screws etc. complete. Twin rubber stopper	37	Each		
A49	Filling the gap in between aluminium frame & adjacent RCC/ Brick/ Stone work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete. Upto 5mm depth and 5 mm width	60.00	Metre		
A50	Providing and fixing bright finished brass handles with screws etc. complete: 125 mm	20	Each		
A51	Providing and fixing stainless steel (SS 304 grade) adjustable friction windows stays of approved quality with necessary stainless steel screws etc. to the side hung windows as per direction of Engineer-in-charge complete. 255 X 19 mm	20	Each		
A52	Providing and fixing Zinc alloy (white powder coated) casement lock for windows	40	Each		
A53	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	92	Each		
A54	Providing 40x5 mm flat iron hold fast 40 cm long including fixing to frame with 10 mm diameter bolts, nuts and wooden plugs and embedding in cement concrete block 30x10x15cm 1:3:6 mix (1 cement : 3 coarse sand: 6 graded stone aggregate 20mm nominal size).	186	Each		
A55	Providing and sticking Frosted Crystal Glass Film on glass panes in partition, doors etc.	13.00	Sqm		

A56	Providing and fixing Reflective type SUN CONTROL film on window/ ventilators/ clere storey windows glass panes etc.,complete all as per manufacturers specifications and as per the directions of Engineer in charge.With Reflective type 50micron Grade- A sun control film.	16.00	Sqm		
A57	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50m:All kinds of soil.	7.00	cum		
A58	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 : 8 graded stone aggregate 40 mm nominal size)	15.00	cum		
A59	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	200.00	Kg		
A60	Taking out existing CC interlocking paver blocks , including removal of rubbish etc., disposal of unserviceable material to the dumping ground , stacking of serviceable material within 50 metre .And Providing and laying new 60mm thick factory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge.	75.00	Sqm		
A61	Providing and fixing bright finished 100 mm mortice lock with 6 levers without pair of handles of approved quality for aluminium door, with necessary screws etc complete as per direction of Engineerin-charge.	4	Each		
A62	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: For frame less toughened glass doors	10	Each		
A63	Providing and fixing bright finished brass door latch with necessary screws etc. complete : 300x16x5 mm each	9	Each		
A64	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade :Two or more coats	33.00	Sqm		
A65	Steel work in built up tubular (round, square or rectangular hollow tubesetc.) 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	3550.00	Kg		
A66	Structural steel work of factory made MS Holding down foundation bolts including nuts and washer plates of any dia including necessary threading and machining	105.00	Kg		

A67	Supplying and fixing precision engineered specially designed trapezoidal profiled roof sheet of profile depth mentioned below, 200mm pitch, 0.5mm TCT, galvalume AZ150,550mpa sheets as per ASTM-A-792/AS-1397 of Japan Metal Building System Pvt.Ltd, or equivalent using tight frames securing to purlins by welding or with self tapping fastners and a metal washer unit with nut, EPDM washer & PP cap assembly to ensure watertight fastening points at crest. The entire operation shall be as per the manufacturer's specifications and as directed by Engineer in charge. The quoted rate shall include for cost of all materials and roofing sheet overlapping (such as galvalume sheets, self tapping fasteners, washers, etc.) and necessary staging/platform required for fixing the above and specialized labour for all the activities etc; complete as per specification and as directed by EIC: 0.5mm TCT,550Mpa, AZ150, Bare Galvalume(Silver spangle Finish) steel sheets, 30/200 profile.	145.00	Sqm		
A68	Fixing flush door shutters (Door shutter is available at site / issued by the department at free of cost) with new hinges.	11.00	Sqm		
A69	Fixing frames of doors, windows, clerestory windows and other frames (Frames is available at site / issued by the department at free of cost), 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).	27.00	Metre		
	Total for Civil Works				
B	PH WORKS (PLUMBING)				
B1	Removing and dismantling of sanitary ware etc, including removal of accessories, neatly stacking serviceable material and disposing of unserviceable material as per direction of engineer incharge to outside premises complete				
B1.1	Dismantling of flushing cistern of all types (ci/pvc/vitrius china) including stacking of useful materials near the site and disposing of unserviceable materials	4	Each		
B1.2	Dismantling of EWC including all accessories, pvc connection pipes,seat cover ,traps etc complete as per direction of engineer incharge	4	Each		
B1.3	Dismantling of Indian type WC including all accessories, pvc connection pipes ,traps etc complete as per direction of engineer incharge	4	Each		
B1.4	Dismantling of wash basin including all accessories, pvc connection pipesetc complete as per direction of engineer incharge	5	Each		
B1.5	Dismantling of pillar cocks,bib cock, wall mixers and valves including all accessories like extension nipples flanges taps etc complete as per direction of engineer incharge	23	Each		
B2	Providing and fixing white vitreous china extended wall mounting water closet of size 780x370x690 mm of approved shape including providing & fixing white vitreous china cistern with dual flush fitting, of flushing capacity 3 litre/6 litre (adjustable to 4 litre/8 litres), including seat cover, and cistern fittings, nuts, bolts and gasket etc complete.	10	Each		
B3	Providing and fixing wash basin/counter 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 wherever require White Vitreous China Wash basin size 630x450 mm with a pair of 15 mm C.P. brass pillar taps. (Make: Hindware, Jaquar, Parryware): Materials should be selected by the Engineer in charge	11	Each		
B4	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & post flushing with water (250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge.	3	Each		

B5	Providing and fixing stone slab table rubbed, edges rounded and polished of size 75x50 cm deep and 1.8 cm thick fixed in urinal partitions by cutting a chase of appropriate width with chase cutter and embedding the stone in the chase with epoxy grout or with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6 mm nominal size) as per direction of Engineer-in-charge and finished smooth.Granite Stone of approved shade.	2.00	Sqm		
B6	Providing and fixing white vitreous china laboratory sink with C.I. brackets, C.P. brass chain with rubber plug, 40 mm C.P brass waste and 40mm C.P. brass trap with necessary C.P. brass unions complete, including painting of fittings and brackets, cutting and making good the wall wherever required : Size 450x300x150 mm	12	Each		
B7	Providing & fixing chrome plated brass battery based infrared sensor operated pillar cock, having foam flow technology. 15 mm nominal bore	23	Each		
B8	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with fittings , C.P. brass screws and washers complete.	7	Each		
B9	Providing & fixing of CP Health faucet. Hand operated spray unit (instand type). Make:Jauqar Hindware, Parryware, crome., (Lowest retail price not less than 1200/each. Materials to be selected by the Engineer in charge)	10	Each		
B10	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :100 mm inlet and 100 mm outlet :Sand cast iron S&S	12	Each		
B11	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: Make:Jauqar, Hindware, Parryware, crome	12	Each		
B12	Providing and fixing toilet paper holder :C.P. Brass	9	Each		
B13	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.:15 mm nominal bore.: Make:Jauqar, Hindware, Parryware, crome	33	Each		
B14	Providing and fixing PTMT Waste Coupling for sink, of approved quality and colour.Waste coupling 38 mm dia of 83 mm length and 77mm breadth, weighing not less than 60gms.	23	Each		
B15	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete				
B15.1	15 mm nominal bore	2	Each		
B15.2	20 mm nominal bore	5	Each		
B15.3	25 mm nominal bore	2	Each		
B16	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :				
B16.1	25 mm nominal bore	5	Each		
B16.2	32 mm nominal bore	5	Each		
B16.3	40 mm nominal bore	1	Each		
B16.4	50 mm nominal bore	1	Each		

B17	Constructing brick masonry chamber for underground C.I. inspection chamber and bends with bricks in cement mortar 1:4 (1 cement : 4 coarsesand) C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg), 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 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand), finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete as per standard design: Inside dimensions 455x610 mm and 45 cm deep for single / multiple pipe line :With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	9	Each		
B18	Providing and fixing square-mouth S.W. gully trap class SP-1 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 2.70 kg as per standard design : 100x100 mm size P type With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	4	Each		
B19	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.	13	Each		
B20	Providing and fixing PTMT towel ring trapezoidal shape 215 mm long, 200 mm wide with minimum distances of 37 mm from wall face with concealed fittings arrangement of approved quality and colour, weighing not less than 88 gms.	11	Each		
B21	Providing and Fixing in position best quality approved Indian make double type CP brass ROBE HOOK with flanges fixed to wall/door shutter etc. with necessary screws, washers and plugs all as specified and directed.	10	Each		
B22	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.				
B22.1	15 mm nominal outer dia Pipes metre	35.00	Metre		
B22.2	20 mm nominal outer dia Pipes metre	85.00	Metre		
B22.3	25 mm nominal outer dia Pipes metre	60.00	Metre		
B22.4	32 mm nominal outer dia Pipes metre	52.00	Metre		
B23	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.External work				
B23.1	15 mm nominal outer dia Pipes metre	5.00	Metre		
B23.2	20 mm nominal outer dia Pipes metre	10.00	Metre		
B23.3	25 mm nominal outer dia Pipes metre	13.00	Metre		
B23.4	32 mm nominal outer dia Pipes metre	53.00	Metre		

B23.5	40 mm nominal outer dia Pipes metre	3.00	Metre		
B23.6	50 mm nominal outer dia Pipes metre	3.00	Metre		
B24	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.Flexible pipe 40 mm dia	23	Each		
B25	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.	2000.00	per litre		
B26	Providing, fixing and testing UPVC soil waste and vent pipes UV stabilize and conforming to IS: 13592 - Type-B including all fittings conforming to IS:14735 such as W.C. connector, bends, junctions, inspection doors, offsets, vent cowls, access pieces/plugs, cleanout plugs etc. clamps/ structural steel supports as required/directed at site, jointing with rubber ring and rubber lubricant including cutting holes in walls and making good the same.				
B26.1	110 mm dia	50.00	Metre		
B26.2	75 mm dia	35.00	Metre		
	Total for Plumbing Works				
	PART-C - ELECTRICAL WORKS				
C1	PANEL BOARDS				
	Supply all materials ,Designing, fabricating,transporting ,erecting testing and commissioning of following cubicle type fully compartmentalised ,free standing switch boards ,dust and vermin proof ,Fabricated out of 14 Gauge CRCA Sheet and providing necessary cut- outs for mounting meters, relays, indication lamps,bus bar interconnection etc, detachable covers for bus bar chamber and cable alley, powder coating the assembly after subjecting to 7 tank process etc as required with approved color . The switch boards should be fabricated as per electrical inspectorate standards.Should conform to IS. /BIS standards. Suitable size of Aluminium busbars sleeved and supported by DMC/ SMC. Insulators. Equally rated netural links shall be provided for TPN switch gears.				
C1.1	MSB - MAIN SWITCH BOARD				

	<p>The panel should comprise of the following items: 800A TPN Aluminium Bus bars with heat shrinkable insulation sleeves - 1 set. Necessary interconnections.</p> <p>Incomer : 800 A 4Pole 50kA micro processor based EDO Motorised type ACB with 3Nos. Over current , SC and 1No. Earth fault release with shunt trip coil- 1 no.for EB 800 A 4Pole 50kA micro processor based EDO Motorised type ACB with 3Nos. Over current & SC release with shunt trip coil- 1 no. for DG Standby low set E/F relay with CR 5P10 CTs of suitable burden - 2 sets RYB indication lamps and controlling MCBs - 2 set Digital Multifucntion meter for V,A,kW,kWH,PF,HZ,kVA &kVAr with CR CTs CL:1 for all incoming feeders with RYB indication lamps - 2 Set KWh meter with control fuse on DG incomer - 1 set Frequency Meter on DG incomer - 1 set Load On/Power On indicator with control fuse - 2 set</p> <p>PLC Controller for auto operation of transformers/DG sets . Interfacing with Desktop PC for remote monitoring and control of MSB, Transformer and DG Set , providing licenced software. The scope of work includes providing necessary control cables also.</p>				
	<p>Outgoing : 250 A MCCB 50kA TPN Microprocessor based with isolation duty with OC and SC releases - 4 set 200 A MCCB 50kA TPN Microprocessor based with isolation duty with OC and SC releases - 3 set 100 A MCCB 50kA TPN Microprocessor based with isolation duty with OC and SC releases - 3 set Digital Multifucntion meter for V,A,kW,kWH,PF,HZ,kVA &kVAr with CR CTs CL:1 for all outgoing feeders with RYB indication lamps - 10 Sets</p> <p>Panel Board as per above specification - 1 No.</p>	Job	1		
C1.2	AHU Panel				
	<p>250A TPN Aluminium Bus bar with heat shrinkable insulation sleeves - 1 set with necessary interconnections and links. Incomer : 250A MCCB 50kA TPN with adjustable O/C and S/C releases - 1 set, Digital Multifucntion meter for V,A,kW,kWH,PF,HZ,kVA &kVAr with CR CTs CL:1 with RYB indication lamps - 1 Set Out Going : 160 A MCCB 50kA TPN with OC and SC releases - 4 set 100 A MCCB 50kA TPN WITH OC and SC releases - 2 set Panel Board as per above specification - 1 No.</p>	Job	1		
C1.3	SSB-1 & 2				

	250A TPN Aluminium Bus bar with heat shrinkable insulation sleeves - 1 set with necessary interconnections and links. Incomer : 250A MCCB 35kA TPN with adjustable O/C and S/C releases - 1 set, Digital Multifuction meter for V,A,kW,kWH,PF,HZ,kVA &kVAr with CR CTs CL:1 with RYB indication lamps - 1 Set Out Going : 100 A MCCB 35kA TPN with OC and SC releases - 1 set 63 A MCCB 25kA TPN with OC and SC releases - 5 set 40 A MCCB 25kA TPN with OC and SC releases - 5 set Panel Board as per above specification - 1 No.	Job	2		
C1.4	APFC PANEL				
	Incomer : 200A MCCB 35kA TPN withO/C and S/C releases - 1 set, Digital Multifuction meter for V,A,kW,kWH,PF,HZ,kVA &kVAr with CR CTs CL:1 with RYB indication lamps - 1 Set 200A Aluminum bus bar with heat shrinkable insulation sleeves - 1 set Intelligent power factor controller with control MCB including providing control cable and connections form MSB to Capacitor panels, etc. complete Out Going : 63 A MCCB 25kA TPN with OC and SC releases - 6 set ON-OFF DUTY Contactor Capacitor (AC 6B duty) - 6 set 7% block reactor - 6 set 20kVAr Capacitor bank - 2 Nos. 15kVAr Capacitor bank - 1 No. 10kVAr Capacitor bank - 3 Nos. 5kVAr Capacitor bank - 1 Nos. Panel Board as per above specification - 1 No.	Job	1		
	Supplying and fixing TPN sheet steel enclosure on surface/ recess along with 250A isolator complete with connections, testing and commissioning etc. as required.	Set	3		
C2	SECTION -2 : TRANSFORMERS AND DG SETS				
C2.1	SITC (Supply, Installation, Testing and Commissioning) of OUTDOOR TYPE 400 KVA UNITISED SUBSTATION comprising 400 KVA Copper wound 11KV /433 V Dry type cast resin type Transformer . 3 Phase ,vector DYN -11 with off load tappings from +5% to -10 % in steps of 2.5%,operatable on off-circuit by tap links provided, with HV Terminals connecting to HT 11KV, 35KA 630 A 50 HZ VCB with two nos epoxy resin cast CT 30/5 A,CL- 0.5, 15VA burden,and 1 No epoxy resin cast PT 11KV/110 V , CL-O.5,100VA burden with shunt trip coil .(230 V AC-) LED type. on-off indication, Space heater with thermostat - 1 set, Incoming cable entry suitable for 3X240 sqmm XLPE cable. with provision for fixing TOD meter with glass cover in front of the meter test terminal box etc. complete (CT,PT, TOD Meter , chamber shall have suitable sealing facility.LV cable box suitable for two runs of 3.5X 400 sq.mm XLPE Cable with winding temp. indicator and all other standard fittings and accessories conforming to IS:2026/77 & IS : 11171/85 .Etc. complete.	Job	1		
C2.2	Supply, installation, testing and commissioning of a neutral CT of ratio 100/5A, CL:5P10 ,15VA in a suitable metallic sheet steel enclosure in the transformer neutral for low set E/F protection, control cabling to the E/F relay including termination etc. complete	Set	1		

C2.3	Supply Installation ,testing&commissioning of HT -TOD Meter for the above. The meter shall be of approved make prescribed by Electricity board/ Inspectorate and the same shall be tested as per statutory norms.	Set	1		
C2.4	Supply, Installation, Testing and Commissioning of 400KVA, silent type, water cooled, radiator type, four stroke, electric start D.G Set with acoustic enclosure and standard control panel. The engine shall be capable of taking 10% overload for one hour after 12 hours of continuous operation. The DG shall be suitable for AMF operation. The alternator shall be brushless, self excited, self regulated, SPDP enclosure, class F/H insulation, suitable for continuous operation at 1500 rpm, generating 415 V +/- 5% at 0.8 p.f, 50Hz, 0.85 load factor, 3 phase, 4 wire system generally conforming to BS: 2613 & IS: 4722. The DG set control panel shall be provided with all engine protection equipments, indications etc The DG set shall be suitable for AMF operation including all necessary control cabling From DG set to AMF panel. The DG set control panel shall have 600A, 25kA TPN thermal magnetic type MCCB with OL, SC and EF protection, RYB, on/off indication lamp, voltmeter, ammeter, energymeter, frequency meter etc The Low set earth fault relay shall be provided in control panel with CT of 50/5A 10VA Cl. 5P10 at DG neutral. Both Engine and Alternator shall be mounted on common channel iron base Frame and with standard accessories such as antivibration pad, lead acid batteries (as specified by engine manufacturer) and engine driven battery charger along with leads, battery stand, fuel piping From fuel tank, electronic governor, Residential silencer, suitable size cable termination box, required Danger boards, signage, lettering ,external battery charger etc as required. Rate shall be inclusive of all lift, lead charges. The work should be as per Electrical Inspectorate / Pollution control board norms.	Job	1		
C3	SECTION-3 - WIRING, DBs, FIXTURES				
C3.1	Point wiring in PVC conduit, with Modular type switch: Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS 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 PVC insulated copper conductor single core cable etc as required				
C3.1.1	Group C	Point	198		
C3.2	Power plug wiring in PVC conduit (2x4 sq mm) : Wiring for light/ power plug with 2x4 sq. mm FR PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit along with 1 No 4 sq. mm FR PVC insulated copper conductor single core cable for loop earthing as required	m	330		
C3.3	Circuit Sub main wiring in PVC Conduit : Wiring for circuit sub main wiring alongwith earthwire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required.				
C3.3.1	2x1.5 sq mm +1x1.5 sq. mm earth wire	m	1138		
C3.3.2	2x2.5 sq mm +1x 2.5 sq.mm earth wire	m	495		
C3.4	Telephone wiring in existing conduit : Supplying and drawing 2 pair 0.5 sq mm FRLS PVC insulated annealed copper conductor, unarmored telephone cable in the existing surface/ recessed steel/ PVC conduit as required.	m	600		
C3.5	T.V. Cable in existing conduit : 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.	m	90		
C3.6	S/F PVC conduit : 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.				

C3.6.1	20 mm	m	80		
C3.6.2	25 mm	m	120		
C3.7	S/F Metal boxes : Supplying and fixing metal box of sizes 200 mm x300 mm x 100 mm deep (Nominal size) on surface or recess with suitable size of phenolic laminated sheet cover in front including painting etc as required.	Each	13		
C3.8	S/F Modular type switch/ socket : Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc as required.				
C3.8.1	Telephone socket outlet	Each	24		
C3.8.2	TV antenna socket outlet	Each	5		
C3.9	S/F Modular type blanking plates : Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	Each	15		
C3.10	S/F Modular boxes, base & cover plate : Supplying and fixing 1 or 2 module (75 mmx75 mm), GI box along with modular base, cover plate for modular switches in recess etc as required.	Each	30		
C3.11	S/F light plug point modular type accessories : Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 amps modular socket outlet and 5/6 amps modular switch, connection, painting etc as required,	Each	174		
C3.12	S/F Power plug point with modular type switch : Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 15/16 & 5/6 amps modular socket outlet and 15/16 amps modular switch, connection, painting etc as required.	Each	60		
C3.13	S/F Ceiling rose : Supplying and fixing 3 pin , 5 amps ceiling rose on the existing junction box / wooden block including connection etc as required.	Each	20		
C3.14	S/F call bell/ buzzer : Supplying and fixing call bell / buzzer suitable for D.C / A.C single phase, 230 volts, complete as required.	Each	2		
C3.15	ITC Exhaust fan up to 450 mm sweep: Installation of exhaust fan in the existing opening, including making good the damage, connection, testing, commissioning etc. as required.	Each	18		
C3.16	Extra for fixing the louvers/ shutters complete with frame for a exhaust fan of all sizes.	Each	18		
C3.17	Supplying and drawing of UTP 4 pair CAT 6 LAN Cable in the existing surface/ recessed steel/ PVC conduit as required.	m	500		
C3.18	Supplying and fixing following way prewired SP&N MCB distribution board of steel sheet for 240 volts on surface/ recess complete with loose wire box, terminal connectors for all incoming and outgoing circuits, duly prewired with suitable size FRLS PVC insulated copper conductor up to terminal blocks, tinned copper bus bar, neutral link, earth bar, din bar, detachable gland plate, interconnections, powder painted including earthing etc. as required. (But without MCB/ RCCB/ Isolator)				
C3.19	2 + 8 way/ 10 way , Double door	Each	3		

C3.20	Supplying and fixing following way prewired TP&N MCB distribution board of steel sheet for 415 volts on surface/ recess complete with loose wire box, terminal connectors for all incoming and outgoing circuits, duly prewired with suitable size FRLS PVC insulated copper conductor up to terminal blocks, tinned copper bus bar, neutral link, earth bar, din bar, detachable gland plate, interconnections, powder painted including earthing etc. as required.(But without MCB/ RCCB/ Isolator)				
C3.20.1	6 way (4 + 18), Double door	Each	7		
C3.21	Supplying and fixing following rating, four pole, (three phase and neutral), 415 volts, residual current circuit breaker (RCCB), having a sensitivity current upto 300 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
C3.21.1	63 amps	Each	8		
C3.22	S/F 'C' series, MCB : Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, "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.				
C3.22.1	Single pole	Each	126		
C3.23	Supplying and fixing following rating, double pole, (single phase and neutral), 240 volts, residual current circuit breaker (RCCB), having a sensitivity current upto 300 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
C3.23.1	40amps	Each	8		
C3.24	S/F SP MCB blanking plate : Supplying and fixing single pole blanking plate in the existing MCB DB complete etc as required.	Each	36		
C3.25	S/F FP MCB isolator : Supplying and fixing following rating, four pole,415 Volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
C3.25.1	63 amps	Each	7		
C3.26	Supplying and fixing TP sheet steel enclosure on surface/ recess along with 16/25/32amps 415 volts "C" curve TP MCB complete with connections, testing and commissioning etc. as required.	Each	6		
C3.27	S/F 20A SPN MCB industrial socket outlet : Supplying and fixing 20 amps, 240 Volts, SPN industril type, socket outlet, with 2 pole and earth, metal enclosed plug top along with 20 amps 'C' series, SP, MCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	13		
C3.28	Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/coke and salt as required.	Each	12		
C3.29	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.	Each	4		
C3.30	Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required.	m	110		

C3.31	Providing and fixing 4.00 mm dia copper wire on surface or in recess for loop earthing as required.	m	260		
C3.32	Providing and fixing earth bus of 50 mm X 5 mm copper strip on surface for connections etc. as required.	m	1		
C3.33	Supplying and fixing following rating, double pole, 240 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
C3.33.1	40 amps	Each	8		
	SECTION 4 - LIGHT FIXTURES AND FANS				
C4	Exhaust Fan : Supply conveyance, installation, testing and commissioning the following sizes of exhaust fans in the existing opening,fixing necessary bolts and nuts, making good the damages etc as required including giving connections with required length of24/0.2mm PVC insulated and sheathed round copper conductor flex wire or extending the original wiring and giving connections as required. 350mm ,Single Phase,heavy duty,1400rpm,exhaust fan in metal frame				
C4.1	Supply of 600m sweep Ceiling fan with double bearing type and of approved make.	Each	5		
C4.2	Installation, testing and commissioning of ceiling fan, including wiring the down rods of standard length (upto 30 cm) with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable etc. as required.	Each	5		
C4.3	LIGHT FIXTURES : Supply conveyance, installation, testing and commissioning the following types of light fittings with all accessories on false ceiling, true ceiling or wall as directed and giving connections with 16/0.20 mm 3 core PVC insulated and sheathed round copper conductor flex wire or extending the original wiring and giving connections as required. All recessed type fixtures are to be supported independently with chains or GI wire anchored to the ceiling with anchoring bolt of necessary size. All loose wires above the false ceiling are to be neatly concealed by flexible conduits.				
C4.3.1	39W LED Square type(600x600mm) recessed fitting – Philips Green Square 39W	Nos.	5		
C4.3.2	2 x 18 W CFL recessed light fixture (300 x 300mm) square type	Nos.	40		
C4.3.3	1 x 15 W round recessed type LED – Philips Green LEDi900 – 4000K	Nos.	86		
C4.3.4	Philips Slim type 28W T5 tube fitting	Nos.	11		
C4.3.5	Downlight 1 x 36 W	Nos.	6		
C4.3.6	Mirror Lamp 1X14W IP21	Nos.	4		
	SECTION -5 : HT CABLE				
C5.1	Supply of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of 3C x 240 Sq.mm size	m	30		
C5.2	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of 3C x 240 Sq.mm size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc. as required.	m	30		
C5.3	supplying and making indoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for 240 Sq.mm 3 core, XLPE aluminium conductor cable of 11 KV grade as required.	Each	1		
C5.4	Supplying and making straight through cable jointing with heat shrinkable jointing kit complete with all accessories including ferrules suitable for 240 Sq.mm size of 3 core, XLPE aluminium conductor cable of 33 KV grade as required.	Each	1		
	SECTION -6 : LT CABLE				
C6.1	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on wall surface as required.				
C6.1.1	Upto 35 sq. mm (clamped with 1mm thick saddle)	m	490		
C6.1.2	Above 95 sq. mm and upto 185 sq. mm (clamped with 25/40x3mm MS flat clamp)	m	115		

C6.1.3	Above 185 sq. mm and upto 400 sq. Mm	m	225		
C6.2	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.				
C6.2.1	3.5 C x 400 sqmm	Each	4		
C6.2.2	3.5 C x 240 sqmm	Each	4		
C6.2.3	3.5C x 120Sq.mm	Each	4		
C6.2.4	3.5C x 95 Sq.mm	Each	2		
C6.2.5	3.5C x 50 Sq.mm	Each	2		
C6.2.6	3.5C x 35 Sq.mm	Each	8		
C6.2.7	4 C x 25 sqmm	Each	4		
C6.2.8	4 C x 16 sqmm	Each	2		
C6.2.9	4 C x 10 sqmm	Each	2		
C6.3	Supply of following size 1.1 KV grade XLPE insulated, PVC sheathed, armoured Aluminium conductor power cable conforming to IS 7098 (Part 1) amended upto date.				
C6.3.1	3.5 C x 400 sqmm	m	90		
C6.3.2	3.5 C x 240 sqmm	m	115		
C6.3.3	3.5C x 120Sq.mm	m	80		
C6.3.4	3.5C x 95 Sq.mm	m	20		
C6.3.5	3.5C x 50 Sq.mm	m	175		
C6.3.6	3.5C x 35 Sq.mm	m	335		
C6.3.7	4 C x 25 sqmm	m	400		
C6.3.8	4 C x 16 sqmm	m	10		
C6.3.9	4 C x 10 sqmm	m	10		
	SECTION 7 - MISC				
C7.1	Supplying and installing following size of perforated pre-painted M.S. cable trays with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.				
C7.1.1	300 mm width X 62.5 mm depth X 2.0 mm thickness	m	65		
C7.1.2	600 mm width X 62.5 mm depth X 2.0 mm thickness	m	20		
C7.2	Supply and providing 6 mm thick & 1 m wide electrical grade chequered type rubber mat to withstand 3.3 KV dielectric strength conforming to IS 5429/ 1969	m	10		
C7.3	Supply and providing 5 Kg. Dry Chemical Powder type Fire Extinguisher with hose and clamps including fixing it to wall as required.	Nos.	3		
C7.4	Supply, fabrication and fixing 3 nos MS Fire buckets on suitable fabricated MS angle iron stand with hook, painting with red paint & filled with dry sand as required with all required accessories.	Set	2		
C7.5	Supply and providing First Aid Chart duly framed and placed in a conspicuous location for clear vision.		1		
C7.6	Supplying and making cable route marker with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) of size 60 cm X 60 cm at the bottom and 50 cm X 50 cm at the top with a thickness of 10cm including inscription duly engraved as required.	Each	5		
C7.7	Documentation & Approvals				

C7.8	Preparation, submission of drawings and applications for the installation and service connection to Electrical Inspectorate / Electricity board/ Statutory agencies and obtaining Power allocation, sanction and energising of the installation,obtaining sanction from the authorities complete Including including laisoning works, providing necessary assistance to the client for obtaining sanctions.	Job	1		
	TOTAL (ELECTRICAL WORKS)				
	PART-D - HVAC WORKS				
D1	MACHINERY				
D1.1	Supply, installation, testing and commissioning (SITC) of 11 TR capacity aircooled Outdoor condensing unit with scroll compressor as per specifications complete with suitable capacity drive motor, air cooled condenser with all accessories, hermetically sealed scroll compressor, electronic microprocessor pendant controller with digital display, first charge R 22 refrigerant gas, vibration isolator pads and saftey devices like thermal protector, pressure relief valve, over load relays single phase preventor, high-low pressure cut out, suitable for three phase 440V supply.	Job	2		
D1.2	Supply, installation, testing and commissioning (SITC) of 8.5 TR capacity aircooled Outdoor condensing unit with scroll compressor as per specifications complete with suitable capacity drive motor, air cooled condenser with all accessories, hermetically sealed scroll compressor, electronic microprocessor pendant controller with digital display, first charge R 22 refrigerant gas, vibration isolator pads and saftey devices like thermal protector, pressure relief valve, over load relays single phase preventor, high-low pressure cut out, suitable for three phase 440V supply.	Job	1		
D1.3	SITC of DX type double skinned air handling units, ceiling suspended/floor mounting type 11 TR, 4400 cfm capcity complete with suitable DIDW blower (asper approved make), blower section, Room condiition 22 Deg C DB/55% RH and static pressure shall be minimum 380pa. Motor shall be suitable for 415V+/-10% V, 50Hz, 3 Phase AC supply. ceiling suspended type., built in pre filter(EU4), fine filter(EU7) and controls connected to condensing units, insulated SS drain pan, Coil size shall be selected for a maximum face velocity of 500 feet/minute,electric motor, belt drive package with TEFC motor class 'B' insulation, suitable for 3 phase, 415 V, 50Hz supply, suitable AHU panel & cabling, AHU temp & speed control panel , ARI certified, with 0.8mm double skinned 40mm thick CFC free PUF panel , belt guards, suitable supports for suspending from slab, vibration isolator, etc. conforming to specifications. The air handling units shall have 1 inlet refrigerant coils and 1 outlet refrigerant coils suitable for 1 numbers of 11 TR capacity ODU and shall conform to specifications.	Nos	2		

D1.4	SITC of DX type double skinned air handling units, ceiling suspended/floor mounting type 8.5 TR, 3400 cfm capacity complete with suitable DIDW blower (asper approved make), blower section, Room condition 24 Deg C DB/55% RH and static pressure shall be minimum 380pa. Motor shall be suitable for 415V+/-10% V, 50Hz, 3 Phase AC supply. ceiling suspended type., built in pre filter(EU4), and controls connected to condensing units, insulated SS drain pan, Coil size shall be selected for a maximum face velocity of 500 feet/minute, electric motor, belt drive package with TEFC motor class 'B' insulation, suitable for 3 phase, 415 V, 50Hz supply, suitable AHU panel & cabling, AHU temp & speed control panel, ARI certified, with 0.8mm double skinned 40mm thick CFC free PUF panel, belt guards, suitable supports for suspending from slab, vibration isolator, etc. conforming to specifications. The air handling units shall have 1 inlet refrigerant coils and 1 outlet refrigerant coils suitable for 1 numbers of 8.5 TR capacity ODU and shall conform to specifications.	Nos	1		
D1.5	Supply, installation, testing and commissioning of suitable hard drawn copper refrigerant piping with 13 mm nitrile rubber insulation interconnecting the condensing unit to evaporating unit for packaged units as per site condition	m	110		
D2	SPLIT AIR CONDITIONER				
D1.1	Supply, installation, testing and commissioning of Air Cooled High Wall mounted Split Air Conditioner of following capacity consisting of high wall mounted type room unit (fan coil) with cordless remote control and one number outdoor condensing unit comprising of energy efficient suitable rotary compressor for operation on single phase, 230 V, 50Hz supply, fixing the outdoor unit on a raised platform as per manufacturers recommendation and fixing of room (fan coil) unit on wall, standard 4 m distance refrigerant copper piping with 13mm nitrile rubber insulation, providing and making interconnection between room & condenser as per site conditions, comprising of 1" dia drain PVC pipe with insulation 4m, canvas connections, full electrical cabling from power plug near indoor unit and to outdoor unit, ODU MS stand, first charge refrigerant gas, suitable stabilizer etc complete as required.				
D1.1.1	1.5 TR 5 star rated as per BEE	Nos	1		
D1.1.2	2 TR 5 star rated as per BEE	Nos	3		
D1.2	Supply, installation, testing and commissioning PVC drain pipe of 25mm dia ISI marked, connecting the drain lines from the indoor units to floor sump, with 9mm nitrile rubber insulation as per specification	m	30		
D3	AIR DISTRIBUTION				
D3.1	Supply, installation, testing and commissioning of factory fabricated rectangular Aluminium sheet metal ducting for Supply/return/fresh air for lab areas, duct/collar connecting to indoor unit as per ducting specifications and with suitable supports using MS angles, channels, rods, anchor bolts, etc to roof /truss as per IS 655 and as per specifications.				
D3.1.1	22 G	Sq.m	45		
D4	Supply, installation, testing and commissioning of factory fabricated rectangular GSS sheet metal ducting for Supply/return/fresh air duct/collar connecting to indoor unit as per ducting specifications and with suitable supports using MS angles, channels, rods, anchor bolts, etc to roof /truss as per IS 655 and as per specifications.				
D4.1	22 G	Sq.m	120		
D4.2	24 G	Sq.m	75		

D5	SITC of External thermal insulation on supply air ducts using min 13mm thick nitrile rubber class "O" closed cell type with antimicrobial protection as per specifications	SQM	170		
D6	Supply, installation, testing and commissioning of Acoustic duct lining using 10mm nitrile rubber insulation open cell type inside the ducts, antimicrobial protection at the outlets of all indoor units upto 4m distance from fan outlet as per spec provided.	SQM	30		
D7	Supply, fabrication, installation, testing of flexible connections made out of fire resistant flexible double canvas sleeve.	SQM	2		
D8	SITC supply air diffusers of powder coated aluminium with aluminium volume control dampers with anti smudge ring & removable core.	SQM	6		
D9	SITC supply air diffusers of powder coated aluminium without volume control dampers with anti smudge ring & removable core.	SQM	8		
D10	SITC of Fire Control Damper made of 16G GSS sheet blade and frame with 165mm casing, heavy duty interlocking blades and fully enclosed blade linkage mechanism, SS lateral seal blade seals, self lubricating sintered bronze bushes, fire rating as per UL555-1995 tested as per BS-476 part 20 with 18G extended sleeve 450mm and with fusible link, spring mechanism.	SQM	4		
D11	SITC of multi blade type volume control dampers made of extruded aluminium for ducts/ collars to be provided with suitable links, levers and quadrants for manual control of volume of air flow and for proper balancing of the air distributions system in main ducts, return ducts & other area as per specification.	SQM	10		
D12	SITC of Fresh air GI louvers of size 300x300 mm with wire mesh and birds screen for IDUs/AHUs as per specifications.	Sq.m	3		
D13	Supply installation testing and balancing of continuous Perforated Stainless Steel Grilles for supply and return air grilles in accordance with the approved shop drawings.	SQM	8		
D14	Supply, installation, testing and commissioning of Inline Centrifugal duct fan with dynamically balanced impeller of 1000cfm capacity, min 10 mm static, complete with GI box, with single phase direct driven motor with class B, IP54 protection with an internal automatic safety thermal overload protection, dynamically balanced impeller of following capacity, with an operating sound level of less than 60dB at 3 m distance.	Set	2		
D15	SITC of Humidity Controller electric strip heaters in supply air plenum complete with fixing arrangements humidistat and safety thermostat including all supports, terminations, power and control wiring	Nos	3		
	TOTAL (HVAC WORKS)				
	PART-E - FIRE DETECTION AND ALARM SYSTEM				
E1	Supply and installation of Conventional 4 Zone Fire Alarm Panel, batteries etc. with 4 line auto dialer with recording message capacity. HONEYWELL/ RAVEL OR Equivalent - (Model - HRZ-4e/REF-RE-150-4 OR Equivalent)	No.	1		
E2	Supply and installation of Conventional photoelectric /Optical type smoke detectors with base. Make HONEYWELL /System Sensor OR Equivalent - (Model - 2351E OR equivalent)	No.	48		

E3	Supply and installation of Conventional analog Heat detectors with base. Make HONEYWELL /System Sensor OR Equivalent - (Model -4351E OR Equivalent)	Nos.	5		
E4	Supply and installation of Manual call Points with base. Make Agni/PCD OR Equivalent - (Model - AD101/MC-AB-G)	Nos.	5		
E5	Supply and installation of Conventional Electronics Hooter cum Strobe Make HONEYWELL/System Sensor OR Equivalent - (Model - P2R OR Equivalent)	Nos.	5		
E6	Supply and installation of Response Indicator Make HONEYWELL/AGNI - (Model - AD301) or equivalent	Nos.	3		
E7	Supply and installation of 2 core 1.5Sq.mm Armoured FRLS cable including clamping the cables, providing cable terminations with cable glands, etc. complete. make Finolex, Technoflex or equivalent	m	530		
E8	TESTING & COMMISSIONING CHARGES	LS	1		
E9	Supply of CO2 type fire extinguisher of 4.5 kgs. Make SAFEX / MINIMAX / CEASEFIRE or equivalent	Nos.	8		
E10	Supply of ABC Type fire extinguisher of 5 Kgs Make SAFEX / MINIMAX / CEASEFIRE or equivalent	Nos.	11		
E11	Supply of ABC Type fire extinguisher of 2 Kgs. Make SAFEX / MINIMAX / CEASEFIRE or equivalent	Nos.	18		
E12	INSTALLATION CHARGES FOR THE ABOVE FIRE EXTINGUISHERS	Nos.	37		
	TOTAL (FIRE DETECTION AND ALARM WORKS)				
	PART-F - EPABX SYSTEM				
	SITC – Supply, Installation, Testing & Commissioning				
F1	SITC of EPBAX System capable of supporting 4/8/32 extensions, 04 nos. Trunk Lines/ 8 Nos. Digital Lines/32 analogue lines and future expandable. 01 no. PRI Line along with with Master Telephone (Operator) with features not limited to the following :				
	Voice Messaging , Auto call attendant facility, Auto Welcome music / instruction facility, Call waiting module, Call Auto masking module, Support Microsoft OS, Mobile Phone Integration, (Mobile Extension), Room Monitoring, Call Conference, Caller identification on all Extensions, Call Return, Long Conservation cut off, Lightning Protection, Disconnection module, Alarm module, Separate billing module for each extension with system integration with Desktop PC along with licensed software.(MAke : Syntel Neos or equivalent)	Job	1		
F2	SITC of Push Button Telephones with caller ID facility (Make : Beetel M51 or equivalent)	no.	25		
F3	SITC Push Button Telephones without caller ID facility (Make : Beetel B11 or Equivalent)	no.	4		
	TOTAL (EPABX SYSTEM)				
	PART-G - CCTV				
	CCTV-SECURITY SYSTEM				
	Supply ,Installation ,Testing & commissioning of the following items :				

G1	Indoor IR Dome camera with Verifocal lens: 1/3" CCD,530TVL, 1.0 lux,AWB / BLC / AGC , 2.8mm~10mm vari-focal lens, min 20m range, Built-in IR illumination, white color case, DC12V, PAL-CE/FCC approved., make Honeywell or equivalent	Nos.	22		
G2	Outdoor IR Bullet camera with Verifocal lens: 1/3" CCD,530TVL, 1.0 lux,AWB / BLC / AGC , 2.8mm~10mm vari-focal lens,min 20m range,Built-in IR illumination, white color case, DC12V, PAL-CE/FCC approved., make Honeywell or equivalent	Nos.	5		
G3	Power supply unit for above camera as specified by camera manufacturer -12VDC 2A	Nos.	27		
G4	Digital Video Recorder : 32-Channel Hybrid HD DVR, 400fps, Real-time, with 8 TB HDD and expandable, English OSD, 230VAC, make Honeywell or equivalent	Nos.	1		
G5	21" LED Color Monitors. make (LG/Samsung)	Job	1.00		
	Cable				
G6	Supply and Laying of RG-6 Coaxial video cable with ISI marked PVC conduit including terminations, etc complete. Make Technoflex/Neolex/Finolex	m	600.00		
G7	Supply and Laying of 3-core, 1.5 sq. mm. Shielded cable in ISI marked PVC Conduit including terminations with suitable connectors, etc., complete. Make Technoflex/Neolex/Finolex	m	445.00		
G8	Whole system integration, testing & commissioning charges including demonstration & training.	LS	1.00		
G9	Supply and Fixing of BNC connectors of approved make	Nos.	27.00		
	TOTAL (CCTV SYSTEM)				
	PART-G- PA SYSTEM				
	Supply ,Installation ,Testing & commissioning of the following items :				
H1	6 Watt ceiling Mount Speakers with inbuilt 100V Line matching Transformer,wide opening angle,optimized for music & speech applications make PHILIPS/Bosch/Audio track	Nos.	3		

H2	12W wall Mount Box Speakers with inbuilt 100V Line matching Tranformer,wide opening angle,optimized for music & speech applications make PHILIPS/Bosch/Audio track	Nos.	1		
H3	Call Station for Announcment make PHILIPS/Bosch	No.	1		
H4	Mixer amplifer make PHILIPS/Bosch	Set	1		
H5	Supply and laying of core twin twisted 24/0.2 ATC multi strand, over all PVC sheathed speaker Armoured cable in suitable ISI PVC conduits	m	350		
H6	DVD player make PHILIPS	set	1.00		
H7	SITC of LED TV of minimum 42 inches display with HDMI ,USB and Ethernet Ports. The Unit should be fixed on wall with swivel arm (TV Mount) capable of changing the viewing angle.	Set	1.00		
H8	42U (600x1000 mm) rack powder coted Rack with 3x5A Power Manager, Front door with toughened glass, castor wheels with brakes on front wheels, Adjustable mounting slots, top and bottom cable entry provision, 4 fan at top slot,	Set	1.00		
	TOTAL (PA SYSTEM)				
	SITC & MAINTENANCE OF 30kVA UPS				
	Supply Installation Testing and Commissioning of True on-line Double conversion 30 KVA UPS system. Inversion shall be Microprocessor controlled, Pulse width modulation with instantaneous sine wave Control using IGBT. Galvanic Isolation transformer shall be provided as internal feature of the UPS Rating : 30kVA Input Voltage range : A.C 415 V (+15% to -20%), 3 phase Input Frequency : 50 HZ (+/- 3HZ) POwer Factor : 0.9 or above THD : less than 5% Ripple Voltage in battery terminal : less than 2% DC Voltage Minimum Back up time : Continious 30 Mins at full load Rectifier shall be Full wave Type (Shall fully meet the specified input power requirements) Minimum Battery capacity : 40Ah Battery Type : SMF	Set	1.00		
	TOTAL FOR SITC(UPS)				
	Annual Maintenance Charges after 2 year Defects Liability Period. Maintenance Contract Agreement should be executed between the UPS Vendor and Client				
	1st year	Job	1		
	2nd Year	Job	1		
	3rd Year	Job	1		
	TOTAL FOR AMC(UPS)				
	TOTAL (UPS)				
	Total				
	Net amount				
* The rate / rates written in words will be taken as final.					