

SCHEDULE OF **QUANTITIES**

IMPORTANT NOTES TO SCHEDULE OF QUANTITIES

1. Scope of Work , Supply of Material, Technical Specifications, Requirement of relevant Codes , SCC (Special Conditions to Contract), GTC (General Terms & Conditions) , Schedule of quantities ,Statutory Rules & Guide Lines as applicable, Minimum Equipment / Machineries Deployment and any other requirement to complete the Job / Work as per this Tender Document shall be deemed to be included in SOR item.
2. For all Items, Quality Control, Inspection & Job procedure, Project Scheduling & Monitoring Document as per SCC, Submission of all these documents to HPCL for approval deemed to include in quoted rates.
3. The Water and Electrical power required for constructional activity shall be in the Scope of Contractor & shall be deemed to be included in SOR Items.
4. All the Testing Charges for Items as per tender documents elicited in various sections shall be borne by contractor and deemed to be included in quoted rates.
5. All Tools & Tackles, Equipment, and items brought to site by contractor will be permitted to be taken out only after completion of work & fulfillment of necessary formalities.
6. The job shall be carried in conjunction with attached job schedule, technical specifications, relevant and applicable codes, sound engineering practices and as directed bt Engineer –in –charge complete and this is applicable to all items in the schedule of quantities
7. The successful bidder is required to submit QAP (Quality assurance plan) & ITP (Inspection Test Plan) and Job procedures for various types of job are to be submitted for HPCL approval as per the job requirements during the execution of the job.

SCHEDULE OF QUANTITIES FOR RENOVATION JOBS AT SOUTH ZONE OFFICE CHENNAI INTERIOR WORKS

SL NO	DESCRIPTION
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1	230 mm Fly ash Brick work
	<p>Providing Fly ash Brick work with minimum compressive strength of 50 Kg per Sq.cm. in cement mortar 1:5(1cement : 5 coarse sand) for superstructure at all levels including racking out of joints, scaffolding ,making provision for opening in walls for switches, water lines , watering, curing etc. complete as directed by the Architect/Engineer incharge.Item to also include, all accessories, men material for a lift up to 20 mts. in the building for materials, pre-application preparation cleaning after the finish etc. complete.</p>
2	115 mm Fly ash Brick work
	<p>Providing and constructing 115 mm. thick, masonry wall ,at all levels, with approved Fly ash bricks, with minimum compressive strength of 50 Kg / Sq.cm, in Cement Mortar 1:3 including providing and placing in position 2nos of 8mm dia TMT bars at every third course. The quoted rate shall include for cost of reinforcements and tying in position using cross bars and binding wire made out of 16 gauge G.I. annealed or 18 gauge S.S.. The item should be complete in all respect including form work, scaffolding, raking out joints, making provision for opening in walls for switches, water lines ,curing etc. complete and, as directed by the Architect/Engineer incharge.Item to also include, all accessories, men material for a lift up to 20 mts. in the building for materials, pre-application preparation cleaning after the finish etc. complete.</p>
3	Floor Finishing with CM 1:4

	<p>Providing CM 1:4 as levelling coarse before laying floor finish as required at site ,curing etc. complete as per standard specifications and instructions by the Architect/Engineer in charge. Item to includes cleaning the surface and making rough the surface to take the level course and also the finished surface to take the mortar bedding/tiles etc. Item to also include, all accessories, men material for a lift up to 20 mts. in the building for materials, pre-application preparation cleaning after the finish etc. complete.</p>
4	12 mm thk Plastering
	<p>Providing Wall Plastering with cement mortar 1:3 (One cement and three sand) maximum 12mm thick in all heights/floors including scaffolding, watering, curing, cleaning etc. with smooth finish complete to receive POP/painting finish etc. complete complying with attached technical specification as directed by the Architect/Engineer incharge.Item to also include, all accessories, men material for a lift up to 20 mts. in the building for materials, pre-application preparation cleaning after the finish etc. complete.</p>
5	20 mm thk Plastering
	<p>Providing wall Plastering with cement mortar to concrete surfaces, brick work, chajjas, jambs, arises, soffits, curved surfaces, arches, etc., in c.m 20mm thick applied in 2 coats first coat in 1:3 cement mortar 12mm thick including hacking and second coat in 1:4 cement mortar 8 mm thick sand faced including scaffolding, watering, curing, cleaning, cutting for switches etc. complete including providing and mixing approved make cement waterproofing powder of approved make at 1.5 kg per 50 kg of cement in both coats as per attached technical specifications.</p>

6	Structural repair- Rust Remover
	<p>Providing and applying for structural repair chemical of approved make in free liquid form single component Sulphate and chloride type for removal of rust from the reinforcement after dismantling the loose cover concrete, exposing the corroded reinforcement. The item should be complete with Erecting, sturding, scaffolding for the repair works in ceilings/external surface. Item to also include, all accessories, men material for a lift up to 20 mts. in the building for materials, pre-application preparation cleaning after the finish etc. complete. The payment shall be made in kilos of chemical used in the repair . The entire work to be completed as per manufactures specifications and satisfaction of Architect/EIC.</p>
7	Structural repair- Epoxy resin
	<p>Providing and applying for structural repair chemical of approved make as liquid application as epoxy zinc-rich resinous two component corrosion resisting Primer on exposed steel reinforcement. The item should be complete with Erecting, sturding, scaffolding for the repair works in ceilings/external surface. Item to also include, all accessories, men material for a lift up to 20 mts. in the building for materials, pre-application preparation cleaning after the finish etc. complete. The payment shall be made in kilos of chemical used in the repair . The entire work to be completed as per manufactures specifications and satisfaction of Architect/EIC.</p>
8	Structural repair- Acrylic Primer

	<p>Providing and applying for structural repair, chemical of approved make as liquid application as modified acrylic type resinous single component corrosion resisting Primer as emulsion to apply on exposed steel reinforcement. The item should be complete with Erecting, sturding, scaffolding for the repair works in ceilings/external surface. Item to also include, all accessories, men material for a lift up to 20 mts. in the building for materials, pre-application preparation cleaning after the finish etc. complete. The payment shall be made in kilos of chemical used in the repair . The entire work to be completed as per manufactures specifications and satisfaction of Architect/EIC.</p>
9	Polymer modified Repair Mortar
	<p>Providing and applying for structural repair water mixed base powder type polymer repair mortar of approved make to the old concrete surfaces. The item should be complete with erecting, sturding, scaffolding for the repair works in ceilings/external surface including all accessories, men material for a lift up to 20 mts. in the building for materials, pre-application preparation cleaning after the finish etc. complete. Before the application the spalled concrete surface shall be thoroughly cleaned and repair area shall be demarcated and cut to a depth of 10mm using a machine cutter. If the corroded reinforcement has lost its diameter substantially then new steel reinforcement mesh has to fixed. The payment shall be made in kilos of chemical used in the repair . The entire work to be completed as per manufactures specifications and satisfaction of Architect/EIC.</p>
10	Toilet Water proofing

	<p>Providing and laying flexible, elastic two component polymer modified ,cementitious water proofing coating system to the sunken portion of toilets, WC, Bidets etc. applied in 2 coats in the form of slurry at a total consumption of 1.5 Kg per. Sqm on the vertical and horizontal surfaces up to a height of 1.00 mtr. above F.F.L etc. complete. Before applying the compound the floor surface has to be cleaned , all joints cracks identified shall be grouted with cementitious grout using gravitational pressure. The floor to be provided with an average 125 mm siporex/light weight blocks(will be paid separately) placed with synthetic adhesives and in slope . This is to be followed by laying average 25 to 30 mm thick M20 grade fibre reinforced concrete layer for protection as well as for levelling including providing 100% virgin polypropylene fibre @ 0.9 Kg. / M3 and for further adjustment in any slope, wattas. as maintained, curing for 3 days etc. complete all as per detailed manufactures specification. The job has to be done by approved agencies provided in th tender. A ten year guarantee has to be furnished by the contractor for the effectiveness of the water proofing. On completion of the treatment the floor area will be ponded with water to test for water tightness for 3 days. Item to also include, all accessories, men material for a lift up to 20 mts. in the building for materials, pre-application preparation cleaning after the finish etc. complete.</p>
11	Light weight filling
	<p>Providing and applying for Toilet sunk slab waterproofing works infill, aerated concrete bat coba, appropriately wetted and placed over the water proofing coating to obtain required level, slope etc. to the floor as per water proofing agency recommendation. Item to also include, all accessories, men material for a lift up to 20 mts. in the building for materials, pre-application preparation cleaning after the finish etc. complete.</p>
12	Synthetic Floor Carpet

	<p>Providing and fixing Synthetic Floor Carpet- Providing and laying washable woven synthetic fibre carpet, avg. 4-5 mm thick of approved pattern & shade, of carpet roll width range 4-5 mt. & length range 15-25 mt. in specified area over smooth cement surface, such as to make the complete floor, in one uniform layer including laying and fixing edge and transition accessories including SS 304 Gird. edge and threshold trims with channel or clip profile as approved, preparing the hard under floor with smooth cement screed laid in C.M. 1:6, neat cement jointed, all curing, laying the carpet, keeping the surface protected until handover, preparing the mock-up for approval and ensuring same approved from Architect/Engineer-in-charge. The item include all accessories, tools & labour, lift till 20mts ,all cleaning complete etc. Carpet fibre used shall be of to be synthetic of DUPONT SORONA type/approved equivalent type and grade, pile 1400/4 ply air twisted, weft Bonoweft/approved equivalent 850 & 440 tex, pile weight avg. 1500 gm/sqm, weave type flat weave jacquard, backing of Acrylic based glue/ATH; including cutting for raceways, junction boxes, conduits etc. and providing foam and tarpaulin cover for finished installation till hand-over. The item to be completed as per detailed specifications and instructions from EIC/Architect. Basic Price Carpet =1500 per sqm</p>
13	Laminated Wooden flooring

	<p>Providing and fixing Avg. 12 mm (+/- 2mm) thk. Engineered Wood flooring with laminate top planks avg. size range between 90x900 and 130 x 1350 planar size class AC4 type of high gloss finish or of approved equivalent size as per approved code & laid as per drawings complete with levelling the slab with self levelling compound, fixing the foam, wooden flooring planks with tongue-groove joint strictly as per manufacturers instructions, protecting the surface from damage during construction, cleaning, making mock-up for approval of Architect/Engineer in charge ,Item to include cutting for raceways junction boxes conduits etc. And all accessories, tools & labour, lift till 20mts with all cleaning complete etc. Top surface need to be produced by FOAM during the project execution stage. The work has to completed as per manufactures recommendations. drgs and instructions by EIC/Architect. Basic Price Engineered Wood- Laminate planks =2713 per sqm</p>
	DADO& FLOORING
	NOTE for flooring & Dado Work :
	All granite / marble flooring and dado sizes will be based on the site dimensions.
	All ceramic / glazed tiles flooring / dados shall be done on tile module.
	Actually executed quantity will be measured and no consideration shall be given for wastage and difference of method of measurement between market / supplier's method & site method.
	The rate shall include laying the tiles / marble / granite / ceramic tiles / stone slabs to any pattern as specified and shown on drawings & no extra cost shall be paid for wastage of materials.

	The rate shall also include cost of cutting tiles for fixing electrical boxes & switches, water-taps, nahani traps, plumbing accessories etc. for which no extra payment shall be made.
	Thickness of marble/Italian marble, wherever mentioned shall be 18 mm (tolerance +/- 2mm) unless stated otherwise.
	Thickness of granite slab wherever mentioned shall be 18mm(Tolerance, +/-2 mm) unless stated otherwise.
14	Vitrified tile Flooring -600 mmx 600mm
	Providing & laying Vitrified tile flooring as per approved patterns with tiles of sizes 600 mm x 600 mm/other approved size with avg.8 mm (+/- 1mm) thk. as per approved shade/pattern, of Approved Brand of approved 1 st quality set in cement mortar 1:3 with 20 mm thickness bed (One cement and three sand) and pointed with equivalent tile mate (white cement mixed with colouring pigment using 0.40Kg / M2) including cutting for raceways junction boxes conduits etc., and neat finishing etc. Complete as per standard specification. The item shall include cleaning, making mock-up for approval of Architect/Engineer in charge , all accessories, tools , labour, lift till 20mts and protecting finished installation with POP layer till handover, with all cleaning complete etc. No extra will be payable towards wastage due to material pattern. Please note payment will be in SQM of finished floor area only. Basic Price Vitrified tiles Rs 850 per sqm
15	False Flooring 300mm high

	<p>Providing & fixing 300mm high False Floor over existing RCC slab/flooring of support ,inclusive of support framework- avg. 600 x 600 x 30 mm sandwich cement tiles flooring encased in precoated MS sheeting of egg-crate type closed profile on the bottom & antistatic vinyl skin of approved micron thickness and colour over flat precoated MS top sheet. Edge-to-edge flush tiles to be fixed on anti-corrosive MS Alloy pipe studs min. 25 mm dia. with receiving brackets, tie-members & bottom pressure pads of the same alloy material, bolted & fixed complete. support studs to be have height adjustable mechanism to an approvable range. Item to include trap door, all fabrication for steps or ramps in same material including treads and risers, all hardware, all accessories, tools, labour, lift till 20mts. with all cleaning complete etc., installed complete as per standard specification. making mock-up for approval of Architect/Engineer incharge.The system shall be able to withstand a UDL of 1350 kgs/sq.mt. and (which category of floor system)a point load of 450 kgs.The understructure should be able to accept a pedestal Axial load of 2200 kgs.The work has to completed as per manufactures recommendations. drgs and instructions by EIC/Architect. No extra will be payable towards wastage due to material pattern. Please note payment will be in SQM of finished floor area only. The item shall include free supply of two nos panel lifters to HPCL before handing over the flooring.</p>
16	IPS finish Flooring

	<p>Providing and laying avg. 20 mm thick IPS finish Flooring proportion of 1:2:4 with approved pattern marking on surface finished to line, level and plumb. Complete as per Specifications and as directed. Unevenness in floor finish shall not exceed +2mm in one square metre area. including cleaning of base surface and removal of laitance, rubbing, cleaning, lead , lift till 20 mt, placing, and curing etc. all complete as per Particular Specification and as directed by Architect/Engineer in charge , Item to include all accessories, tools & labour, with all cleaning complete etc. The work has to be completed as per drgs and instructions by EIC/Architect.</p>
17	<p>Vinyl tiles Flooring avg. 300 x 300 x 2 mm thick -</p> <p>Providing and laying vinyl tiles avg. 300 x 300 x 2 mm thick /approved size in flooring of approved colour (to be specified by the Engineer/Department's representative). Vinyl floor tiles or sheets shall be laid with an adhesive recommended by the manufacturer. All the preparation and work in connection with the laying and fixing of the specified flooring and vinyl skirtings shall be done and to the satisfaction of the Engineer/architect. The flooring shall, where necessary, be cut and neatly fitted against adjoining floors, thresholds, etc. including preparation and cleaning of base surface ,removal of laitance, rubbing, cleaning , tools & labour, lift till 20 mt. etc. all complete as per technical Specification and making mock-up for approval of Architect/Engineer in charge. No extra will be payable towards wastage due to material pattern. Please note payment will be in SQM of finished floor area only.</p>

18	Exterior tile Flooring -300 mmx 300mm
	<p>Providing & laying Exterior Grade Heavy-duty Vitrified /cement Tiles- Paving the floor with avg. 10 mm (+/- 1mm) thk. surface finish as approved Vitrified tiles, avg. 300 mmx 300mm planar size as per approved shade/pattern, of Approved Brand of best approved quality set in cement mortar 1:3 with 20 mm thickness mortar bed and pointed with equivalent tile mate (white cement mixed with colouring pigment using 0.40Kg / M2) including cutting for raceways, junction boxes conduits etc., and neat finishing etc. Complete as per standard specification. Cleaning, making mock-up for approval of Architect/Engineer- in-charge. Item to include all accessories, tools & labour, lift till 20 mt., protecting finished installation with POP layer/avg. 0.3 micron Polyethylene sheet till handover, with all cleaning complete etc. No extra will be payable towards wastage due to material pattern. Please note payment will be in SQM of finished floor area only. The work has to be completed as per drgs and instructions by EIC/Architect. Basic Price Tiles =485 per sqm</p>
19	Anti skid Ceramic Tiles Toilet flooring
	<p>Providing and fixing approved thickness(+/- 2mm) thk. Anti-Skid tiles for flooring in Toilet of approved installed size as per drgs. / finish/ shade and approved make over 12mm average thickness of cement mortar 1:3 (1cement : 3 coarse sand) , pointing with specialised joint filler compound as approved , all complete as per Particular Specification and as per direction of Engineer-in-charge / Architect, including all tools and tackle, men material lift up to 20 mt., etc. finished and cleaned complete. No extra will be payable towards wastage due to material pattern. Please note payment will be in SQM of finished floor/dado area only. The work has to be completed as per drgs and instructions by EIC/Architect . Basic Price of Tiles =50 per sft</p>

20	Vitrified tiles dado
	<p>Providing and fixing vitrified tiles in skirting and dado of avg .size 450 x 300 mm/approved equivalent size (avg. 8 mm thk.) / finish/ shade and approved make over 12mm average thickness of cement mortar 1:3 (1cement : 3 coarse sand) , pointing with specialised joint filler compound as approved , all complete as per Particular Specification and as per direction of Engineer-in-charge / Architect, including all tools and tackle, men material lift up to 20 mt., etc. finished and cleaned complete. No extra will be payable towards wastage due to material pattern. Please note payment will be in SQM of finished floor/dado area only. The work has to completed as per drgs and instructions by EIC/Architect . Basic Price vitrified Tiles =85 per sft</p>
21	Engineered Marble Flooring
	<p>Providing and fixing avg. 20 mm(+/- 2mm) thk. Pre-polished Engineered Marble flooring in office area installed size 1500 x 1500 /approved equivalent size of Approved Make , shade & code laid as per Design Drawing ,blemish less and clear without any spots or marks, laid on CM Bed Mortar 1:3 with thickness of 20 mm as approved with mortar overlay of White cement, levelled, aligned as per flooring layout drawing, fixed complete. Item to include getting dry mock-up approved from the Architects/Engineer incharge.Flooring area to include separate door threshold piece lined on both sides with avg. 8 mm thick polished brass inlay strip at flooring slab joints inserted flush with finished floor level, levelled complete. Item to include all Tools & Tackle, lift for all men, materials & implements to floors up to 20mt., masking neighbouring installations, cleaning complete with protective tarpaulin cover on finished installation till handover. No extra will be payable towards wastage due to material pattern. Please note payment will be in SQM of finished floor/dado area only. Basic Price Pre-polished Engineered Marble = 430 per sft</p>
22	Brass inlay

	<p>Providing and fixing with avg. 8 mm thick and max 4 mm deep polished brass inlay strip at flooring slab joints inserted flush with finished floor level, levelled complete. Item to include all Tools & Tackle, lift for all men, materials & implements to floors up to 20 mt., masking neighbouring installations, cleaning complete. Item to include getting mock-up for approved by Architect/Engineer in charge. The work has to completed as per drgs and instructions by EIC/Architect</p>
23	Artificial Marble inlay
	<p>Providing & laying artificial Marble inlay- with avg. 75 mm wide and max 20 mm deep polished artificial engineered marble inlay at flooring slab joints inserted flush with finished floor level, levelled complete. Item to include all Tools & Tackle, lift for all men, materials & implements to floors up to 20 mt., masking neighbouring installations, cleaning complete and proper adhesive to fix the inlay in flooring. Item to include getting mock-up for approved by Architect/Engineer in charge. No extra will be payable towards wastage due to material pattern. Please note payment will be in SQM of finished floor/dado area only. The work has to completed as per drgs and instructions by EIC/Architect</p>
24	Marble Floor - Re-Polishing
	<p>Providing marble Floor - Re-Polishing of existing natural white marble flooring to diminished thickness of marble not more than avg. 500 microns, inclusive of all accessories and implements, intent is of machine polishing with carborundum based (or equivalent) wet type abrasive polishers; in min. 2 polishing runs finished with approved waxeous coating/tin oxide coating on top. Care to be exerted towards careful implementation of job so as not to damage existing flooring. Item includes preparing mock-up of approx. 100 sq.ft. area for Architect's approval, all cleaning and carting of waste polish slurry/Scarf away & out of premises as per Client and statutory norms, all men material, tools & tackle, item finished cleaned complete with all necessary lift to avg. 20 mts. Item to include getting mock-up for approval by Architect/Engineer in charge. The work has to completed as per drgs and instructions by EIC/Architect</p>
25	Natural Granite slabs – Flooring

	<p>Providing and fixing the floor with 25 mm (+/- 2mm) thick Prepolished Natural Granite slabs of approved colour and size and pattern as per drgs which is free from all defects in all floors over a base layer of CM 1:3(1cement : 3 coarse sand) , 20mm thick bed mortar, the granite slab be laid over the cement mortar by applying cement slurry in between base mortar and granite slab. The granite slabs are to be so laid that there should not be any gap in between the adjacent slabs and the joints shall be in line with another joint and uniform by using cutting machine without any damage to the sides of corners of the granite slab. The entire area of the flooring so laid shall be neatly pointed with matching coloured cement of 1.80 kg/m². The granite slabs proposed for the work shall be got approved by the Architect/Engineer-in-charge before use in the work, etc., in required position & in line and level on a bed , curing and cleaning etc. complete. item to include getting mock-up for approval by Architect/Engineer in charge, all tools and tackle, accessories, men material and lift up to 20mt., protecting finished installation with protective coating of tarpaulin etc. complete. The work has to completed as per drgs and instructions by EIC/Architect. Basic Price Natural Granite =190 per sft</p>
26	Natural Granite slabs – coping

	<p>Providing and fixing Granite coping/cill piece- Cladding the top edge of vertical parapet wall at lobby and window cill with avg. 200 mm wide pre-polished Natural Granite slab of approved colour/pattern avg. 20mm (+/- 2mm) thick of best approved quality and free from all defects and set in cement mortar 1:2 in avg. 15 mm thick, with GI holdfasts as approved. The joints shall be flush with faces of granite slabs and in line. The joints shall be pointed neatly with same colour pigment mixed with white cement of 1.80 kg/m². The slabs/tiles so laid shall be supported with suitable arrangements for a period of 2 hours. The Granite slabs shall be got approved by the Architect/Engineer-in-charge before use in the work, etc., complete. The rate is including labour, all materials, scaffolding charges, hire charges for granite cutting machine, power consumption etc., all material lift up to 20 mts., tools and tackle, item finished complete. Item to include getting mock-up approved by Architect/Engineer in charge. The work has to completed as per drgs and instructions by EIC/Architect. Basic Price Natural Granite =190 per sft</p>
27	<p>Counter top Platform with -Engineered Marble</p> <p>Providing & laying avg 20 mm thick(+/-2mm) pre-polished artificial engineered quartzite marble platform for counter top basins of avg 750 mm wide, with granite supports of avg 25 mm thick for vertical and kadappa of avg 25 mm thick below granite with necessary approved sealant as required as per the detail drawing etc., including avg. 32 mm fascia pattis and rounding or polishing the exposed edges as per drawing, cutting for basin opening, sealing all crevices with silicon sealant, etc. complete. Item to include getting mock-up for approval by Architect /engineer in charge.,(measurement shall be of top only for the complete item), all men materials and lift up to 20 mts., all tools and tackle/accessories etc. complete. No extra will be payable towards wastage due to material pattern. The work has to completed as per drgs and instructions by EIC/Architect. Please note payment will be in SQM of plan area only. Basic Price Pre-polished Engineered Marble = 430 per sft</p>
28	<p>GRC (Grey) Flooring bed</p>

	<p>Providing, laying and curing Fibreglass Reinforced Concrete (or GRC) as an avg. 20 mm thk. smooth flooring backer bed with white cement component, avg. 1:6 white Cem:fibre composition; laid with approved workable flow ability to fully fill into any crevices & depressions & achieve neat line and surface level with smooth finish top. Item to include all men, material, implements, accessories, tools and tackle, including GI shear keys if required, approved shuttering etc., item cured and finished complete inclusive of all material and lift up to 20 mt. height. Item to include mock-up of 2 sq.m floor area & approval from Architect/Engineer-in-Charge. White Cement to be of Approved Make and Source. The work has to be completed as per drgs and instructions by EIC/Architect.</p>
29	False ceiling with Gypboard

	<p>Providing & fixing seamless ceiling with gypboard of avg 12.5mm thk.fixed to the underside of the suspended grid formed of GI perimeter channel of avg. size 20x27x30mm fixed along the wall by TW Rawl plugs and Metal (Galvanised steel expansion) anchor bolts. The GI intermediate channel of avg. size 45x15x0.90 mm shall be fixed to the suspended strap hanger /GI ceiling angle at intervals not more than 1220mm. The suspended GI ceiling angle / strap hanger is to be connected with GI soffit cleat of size Avg. 37x27x25x1.6mm and it should be fixed on the roof slab/beam by using metal expansion fasteners (Wt.Type) of 12.5mm dia to a length of 35mm with 6mm dia.bolt / screw at top ends .The GI ceiling section of avg. size 80x26x0.5mm is to be provided across the intermediate channel at intervals not more than 600mm centres at bottom and the same shall be fixed by GI connection clips 2.64mm dia at the intersection points. The ends of ceiling section channel by adopting an overlap length of minimum 150mm connected with intermediate channel shall be fixed to perimeter channel in insertion. Work to include making and finishing of recesses for lighting fixture, preparing the board to take paint finish , providing cutting for trap door of required size for service access, Al. powder coated HVAC grills as per approval by Architect Consultant, necessary coves, recesses as per design drawing, including cutting for access doors, sealing the joints with Air Drying Joining Compound or equivalent sealing materials, with flush bonded/ screwed securing of the hatch using a clip-lock mechanism that is integrated in the frame and concealed. Item to include all accessories, fitments, men & material & lift up to 20 mt., correct installation procedure, trap door cutting and necessary cutting in False ceiling strictly with unit template and finishing, necessary scaffolding, cleaning etc. complete. Item to include approval of mock-up by Architect/Engineer incharge.The work has to completed as per drgs and instructions by EIC/Architect. The finished surface including the cove surface will be measured for payment.</p>
30	False ceiling with Aluminium Composite Panel

	<p>Providing and Fixing False Ceiling as per drawing with Aluminium Composite panels. The Panels should be of exterior grade min. 4 mm thick with min. 0.5 mm Al. foil thickness of Al. 3003 grade Aluminium Composite Panel (ACP) of approved matt (finish) pre-coated finish of strictly approved shade with additional protective pvdf coating over, of premium brand AS APPROVED, with concealed fittings and accessories; system hung on a backer grid of Al. channels avg. 600 x 600 c/c with avg. sectional size of 50 x 40 of approved Al. grade as in detailed specifications on avg. GI ISA 40 Hangers anchor bolted to true RCC Ceiling. The system to follow design drawing panel divisions and edge trims as in drawing, with panel grooves of avg. max. 12 mm width duly sealed with approved sealant & colour shade not exposed & covered with pre-coated groove trim/same ACP inlay. Work to include making and finishing of recesses for lighting fixture, preparing the board to take paint finish, providing cutting for trap door of required size for service access. The rate to include all installation as per Architect's instructions, by approved installer, all scaffolding, all support accessories as approved of GI & Al. sections, making cut-outs to design for lighting fixtures and other installations, men material lift up to 20 mt., cleaning etc. Complete.</p>
31	False ceiling with Perforated Aluminium tiles

	<p>Providing & Fixing Aluminium Perforated metal ceiling System consisting of 600x600mm Lay in tiles of approved make with pre coated Aluminium in 0.7 mm thickness in white colour with standard perforation of 2.5mm dia & open area of 16% and with Soundtex acoustical fleece glued/fixed to the back of the tile to be laid on 15mm wide T - section flanges colour white having rotary stitching on the Main Runner, 1200 mm & 600 mm Cross Tees. The tiles should have Humidity Resistance (RH) of 100%, NRC of 0.70, Fire Performance A2-s1.d0 in module size of 600 X 600 mm, suitable for Green Building application. The grid should be of Approved make with 15mm wide T - section flanges colour white having rotary stitching on all T sections i.e. the Main Runner, 1200 mm & 600 mm Cross Tees with a web height of 43mm and a load carrying capacity of 23.71 Kgs/M2. The T Sections have a Galvanizing of 120 grams per M2 & passed through 500 hrs of Salt test. Item inclusive of all accessories, men, material, lift up to 20 mt., cutting and making up for all fitments, fixing accessories, laid, aligned complete. Work to include making and finishing of recesses for lighting fixture, preparing the board to take paint finish, providing cutting for trap door of required size for service access,. The tiles has to put as per manufactures recommendations and providing the original frame materials from the manufacturer. The work has to completed as per drgs and instructions by EIC/Architect.</p>
32	False ceiling with plain Aluminium -300C

	<p>Providing and fixing 300C Aluminium Un-perforated Panel with False Ceiling system of approved colour and make ,consisting of Panel 300 mm wide X 30 mm deep X 0.7 mm thick with bevelled edges having panel length up to 6 mtrs, Coil Coated on a Continuous Paint Line, Double baked and roll formed for higher strength and good roll forming characteristics. The panel ends will be raised up to 29mm. Panel shall be clipped to a baked enamelled aluminium panel carrier of 41.5mm wide x 62mm deep x 0.95 mm thick in standard length of 5 mtrs. made of double baked stove enamelled aluminium magnesium alloy AA3005 black with cut outs to hold the panels. The Carrier shall be suspended by means of G.I. suspension rod 4-mm diameter and Galvanised suspension spring clip. Aluminium Panels shall be chromatised for maximum bond between metal and paint enamelled twice under high temperature, one side with full primer and finish coat, the other side (inner side) with a primer coating and skin coat on a Continuous Paint Line. : Measurements shall be wall to wall without any deductions for lights, diffusers, columns etc. The work has to completed as per drgs and instructions by EIC/Architect.</p>
33	False ceiling with Calcium silicate board

	<p>Providing & fixing seamless ceiling with calcium silicate board using 8 mm thk. boarding material, fixed to the underside of the suspended grid formed of GI perimeter channel of avg. size 20x27x30mm fixed along the wall by TW Rawl plugs and Metal (Galvanised steel expansion) anchor bolts. The GI intermediate channel of avg. size 45x15x0.90 mm shall be fixed to the suspended strap hanger /GI ceiling angle at intervals not more than 1220mm. The suspended GI ceiling angle / strap hanger is to be connected with GI soffit cleat of size Avg. 37x27x25x1.6mm and it should be fixed on the roof slab/beam by using metal expansion fasteners (Wt.Type) of 12.5mm dia to a length of 35mm with 6mm dia.bolt / screw at top ends .The GI ceiling section of avg. size 80x26x0.5mm is to be provided across the intermediate channel at intervals not more than 600mm centres at bottom and the same shall be fixed by GI connection clips 2.64mm dia at the intersection points. The ends of ceiling section channel by adopting an overlap length of minimum 150mm connected with intermediate channel shall be fixed to perimeter channel in insertion. Work to include making and finishing of recesses for fixing lighting fixture, preparation for taking paint finish, making trap door in Powder coated MS frame Type for service access, Al. powder coated HVAC grills as per approval by Architect Consultant, necessary coves, recesses as per design drawing, sealing the joints with Air Drying Jointing Compound or equivalent sealing materials, with flush bonded/ screwed securing of the hatch using a clip-lock mechanism that is integrated in the frame and concealed. Work to include making and finishing of recesses for lighting fixture, preparing the board to take paint finish , providing cutting for trap door of required size for service access, Item to include all accessories, fitments, men & material & lift up to 20mt., correct installation procedure, necessary cutting in False ceiling strictly with unit template and finishing, necessary scaffolding, cleaning etc. complete. Item to include approval of mock-up by Architect/Engineer incharge.The item to be completed strictly as per manufacturers recommendation.The work has to completed as per drgs and instructions by EIC/Architect.</p>
34	3 mm thk. Clear Acrylic sheets

	<p>Providing and fixing Avg. 3 mm thk. Clear Acrylic, good grade imported type sheets, avg. 125 mm high & 2400 mm long, on GI skeletal supports mounted on Gypsum board false ceiling with all non-corrosive mounting accessories edge to edge butt jointed with transparent silicone sealant, Item to include all Tools & Tackle, lift for all men, materials up to 20 mts.,masking neighbouring installations, cleaning etc. complete. Item to include getting mock-up for approved by Architect/Engineer incharge.The work has to completed as per drags and instructions by EIC/Architect.</p>
35	<p>Aluminium Partition</p> <p>Providing and fixing skeletal support frame out of Aluminium sections avg. 50 x 60 sq. mm. for taking skinning, as per detailed specifications and Tender drawing, system of vertical mullions at avg. 600 c/c and horizontal braces at avg. 600c/c, firmly jointed with approved rigidity at all joints with lap-screwing on approved Al. chairs, along with insertions of avg. 250 x300 BWP grade Anti-termite treated 12 mm thk. ply board back plate for electrical switches/sockets back-plate screwed firmly to this Al. sub frame at an average of 1 back-plate unit per 2 running meters of partition. Item to be inclusive of rigid floor & RCC Ceiling fixing through anchor-bolting, travel of Al. frame above false ceiling to RCC ceiling with at least 1 horizontal cross brace across, AL. box stud frame avg. 80 x 80 section with continuous vertical infill of avg. 75x75 good grade TW batten-plug to receive holdfast screwing at all door/opening jambs; all accessories, fixing implements, men material and lift up to 20 mts.,finished and cleaned complete. Item to notably include avg. 60 x 50 extruded Al. section (closed structural) sub-frame with avg. 15 mm projecting continuous glass receiving nose strictly as per detailed drawing & full body colour anodised to shade as approved with avg. 50 x 40 good grade TW continuous vertical plug infill to receive screwing- this stud item to front edge of Al. Partition at all perpendicular meeting points with Glazing/Glazed walls, with all necessary EPDM rubber gaskets/seals/trims/cushions/beadings as necessary for firm & permanent fixing of Glazing at both sides of the nose; this Al. stud sub-frame firmly fixed to the whole skeletal support frame, finished complete with all accessories, fixing implements & men, material and lift etc. as in the full partition item. Item to be completed in all respects as per drawings & instructions from Project-in-charge/Architect.</p>

36	12 mm BWP Grade Ply board skinning
	<p>Providing, fixing partition skinning with 12 mm thk BWP Grade Ply board building up to total 80 mm thk. partition on over Al. skeletal frame as in item immediately above, as approved by Architect item complete with all accessories, fixing implements including approved self-tapping and self-drilling corrosion resistant metal-alloy screws, men material and lift up to 20 mts., finished complete to correct line level and plumb, and getting mock-up approved by Architect/Engineer-in-charge. Providing and Applying Intumescent Fire Retardant chemical: Ammonium Polyphosphate (APP) as solution/approved equivalent, with starch solution, all in melamine spreader base in 1:3:4 proportion [Starch:APP:Melamine]. To apply by brush on one face, inner side of ply board skin of partition, with consistent spread without any unapplied patches, in 2 coats one after the other after complete drying of 1st coat. Item to include, all tools & tackle, accessories, men material and lift up to 20 mts., item finished dried complete. FR application to be got approved from Architect/Engineer-in-Charge before final application. Item to be completed in all respects as per drawings & instructions from Project-in-charge/Architect.</p>
37	6 mm BWP Grade Ply board skinning

	<p>Providing, fixing partition skinning with 6 mm thk BWP Grade Ply board on over Al. skeletal frame/wooden frame , as approved by Architect item complete with all accessories, fixing implements including approved self-tapping and self-drilling corrosion resistant metal-alloy screws, men material and lift up to 20 mts., finished complete to correct line level and plumb, and getting mock-up approved by Architect/Engineer-in-charge. Providing and Applying Intumescent Fire Retardant chemical: Ammonium Polyphosphate (APP) as solution/approved equivalent, with starch solution, all in melamine spreader base in 1:3:4 proportion [Starch:APP:Melamine]. To apply by brush on one face, inner side of ply board skin of partition, with consistent spread without any unapplied patches, in 2 coats one after the other after complete drying of 1st coat. Item to include, all tools & tackle, accessories, men material and lift up to 20 mts., item finished dried complete. FR application to be got approved from Architect/Engineer-in-Charge before final application. Item to be completed in all respects as per drawings & instructions from Project-in-charge/Architect.</p>
38	<p>19 mm BWP Grade Ply board skinning</p> <p>Providing, fixing partition skinning with 19 mm thk BWP Grade Ply board on over Al. skeletal frame/wooden frame , as approved by Architect item complete with all accessories, fixing implements including approved self-tapping and self-drilling corrosion resistant metal-alloy screws, men material and lift up to 20 mts., finished complete to correct line level and plumb, and getting mock-up approved by Architect/Engineer-in-charge. Providing and Applying Intumescent Fire Retardant chemical: Ammonium Polyphosphate (APP) as solution/approved equivalent, with starch solution, all in melamine spreader base in 1:3:4 proportion [Starch:APP:Melamine]. To apply by brush on one face, inner side of ply board skin of partition, with consistent spread without any unapplied patches, in 2 coats one after the other after complete drying of 1st coat. Item to include, all tools & tackle, accessories, men material and lift up to 20 mts., item finished dried complete. FR application to be got approved from Architect/Engineer-in-Charge before final application. Item to be completed in all respects as per drawings & instructions from Project-in-charge/Architect.</p>

	<p>Note for skinning: The item include cutting of ply/board to any shape & size and fixing the same for receiving finish on the same. Actual executed area will be measured and no wastage will be paid for.</p>
39	<p>Acoustic Insulation in partition-50 mm thick</p>
	<p>Providing and fixing of polyester based fibrous acoustic synth avg. 50mm thk. of approved make and size of avg. density 48 kg/sq.m. held between fine GI chicken mesh netting wire thickness as approved but not less than 24 gauge, all accessories, fixing implements on partition, wall etc , men material and lift up to 20 mts,finished and cleaned complete. Item to be completed in all respects as per drawings & instructions from Project-in-charge/Architect.</p>
	<p>Note for item of finishes :- Actual executed area will be measured as two sides of same partition are likely to have different finishes. Rate of this item shall include cost of providing fixing wooden facia, if any, cross matching veneer/laminate in approved pattern skirting, etc. as per details and finished in melamine /PU polish as per detailed specifications and requirement for which no extra payment shall be made but shall measured along with the respective item. The finishing material shall be fixed in required divisions/panels/ pattern with proper grooves etc. as per drawings & directions. Item to be completed in all respects as per drawings & instructions from Project- in-charge.</p>
40	<p>Finish with -Natural Wood veneer - With brass inlay</p>

	<p>Providing, fixing on Architect recommended partition, avg. total 3.5 mm select natural veneer on BWR grade ply board backer as supplied integrated whole from manufacturer, glued with approved phenol formaldehyde based adhesive or approved equivalent overlaying on substrate without any gaps/air bubbles pressed uniformly to line level and plumb, item complete with all edge lipping with water based PU TW lipping mounted flush to surface as per detailed drawings and Architect's recommendations; all accessories, fixing implements, men material and lift up to 20 mt, finished complete and getting mock-up approved by Architect / Engineer in charge. Item to include water based PU polish in avg. 2 coats to approved colour staining, firm fixing with necessary approved epoxy based adhesive/sealant avg. 8 mm x 8 mm polished brass strip inlay mounted flush to finished surface, all grooving as per design drawing, and protecting finished item by avg. 20 microns thk. polythene sheet till handover of facility complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge. Basic rate of veneer-Rs 750 per sqm.</p>
41	Finish with -Natural Wood veneer (basic rate: Rs. 750 per sqm)

	<p>Providing, fixing on Architect recommended partition, avg. total 3.5 mm select natural veneer on BWR grade ply board backer as supplied integrated whole from manufacturer, glued with approved phenol formaldehyde based adhesive or approved equivalent overlaying on substrate without any gaps/air bubbles pressed uniformly to line level and plumb, item complete with all edge lipping with water based PU TW lipping mounted flush to surface as per detailed drawings and Architect's recommendations; all accessories, fixing implements, men material and lift up to 20 mt, finished complete and getting mock-up approved by Architect / Engineer in charge. Item to include water based PU polish in avg. 2 coats to approved colour staining, protecting finished item by avg. 20 microns thk. polythene sheet till handover of facility complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge. Basic rate of veneer-Rs 750 per sqm.</p>
42	Finish with -Natural Wood veneer (basic rate: Rs. 3000 per sqm)
	<p>Providing, fixing on Architect recommended partition, avg. total 3.5 mm select natural veneer on avg. BWR grade ply board backer as supplied integrated whole from manufacturer, glued with approved phenol formaldehyde based adhesive or approved equivalent overlaying on substrate without any gaps/air bubbles pressed uniformly to line level and plumb, item complete with all edge lipping with water based PU TW lipping mounted flush to surface as per detailed drawings and Architect's recommendations; all accessories, fixing implements, men material and lift up to 20 mt, finished complete and getting mock-up approved by Architect / Engineer in charge. Item to include water based PU polish in avg. 2 coats to approved colour staining, protecting finished item by avg. 20 microns thk. polythene sheet till handover of facility complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge. Basic rate of veneer-Rs 3000 per sqm.</p>
43	Finish with -Laminate

	<p>Providing, fixing on Architect recommended partition, avg. 1 mm select artificial laminate of approved colour, make as approved, glued with approved phenol formaldehyde based adhesive or approved equivalent overlaying on substrate without any gaps/air bubbles pressed uniformly to line level and plumb, item complete with all edge lipping with water based PU TW lipping mounted flush to surface as per detailed drawings and Architect's recommendations; all accessories, fixing implements, men material and lift up to 20 mt, finished complete with all necessary masking with avg. min. 10 mm wide masking tape before applying polish to edge lipping and getting mock-up approved by Architect / Engineer in charge. Item to include protecting finished item by avg. 20 microns thk. polythene sheet till handover of facility complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge. Basic rate of veneer-Rs 350 per sqm.</p>
44	12 mm thk. Toughened Float Glass - Partition
	<p>Providing , fixing Avg. 12 mm thk. Toughened Float Glass fixed on double skin ply board 350 high skirting and ceiling drop panel fabricated out of aluminium partition & skinning. Item tp be complete with all accessories, fixing implements, men material and lift up to 20 mts., finished complete, and inclusive of preparing & getting mock-up and approved by Architect / Engineer-in-charge as per detailed design drawing. Item to include SS 316 Gird. receiving channel avg. min 8mm x 12.5mm x 8 mm buried/fixed hidden within double skin ply board partition complete with approved EPDM rubber beadings/wedge & water based stained PU polish in 2 coats over TW beading shaped as per detailed drawing. Item to be completed in all respects as per drawings & instructions from Project- in-charge.</p>
45	Cement Board partition

	Providing, fixing Avg. 98 mm thk. Fibre-reinforced pre-fabricated & factory cured Cement Board partition of approved make , with all fixing accessories and above FC rigid fixed GI frame with avg. 80 mm thk. GI Channel sections with mullion-transon both at avg. 600 mm/CC for floor-to-RCC Slab fixity inclusive of all men, material, lift up to 20 mts etc. aligned complete and inclusive of preparing & getting mock-up and approved by Architect / Engineer in charge, with all recommended and approved jointing/cementing firm as per manufacturer's specifications finished complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge.
46	Frost decorative film on glass
	Providing and fixing on vertical mount Glass substrate approved frosted decorative film avg. 50 micron thick of approved make pasted on one side only with standard installation practice as provided by the manufacturer , as per detailed design drawing. Item to include all cutting to form design pattern, all accessories, men material and lift up to 20 mts., cleaned complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge.
47	Printable decorative translucent film on glass
	Providing and fixing on vertical mount Glass substrate approved printable decorative translucent film avg. 50 micron thick of approved make printed over with approved coloured graphic design, pasted on one side only with standard installation practice as approved, as per detailed design drawing. Item to include all cutting to form design pattern, all approved printing to designed coloured graphic, all accessories, men material and lift up to 20 mts., cleaned complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge.
	Painting
48	Gypsum Plastering

	<p>Providing Avg. 10 mm thk. Gypsum Plaster, of approved make, to be applied in 2 varying coats to achieve desired total thickness, with all necessary nominal curing and drying complete, to correct line, level and plumb, finished smooth. Item to be inclusive of all accessories, fixing implements, tools and tackle, men material and lift up to 20 mts., cleaned complete with all necessary edge masking with approved min. 8mm wide masking tape. Item to be completed in all respects as per drawings & instructions from Project- in-charge.</p>
49	Premium Acrylic Putty for Wall
	<p>Providing & applying approved brand & make Premium Acrylic putty over the substrate surface in min. 2 coats to build up thickness avg. 3-4 mm application on white cement surface coat over all before applying putty final thickness to achieve surface line level and plumb, all skilled labour, scaffolding, cleaning & providing mock-up for approval of the Architect, men material and lift up to 20 mts., all required masking with min. avg. 8 mm wide masking tape, cleaned complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge.</p>
50	Premier Acrylic Emulsion Paint
	<p>Providing Two coats of 'Premier Acrylic Emulsion Paint' of approved make & colour/shade over a coat of water based primer including preparation of surface by thorough cleaning as per manufacturer's specification fully to give an even shade as approved and curing as per manufacturers specifications and as directed. Item to include all accessories, tools & labour, men material & Lift up to 20 mts., scaffolding with all cleaning, depropping, clearing complete. Item to include getting mock-up for 2 sqm area approved by Architect/Engineer in charge. Basic Price Premier Acrylic Emulsion Paint =300 per lit. Item to be completed in all respects as per drawings & instructions from Project- in-charge.</p>
51	Premier Emulsion Texture Paint(Basic price- 40 per sqft)

	<p>Providing and applying 'Premier Emulsion Texture Paint' of approved make and shade on all surfaces & at all heights in three coats including scaffolding, preparing the surface by brushing and brooming down, applying primer, Patti & a coat of white cement putty etc. complete The dry/wet cleaning of floors/pipes/glass etc. after painting is to be carried out. Item to include all accessories, mt., tools & labour, men material & Lift up to 20 mts. scaffolding with all cleaning, depropping, clearing complete. Item to include getting mock-up for 2 sqm area approved by Architect/Engineer in charge. Basic Price Premier Acrylic Emulsion Paint =40 per sqft. Item to be completed in all respects as per drawings & instructions from Project- in-charge.</p>
52	Premier Emulsion Texture Paint(Basic price- 110 per sqft)
	<p>Providing and applying 'Premier Emulsion Texture Paint' of approved make and shade on all surfaces & at all heights in three coats including scaffolding, preparing the surface by brushing and brooming down, applying primer, patti & a coat of white cement putty etc. complete The dry/wet cleaning of floors/pipes/glass etc. after painting is to be carried out. Item to include all accessories, mt., tools & labour, men material & Lift up to 20 mts. scaffolding with all cleaning, depropping, clearing complete. Item to include getting mock-up for 2 sqm area approved by Architect/Engineer in charge. Basic Price Premier Acrylic Emulsion Paint =110 per sqft. Item to be completed in all respects as per drawings & instructions from Project-in-charge.</p>
53	Wall paper

	<p>Providing and applying select approved Wall paper of approved make and shade on all surfaces & at all heights including scaffolding, preparing the surface by brushing and brooming down, etc. complete. The dry/wet cleaning of floors etc. after wall paper is to be carried out. Item to include getting mock-up for approved by Architect/Engineer in charge, all approved gluing as per detailed specifications and approval, all accessories, men material and lift up to 20 mts., protecting finished surface with min. 20 microns thk polythene sheet till facility handover, finished cleaned complete. Basic Price of wall paper =250 per sqft. Item to be completed in all respects as per drawings & instructions from Project- in-charge.</p>
54	<p>Artworks on walls -Type-1</p> <p>Providing Artwork on walls, Type 1- after Selection and fixing Artworks on walls of avg. size 900 x 600 x 75 (thk.) or approved equivalent size as per site requirement with in basic rate, made of Acrylic/PU painted Sculpturous panels in Aerated Concrete panels, as approved by Architect/Engineer-in-charge. Item inclusive of single unit sample & all softcopies of Artworks approval by Architect, all installation & cleaning, men & mt. & all fixing implements complete with all lift up to 20 mts., including protecting exhibits from damage till handover with all necessary approved protective aids. Basic Price =13000 per no.The art work will be sourced from reputed professionals in Chennai depending up on the quality of the work with in the basic rate as per approval from EIC/Architect.</p>
55	<p>Artworks on walls Type-2</p>

	<p>Providing Artwork on walls, Type 2- after Selection, and fixing Artworks on walls of avg. size 700 x 1200 x 25 (thk.)/approved equivalent size, select Artwork prints mounted on stained water based PU polished carved/moulded TW frames with AT treated good grade MDF backers contained within avg. 5 mm thk. clear float glass front encasing, as approved by Architect/Engineer-in-charge. Item inclusive of single unit sample & all softcopies of Artworks approval by Architect, all installation & cleaning mt. & all fixing implements complete, with finished products lift up to 20 mts. including protecting exhibits from damage till handover. Basic Price =8000 per no.The art work will be sourced from reputed professionals in Chennai depending up on the quality of the work with in the basic rate as per approval from EIC/Architect.</p>
56	<p>Column Panelling with Natural veneer</p> <p>Providing, fixing Polished Natural veneered avg 3.5 mm over top of Marine BWP grade Ply board column boxing panels avg. 25 mm thick to design and dry-mount, jointing grooves as per drawing. Dry-mount to be on backer of avg. 2 mm thick 32 mm x 12 mm GI Channel spacers anchor screwed to RCC column as approved Item to include all accessories, tools & labour, men material & lift upto20 mt., scaffolding with all cleaning, depropping, clearing complete and getting mock-up for approved by Architect/Engineer in charge; with polished brass inlay of visible band width avg. 8 mm with insert depth of avg. 8 mm at height as per design drawing. Polish to be in 2 coats of Water based PU with provision of staining as approved by Architect. Item to be completed in all respects as per drawings & instructions from Project- in-charge. Basic rate of Veneer- Rs 750 per sqm.</p>
57	<p>Wall Panelling with Natural veneer finish</p>

	<p>Providing, fixing Polished Natural veneered Marine BWP grade Ply board wall panels avg. 25 mm thick to design and dry-mount. The item to include avg. 8mm thick polished brass strip inlay jointing grooves as per drawing. Dry-mount to be on backer of avg. 4 mm thick 32 mm x 12 mm GI Channel spacers anchor screwed to wall as approved Item to include all accessories, tools & labour, men material and lift up to 20 mt., scaffolding with all cleaning, depropping, clearing complete and getting mock-up of avg. 3 sqm. approved by Architect/Engineer in charge. Polish to be in 2 coats of Water based PU with provision of staining as approved by Architect. Item to be completed in all respects as per drawings & instructions from Project- in-charge. Basic rate of Veneer- Rs 750 per sqm.</p>
58	Wall Panelling with laminated finish
	<p>Providing , fixing Select 1 mm thk. laminated BWP grade Ply board wall panelling avg. 25 mm thick to design and dry-mount, jointing grooves as per drawing. Dry-mount to be on backer of avg. 2 mm thick avg. 10 mm x 06 mm wide GI Channel spacers anchor screwed to wooden rawl plugs in wall as approved. Item complete inclusive of all accessories, fixing implements, PU Polished TW lipping trims at edges of panelling, tools & tackle men material and lift up to 20 mts, finished cleaned complete and getting mock-up of avg. 3 sqm. approved by Architect/Engineer in charge. Item to be completed in all respects as per drawings & instructions from Project- in-charge. Basic rate of laminate- Rs 350 per sqm.</p>
59	False column

	<p>providing and fixing BWP grade Ply board column boxing panels made out of 19 mm marine ply with a backing of 38 x 25 mm ply wood frame to design and dry-mount, jointing grooves as per drawing and finished with Acrylic emulsion paint of approved quality & colour. Item to include all accessories, tools & labour, men material & lift up to 20 mt., scaffolding with all cleaning, depropping, clearing complete and getting mock-up for approved by Architect/Engineer in charge; with polished brass inlay of visible band width avg. 8 mm with insert depth of avg. 8 mm at height as per design drawing. Item to be completed in all respects as per drawings & instructions from Project- in-charge</p>
60	Soft board with fire rated fabric
	<p>Providing approved shade and make FR grade Polyester-Cotton fabric over 12mm thick softborad of required size, on partition/wall etc. The fabric shall be certified to pass Surface Abrasion test of no yarn breakage after abrasion test across 10000 cycles; Fire Retardant finish as per BS EN 1021-1:1994 for cigarette, BS 7176:1995 low hazard section, IS 15061-2002 Clause 3.3 annex. B (Vertical test) and water repellent as per standard AATCC-118. Item to include all accessories, tools & labour, men material & lift up to 20 mt., getting mock-up for approved by Architect/Engineer in charge; with Protecting with min. 20 micron polythene sheet cover till handover of facility, item complete with tight wrinkle free wrapping around soft board or approved boarding substrate, finished cleaned complete. The board shall be fixed on prepared surface with necessary hardware fittings etc. complete. All concealed wood works shall have sealer polish as directed. Rate quoted shall be for the complete finished work including all the materials and labour mentioned above. Item to be completed in all respects as per drawings & instructions from Project- in-charge</p>
61	Soffits-Veneered

	Providing and fixing in position 19 mm thk. plywood for soffit of approved dimensions finished with approved natural veneer including required wooden supports & mouldings, finished with melamine polish on vertical/horizontal plane as per requirement. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect. Basic rate of Veneer- Rs 750 per sqm.
62	Pelmets
	Providing and fixing in position pelmet out of 19mm thk. plywood finished with veneer & melamine polish from the front and synthetic enamel paint from inside. Size of the pelmet - 150mm * 175mm. Item to be completed in all respects as per drawings & instructions from Project- in-charge. .Basic rate of Veneer- Rs 750 per sqm.
63	White board-Portable
	Providing and placing on location Portable framed Magnetic Glossy finish type White board avg. 900 x 1200 size, as per approved model and make, with particle board backer and encasing. Item to include all fixing accessories, a marker/duster tray, all material and lift to 20 mts., including keeping in packaged condition till handover, cleaned complete. The item shall be supplied with necessary accessories such as magnetic symbols, magnetic letters, magnetic strips, magnetic eraser, magnetic dry marker 4 Nos., spare felt for eraser, board fixing clips etc. complete and all as per manufacturer's specification and as directed by the EIC / Architect.
64	Roller Fabric Blinds

	<p>Roller Blinds - Providing and installing with all fixing accessories, washable and stain resistant 'Roller' type Window Blinds system premium grade 100% Polyester & 100% Recyclable fabric roller sheet avg. 0.4 mm thk. of max. 2.5 mt., fluidly rolling over coil rod fixed at Pelmet level. Avg. height of system to be 1400 mm; item inclusive of all metal alloy head track, pull-cords and accessories for full operation etc. installed complete, including avg. 3 mm thk. Powder coated extruded Aluminium section Pelmet avg. 25 mm x 50 mm section to approved colour inclusive of all fixing brackets screw holes etc. to approved colour; with men material and lift up to 20 mt. and getting mock-up approved by Architect for 1 unit installation. Fabric to be 100% Polyester, PVC free, of avg. 0.4 mm thickness, weight avg. 160 gm/sqm, Fire Resistance- DIN 4102 B1/NFPA 701/BS 5876, Colour Fastness ISO 105B02 (Xenon Arc Lamp test. Basic Price Roller Blinds = 2000 per sqm</p>
65	TW Wall corbelling/moulding 12mm x 12 mm
	<p>Polished TW Wall corbelling- Providing, carpentering, polishing and fixing to approved detail TW section wall banding/corbelling as per design drawing, of avg. cross section 12 x 12 mm; item to be inclusive of all moulding/filleting/machine sculpting of edges, approved stain of melamine polish, all material lift up to 20 mts, all tools and tackle, masking for polish stains, buried raw-plugged screwing etc. finished and complete to correct surface level and plumb. Item to be completed in all respects as per drawings & instructions from Project- in-charge.</p>
66	TW Wall corbelling/moulding 25 mmx 25mm
	<p>Polished TW Wall corbelling- Providing, carpentering, polishing and fixing to approved detail TW section wall banding/corbelling as per design drawing, of avg. cross section 25 x 25 .mm; item to be inclusive of all moulding/filleting/machine sculpting of edges, approved stain of melamine polish, all material lift up to 20 mts, all tools and tackle, masking for polish stains, buried rawl-plugged screwing etc. finished and complete to correct surface level and plumb. Item to be completed in all respects as per drawings & instructions from Project- in-charge.</p>
67	TW Wall corbelling/moulding 50mm x 50 mm

	Polished TW Wall corbelling- Providing, carpentering, polishing and fixing to approved detail TW section wall banding/corbelling as per design drawing, of avg. cross section 50 x 50mm; item to be inclusive of all moulding/filleting/machine sculpting of edges, approved stain of melamine polish, all material lift up to 20 mts, all tools and tackle, masking for polish stains, buried rawl-plugged screwing etc. finished and complete to correct surface level and plumb. Item to be completed in all respects as per drawings & instructions from Project- in-charge.
68	TW Wall corbelling /moulding 75 mmx 50 mm
	Polished TW Wall corbelling- Providing, carpentering, polishing and fixing to approved detail TW section wall banding/corbelling as per design drawing, of avg. cross section 75 x 50mm; item to be inclusive of all moulding/filleting/machine sculpting of edges, approved stain of melamine polish, all material lift up to 20 mts, all tools and tackle, masking for polish stains, buried rawl-plugged screwing etc. finished and complete to correct surface level and plumb. Item to be completed in all respects as per drawings & instructions from Project- in-charge.
69	Glass Door with Aluminium frame 2.00 x 2.10 mm

	<p>Providing & fixing in position approved make glazed Door with Al. framing on all sides (stiles & rails) avg. 38 mm x 90 mm typ. section as approved & toughened clear float glass 6 mm x 2 nos. double glazed panels with sandwich clear lamination film 1.52 mm PVB film as approved. Al frame of artificially aged extruded profiles aluminium Material of grade EN AW 6063 T66 having tensile Strength 245 N/mm², Surface Quality P6 C0 and variation in Straightness should not be more than 0.7 mm for 1 Mtr length as per detailed drawing or as directed. Item includes floor lock provision in shutter patch fitting as per drawing, & standard chrome plated top cover mechanical floor spring assembly mounted flush to floor of approved brand. All accessories, installation, testing and lift up to 20 mts etc. complete .Height made up of all matching sections S80 X 40 profile . All Mullions to travel above False Ceiling to fix & anchor with RCC slab.Upto 3 mtr.height made up of all sections S80 X 40 profile . Item to be completed in all respects as per drawings & instructions from Project- in-charge.</p>
	Hard Ware
	<p>Spindle and cover plate. The floor spring of approved make with back check and adjustable closing speed from 175°. Non-hold open. Finish: Satin stainless steel. = 2 Nos</p>
	<p>Centre hung accessories for double action door Top centre two pieces, bottom strap , for Aluminium door. Non handed. Mill finish = 2 Nos</p>

	Lever action flush bolt with 19mm projecting bolt L=172mm for Metal Doors in satin Chrome Finish = 2 Nos
	Socket with 16mm dia hole, fully mortised on the floor. Satin stainless steel = 1 No
	Narrow stile bolt lock with 30mm backseat, 24mm sq. for end, prepared for euro profile cylinder including strike plate in satin stainless steel. - 1 No
	S C type Pull Handle of Length 300mm, 25mm Diameter Suitable for Narrow Profile Doors with adjustable fixing for glass & aluminium Doors. Finish : SSS - = 2 Nos
	Floor stop half dome with 45mm dia with fixing accessories, in satin stainless steel - = 2 Nos
70	Glass Door with Aluminium frame 1.50 x 2.10 mm
	Specification same as above but of size 1.5 m x 2.1 m.
71	Glass Door with Aluminium frame - 1.10 x 2.100
	Specification same as above but of size 1.1 m x 2.1 m.
72	Frameless clear glass doors - 1.00 x 2.100

	<p>Providing and fixing frameless clear glass doors with 12mm thk float glass toughened of approved make, on standard 304 grd. SS patch fittings, 350 mm SS handles, floor spring door closers, locking, heavy duty floor pivots all of 'brushed steel' or 'butler' finish, as per approved shop drawing and mock-up, with double or single shutter, cleaning, filling the surrounding crevices with silicon sealant of approved make, as per sizes in Design drawings. Item includes floor lock provision in shutter patch fitting as per drawing, & standard chrome plated top cover mechanical floor spring assembly mounted flush to floor of approved make. All accessories, installation, testing and lift up to 20 mts etc. complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge.</p>
	Hard Ware
	Floor spring with std. spindle and cover plate. The floor spring of approved make with back check and adjustable closing speed from 175°. With 90° hold open. Finish: Satin stainless steel. - 1 No
	PT standard Patch fittings of approved make including Top patch PT 20, Bottom patch PT 10, Top pivot PT 24, Corner lock US 10 including EPC and strike plate with SS cover plate - 1 No
	Pull Handle back to back with 350mm CTC, adjustable fixing for glass, wood and metal doors in satin stainless steel. The pull handles should have supporting washer with raised bevelling on the outer surface. Length =450mm, 25mm dia, 1 No
	Floor stop half dome with 45mm dia with fixing accessories, in satin stainless steel - 1 No
73	Solid core flush door with vision panel -1.00m x 2.10m

	<p>Providing and fixing approved quality factory made solid core flush door in single leaf (1000 x 2100mm) total avg. 42 mm thick BWP grade anti-termite treated type plywood with polished natural veneer surface on both sides, flush door 35 thk. ply board shutter to be ready factory made with both-side hardwood ply board faced Pine-wood core in continuous gapless section with butt joints tightly factory bonded with phenol formaldehyde adhesive of brand as approved. TW lipping on all edges of the door shutter 4mmthick, with 25mm thick ply panel core, BWR and anti termite treated. The door frame of 75 x 100 TW type to be fixed and integrated into Gyp-partition/Al. partition/local partition support frame by approved screws min. 90 mm long (TW Frame-Al. Box stud joint). The TW frame top rail (at lintel level) to have avg. 100 mm horn projection on either side to anchor firmly on the local partition. including vision Panel of size avg. 300 x 600 (H) for doors using 6mm thick toughened clear float glass fixed to the door with rectangular section teak wood lipping as per the drawing inclusive of all walling holdfasts & horns, fixing implements, accessories installed finished and lift up to 20 mts etc. complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.</p>
	Hardware
	Double bearing butt hinges size 4" x 3" x 3mm, - 3 Nos
	Lever handle , escutcheon and spindle in satin stainless steel. Complete set including sash lock and EPC with both sides Key operation & fixing accessories.- 1 No
	Cam action door closer with G-N slide channel arm for pull side fixing. Silver finish.- 1 No
	Floor stop half dome with 45mm dia with fixing accessories, in satin stainless steel- 1 No
74	Solid core flush door with vision panel -0.75 x 2.10m
	Specification same as above but of size 750 mm x 2100 mm

75	Solid core flush door with vision panel(250x1765) -1.00 x 2.10
	<p>Providing and fixing approved quality factory made solid core flush door in single leaf (1000 x 2100mm) total avg. 42 mm thick BWP grade anti-termite treated type plywood with polished natural veneer surface on both sides, flush door 35 thk. ply board shutter to be ready factory made with both-side hardwood ply board faced Pine-wood core in continuous gapless section with butt joints tightly factory bonded with phenol formaldehyde adhesive of brand as approved. TW lipping on all edges of the door shutter 4mmthick, with 25mm thick ply panel core, BWR and anti termite treated. The door frame of 75 x 100 TW type to be fixed and integrated into Gyp-partition/Al. partition/local partition support frame by approved screws min. 90 mm long (TW Frame-Al. Box stud joint). The TW frame top rail (at lintel level) to have avg. 100 mm horn projection on either side to anchor firmly on the local partition. including vision Panel of size avg. 250x 1765(H) for doors using 6mm thick toughened clear float glass fixed to the door with rectangular section teak wood lipping as per the drawing inclusive of all walling holdfasts & horns, fixing implements, accessories installed finished and lift up to 20 mts etc. complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.</p>
	Hard Ware
	Double bearing butt hinges size 4" x 3" x 3mm, - 3 Nos

	Dead lock - 55mm backseat, 20mm square for end prepared for euro profile cylinder including strike plate. and EPC 60mm Length both side key operation & Escutcheons in SSS Finish-1 No
	Pull Handle back to back with adjustable fixing for glass, wood and metal doors in satin stainless steel. The pull handles should have supporting washer with raised bevelling on the outer surface. Length =300mm, 22mm dia, - 1 No
	Concealed cam action door closer slide channel arm with standard spindle, including cushioned limit stay. Silver finish. Non-handed version-1 No
	Floor stop half dome with 45mm dia with fixing accessories, in satin stainless steel - 1 No
76	Solid core flush door -1.00 x 2.10

	<p>Providing and fixing approved quality factory made solid core flush door in single leaf (1000 x 2100mm) total avg. 42 mm thick BWP grade anti-termite treated type plywood with polished natural veneer surface on both sides, flush door 35 thk. ply board shutter to be ready factory made with both-side hardwood ply board faced Pine-wood core in continuous gapless section with butt joints tightly factory bonded with phenol formaldehyde adhesive of brand as approved. TW lipping on all edges of the door shutter 4mmthick, with 25mm thick ply panel core, BWR and anti termite treated. The door frame of 75 x 100 TW type to be fixed and integrated into Gyp-partition/Al. partition/local partition support frame by approved screws min. 90 mm long (TW Frame-Al. Box stud joint). The TW frame top rail (at lintel level) to have avg. 100 mm horn projection on either side to anchor firmly on the local partition as per the drawing inclusive of all walling holdfasts & horns, fixing implements, accessories installed finished and lift up to 20 mts etc. complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.</p>
	Hard Ware
	Double bearing butt hinges size 4" x 3" x 3mm, - 3 Nos
	Dead lock - 55mm backseat, 20mm square for end prepared for euro profile cylinder including strike plate. and EPC 60mm Length both side key operation & Escutcheons in SSS Finish-1 No

	Pull Handle back to back with adjustable fixing for glass, wood and metal doors in satin stainless steel. The pull handles should have supporting washer with raised bevelling on the outer surface. Length =300mm, 22mm dia, - 1 No
	Concealed cam action door closer slide channel arm with standard spindle, including cushioned limit stay. lever finish. Non-handed version-1 No
	Floor stop half dome with 45mm dia with fixing accessories, in satin stainless steel - 1 No
77	Solid core flush door -0.75 x 2.10
	Specification same as above but of size 750 mm x 2100 mm with 2 bearing butt hinges size 4" x 3" x 3mm, - 3 Nos Lever handle under roses , escutcheon and spindle in satin stainless steel. Complete set including WC lock and WC indicator with inside thumb turn and outside indicator with fixing accessories.- 1 No Wall mounted door Stop with rubber buffer. Satin stainless steel finish - - 1 No
78	Solid core flush door For Handicapped toilet -1.00x2.10-25 mm thk
	Specification same as above but of size 1000 mm x 2100 mm for handicapped capped toilets with double bearing butt hinges size 4" x 3" x 3mm, - 3 Nos Lever handle under roses , escutcheon and spindle in satin stainless steel. Complete set including WC lock and WC indicator with inside thumb turn and outside indicator with fixing accessories.- 1 No Wall mounted door Stop with rubber buffer. Satin stainless steel finish - - 1 No
79	Fire resistant steel door 1.00 x 2.10

	<p>Providing and fixing Fire resistant steel door of fire rating 120 mins. of approved make with 1.6 mm thick galvanized steel sheet formed to provide 46 mm thick fully flush door. Door frame should be of 2.0 mm galvanised CRCA steel formed to single rebate of size 100 mm x 57 mm. The door frames and door shutters are powder coated of painting up to a minimum of 70 microns. Hardware for door should consist of 2 ball bearing butt hinges of size 4x3x3 mm - Model as approved by Architect/Engineer-in-Charge. Door Closer to be hidden camshaft type and to be certified by CERTIFIRE fire certification and in guidance with EN 1158 & EN 1155. Door to be of CBRI certified construction of make as approved.</p>
	Wall opening Size: 1000x2100mm
	Two Ball bearing butt hinges size 4" x 3" x 3mm - 3 Nos
	Mortise sash lock - 1 No
	5pin both side key Length=70mm, SNP - 1 No
	Lever Handle - 1 No
	Door closer - 1 No
	Floor stop - 1 No
80	Aluminium fixed cum sliding windows

	<p>Providing and fixing aluminium fixed cum sliding windows fabricated as per drawing and fixed at all levels, elevations and heights having a main frame work of vertical and horizontals, out of specially designed approved extruded sections to withstand the designed wind pressure of 150 Kg/Sqm and loads, and be dust-resistant, sound insulated & water-tight, sections from approved makes Tender List only. All aluminium sections shall be 63400 (H9) grade conforming to IS 8147, finished with AC25 grade Architectural quality electrolytic colour anodic coating conforming to IS 1868 of approved colour. Rate shall include to fix the main frames into masonry wall / RC concrete surface with necessary clamps, fastening straps, nuts, bolts, rivets, washers and other fastening materials shall be in stainless steel or aluminium. The section unit weight per running metre is subjected to tolerance on the wall thickness as per IS 6977/ Equivalent BS. The sizes and dimensions are subject to slight variations and for which no extra payment will be paid. Window shutter shall be provided with 5+8+5 mm DGU with desicant filled 8 mm thick non-corrosive micro-perforated spacer sandwiched between 2 toughened float glass panes each 5 mm thk. thick toughened glass using tinted glass as approved. Clear float Glass of approved make, as per design for all panels and with snap fit aluminium colour anodized beading with special water proof cascades, Neoprene etc. complete, as directed. Necessary silicone-based weather sealant as per approved make shall be provided at the junctions between wall and main frames. Item finished complete with all integrated handles, stays, clip-locking mechanisms etc. as approved, men material and lift upto 20 mts., item finished cleaned complete ensuring all requisite air-tight behaviour of system in closed/shut position.</p>
81	Modifications and repairs to existing ply board storages

	<p>Providing modifications and repairs to existing ply board storages below window cills on the insides of the building periphery (of Facility); including installation of new laminated BWP Gird. Avg. 18 mm thk. Shutters; laminated on the outside by 1 mm select laminate and on the inside by avg. 0.8 mm select laminate. All hardware to be min. 304 gird. SS of 'Butler' finish- handles, hinges, mortise locks & bolt-stays all as per Architect's selection & of approved makes as per detailed drawing. Item to be inclusive of all accessories, fixing implements, tools and tackle, men material and lift up to 20 mts., finished installed cleaned complete and getting mock-up for approved by Architect/Engineer incharge. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.</p>
82	<p>MDF display boards</p> <p>Providing and fixing in location in cabins, partition mounted MDF display boards- Avg. 12 thk MDF board backer with avg. 8 mm soft board part-covered taut with FR Polyester-cotton fabric as approved & factory made avg. 3.5 mm thk. natural wood veneer polished with water based stained PU in min. 2 coats, phenol formaldehyde based glued over as per design drawing; of avg. size 1050 x 1050; lipped and framed with nominal same PU polished TW framing avg. section 32 x25 mm. Item complete with all accessories, fixing implements, tools and tackle, men material and lift up to 20 mts.; finished installed complete and getting mock-up approved by Architect/Engineer in charge. Item to include Providing and Applying Intumescent Fire Retardant chemical: Ammonium Polyphosphate (APP) as solution, with starch solution, all in melamine spreader base in 1:3:4 proportion [Starch:APP:Melamine]. To apply by brush on one face, inner side of ply board skin of partition, with consistent spread without any unapplied patches, in 2 coats one after the other after complete drying of 1st coat. Item to include, all tools & tackle, accessories, men material and lift up to 20 mts., item finished dried complete. FR application to be got approved from Architect/Engineer-in-Charge before final application. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.</p>
83	<p>Dry Planters Boxes of avg. size 750 x 600 x 600(H)</p>

	<p>Providing and fixing dry Planters Boxes of avg. size 750 x 600 x 600(H); Inner GI box core fixed within outer shell of BWP grade ply board boxing with avg. 1.5 mm select laminate pasted on, lipped at edges and sides by PU polished TW sections. Item to be inclusive of all accessories, fixing implements, tools and tackle, men material and lift up to 20 mts., finished installed cleaned complete and getting mock-up for approved by Architect/Engineer in charge.</p>
84	<p>Artificial SMALL Plants up to 1100mm HT. :</p> <p>Providing and fixing in wire-mesh substrate, artificial plants of size up to 1100 mm height out of composite Polythene/polyurethane as approved of first quality. Item inclusive of all accessories, men material & lift up to 20 mts., getting mock-up approved from Architect, protecting installation by avg. 20 micron polythene sheet till handover of facility, etc. cleaned complete. The type and height will be decided after evaluating the various mock up plants provided by the vendor from various professional sources in Chennai.</p>
85	<p>Artificial BIG Plants up to 1500mm HT. :</p> <p>Providing and fixing in wire-mesh substrate, artificial plants of size up to 1500 mm height out of composite Polythene/polyurethane as approved of first quality. Item inclusive of all accessories, men material & lift up to 20 mts., getting mock-up approved from Architect, protecting installation by avg. 20 micron polythene sheet till handover of facility, etc. cleaned complete. The type and height will be decided after evaluating the various mock up plants provided by the vendor from various professional sources in Chennai.</p>
86	<p>Medium bushes & Creepers up to 300 mm HT. :</p>

	Providing and fixing in wire-mesh substrate, artificial plants Medium bushes & Creepers up to 300 mm HT out of composite Polythene/polyurethane as approved of first quality. Item inclusive of all accessories, men material & lift up to 20 mts., getting mock-up approved from Architect, protecting installation by avg. 20 micron polythene sheet till handover of facility, etc. cleaned complete. The type and height will be decided after evaluating the various mock up plants provided by the vendor from various professional sources in Chennai.
87	FRP planters-350mm dia.
	Providing and fixing 350 mm dia FRP planters of approved colour and height of first quality. Item inclusive of all accessories, men material & lift up to 20 mts., getting mock-up approved from Architect, protecting installation by avg. 20 micron polythene sheet till handover of facility, etc. cleaned complete.
88	FRP planters-225mm * 225mm.
	Providing and fixing 225 mm x 225 mm mm th FRP planters of approved colour and height of first quality. Item inclusive of all accessories, men material & lift up to 20 mts., getting mock-up approved from Architect, protecting installation by avg. 20 micron polythene sheet till handover of facility, etc. cleaned complete.
89	300 mm dia Brass planters
	Providing and fixing 300 mm dia brass planters of approved finish and height of first quality. Item inclusive of all accessories, men material & lift up to 20 mts., getting mock-up approved from Architect, protecting installation by avg. 20 micron polythene sheet till handover of facility, etc. cleaned complete.
90	Glass Shelves

	<p>Providing and fixing at approved locations as per design drawing 12 mm thick toughened glass shelves with all edges machine polished to diamond finish with pre-drilled fixing holes, mounted to wall/partition through SS 316 grade D-Clips/brackets avg. 50 mm wide along wall support of approved make and shape/fabrication. D-clip fixed to wall by avg. 50 mm threaded screws driven through wooden/PVC rawl plugs as approved. Item to be inclusive of all accessories, fixing implements, tools and tackle, men material and lift up to 20 mts., finished installed cleaned complete. Item to be completed in all respects as per drawings & instructions from Project-in-charge/Architect.</p>
91	Cill Ledge - Post-formed laminate over ply board
	<p>Providing and fixing Avg. min 0.8 mm thk Post-formed laminate of approved make and shade over avg. 19 mm thk. BWP grade ATT ply board, as per design Tender drawing, screwed onto cill substrate through wooden rawl plugs in predrilled holes. Item to be inclusive of all accessories, fixing implements, tools and tackle, men material and lift up to 20 mts., finished installed cleaned complete. Item to be completed in all respects as per drawings & instructions from Project-in-charge/Architect.</p>
92	Sofa -Single seater - Rexin-on-foam

	<p>Providing & supplying 'Rexin-on-foam' Sofa single seater type as per selection made up of hidden TW Frame of size 38X75 mm for Seating & Back, seating should have the horizontal TW support of size 38 X 75mm at regular intervals, the frame should have 12mm thk hidden MDF on all sides with necessary hardware fasteners. The Chair should have Foam of approved quality & make all around with artificial Rexin drape of approved texture & colour. The base should have nylon floor strut-pads/legs, the cost includes all necessary fittings & fixtures, with necessary hardware etc. complete.(Density of foam=65Kg/m3). Size as per selection. The upholstery material to be got approved by Architect/Engineer-in-charge. Item to be inclusive of all accessories, fixing implements, tools and tackle, men material and lift up to 20 mts.Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.</p>
93	Sofa -Three seater - Rexin-on-foam
	<p>Providing & supplying 'Rexin-on-foam' Sofa 3-seater type as per selection made up of hidden TW Frame of size 38X75 mm for Seating & Back, seating should have the horizontal TW support of size 38 X 75mm at regular intervals, the frame should have 12mm thk hidden MDF on all sides with necessary hardware fasteners. The Chair should have Foam of approved quality & make all around with artificial Rexin drape of approved texture & colour. The base should have nylon floor strut-pads/legs, the cost includes all necessary fittings & fixtures, with necessary hardware etc. complete.(Density of foam=65Kg/m3). Size as per selection. The upholstery material to be got approved by Architect/Engineer-in-charge. Item to be inclusive of all accessories, fixing implements, tools and tackle, men material and lift up to 20 mts. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.</p>
94	Sofa -Curve shape- Rexin-on-foam

	<p>Providing & supplying 'Rexin-on-foam' Sofa multiple-seater curved shape type as per selection made up of hidden TW Frame of size 38X75 mm for Seating & Back, seating should have the horizontal TW support of size 38 X 75mm at regular intervals, the frame should have 12mm thk hidden MDF on all sides with necessary hardware fasteners. The Chair should have Foam of approved quality & make all around with artificial Rexin drape of approved texture & colour. The base should have nylon floor strut-pads/legs, the cost includes all necessary fittings & fixtures, with necessary hardware etc. complete.(Density of foam=65Kg/m3). Size as per selection. The upholstery material to be got approved by Architect/Engineer-in-charge. Item to be inclusive of all accessories, fixing implements, tools and tackle, men material and lift up to 20 mts., Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.</p>
95	Sofa -Centre table
	<p>Providing and fixing in position centre table 0.90 x 0.45 mm, OR as per selection with 12 mm thick toughened clear float glass top with edge bevel as per design drawing. The glass to be fixed to chrome finished supporting frame as per design with designed joinery. The vertical support should be of 50 mm and chrome plated pipe with 60 mm dia. chrome plated base plate for support. Item to be inclusive of all accessories, fixing implements, tools and tackle, men material and lift up to 20 mts., finished installed cleaned complete OR as per selection.1. Hardware- all 'butler/brushed steel' finish SS min. avg. 304 grade of approved Make as per Execution dwg. & specifications. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.</p>
96	Sofa -side table

	<p>Providing and fixing in position side table 0.45 x 0.45 mm, OR as per selection with 12 mm thick toughened clear float glass top with edge bevel as per design drawing. The glass to be fixed to chrome finished supporting frame as per design with designed joinery. The vertical support should be of 50 mm and chrome plated pipe with 60 mm dia. chrome plated base plate for support. Item to be inclusive of all accessories, fixing implements, tools and tackle, men material and lift up to 20 mts., finished installed cleaned complete OR as per selection.1. Hardware- all 'butler/brushed steel' finish SS min. avg. 304 grade of approved Make as per Execution dwg. & specifications. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.</p>
97	Cabin Table for Manager - 1500 x 750 x 750 high.
	<p>Providing and fixing at location as per Design Drawings & Dimensions Laminate top BWP composite Ply board & block board Work-table & Floor mounted storage lipped at all edges with PU polished TW, firmly jointed with TW fixing cleats/GI fixing angles, hidden TW stiffening sections, fixing implements, accessories etc. complete with all SS 304grade hardware as approved & design grooves, mould profiles etc. finished complete and getting mock-up for approved by Architect/Engineer in charge. The item shall be inclusive of key board tray , locks , drawer channels, handlesetc inclusive of all accessories, fixing implements, tools and tackle, men material and lift up to 20 mts., finished installed cleaned complete . Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.If any size of back unit/table is required to be made smaller as per site requirement, necessary deduction will be made from the item as per the items not utilised.</p>
	<p>Avg. table size: 1500 x 750 x 750 high. Side table: 1800 x 450 x 750 high</p>
98	Cabin Table for E / F- 1600 x 750 x 750 high.

	<p>Providing and fixing at location as per Design Drawings & Dimensions Laminate top BWP composite Ply board & block board Work-table for E/F grade & Floor mounted storage lipped at all edges with PU polished TW, firmly jointed with TW fixing cleats/GI fixing angles, hidden TW stiffening sections, fixing implements, accessories etc. complete with all SS 304grade hardware as approved & design grooves, mould profiles etc. finished complete and getting mock-up for approved by Architect/Engineer in charge. IThe item shall be inclusive of key board tray , locks , drawer channels, handlesetc inclusive of all accessories, fixing implements, tools and tackle, men material and lift up to 20 mts., finished installed cleaned complete . Item to be completed in all respects as per drawings & instructions from Project-in-charge/Architect.</p>
	<p>Avg. table size: 1600 x 750 x 750 high. Side table: 1800 x 450 x 750 high</p>
99	Cabin Table for PA to DGM - 1200 x 750 x 750 high.
	<p>Providing and fixing at location as per Design Drawings & Dimensions Laminate top BWP composite Ply board & block board Work-table for PA to DGM, Floor mounted storage lipped at all edges with PU polished TW, firmly jointed with TW fixing cleats/GI fixing angles, hidden TW stiffening sections, fixing implements, accessories etc. complete with all SS 304grade hardware as approved & design grooves, mould profiles etc. finished complete and getting mock-up for approved by Architect/Engineer in charge. The item shall be inclusive of key board tray , locks , drawer channels, handles etc. inclusive of all accessories, fixing implements, tools and tackle, men material and lift up to 20 mts., finished installed cleaned complete . Item to be completed in all respects as per drawings & instructions from Project-in-charge/Architect.</p>
	<p>Avg. table size: 1200 x 750 x 750 high. Side table: avg. 1650 x 450 x 750 high</p>
100	Cabin Table for PA to GM - 1500 x 750 x 750 high.

	<p>Providing and fixing at location as per Design Drawings & Dimensions Laminate top BWP composite Ply board & block board Work-table for PA to GM, Floor mounted storage lipped at all edges with PU polished TW, firmly jointed with TW fixing cleats/GI fixing angles, hidden TW stiffening sections, fixing implements, accessories etc. complete with all SS 304grade hardware as approved & design grooves, mould profiles etc. finished complete and getting mock-up for approved by Architect/Engineer in charge. The item shall be inclusive of key board tray , pencil trays, locks , drawer channels, handles etc. inclusive of all accessories, fixing implements, tools and tackle, men material and lift up to 20 mts., finished installed cleaned complete . Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.</p>
	<p>Avg. table size: 1500 x 750 x 750 high. Side table: avg. 1650 x 450 x 750 high</p>
101	Cabin Table for DGM- 2250 x 900x 750 high.

	<p>Providing and fixing at location as per Design Drawings & Dimensions Laminate top BWP composite Ply board & block board Work-table for DGM, Floor mounted storage lipped at all edges with PU polished TW, firmly jointed with TW fixing cleats/GI fixing angles, hidden TW stiffening sections, fixing implements, accessories etc. complete with all SS 304grade hardware as approved & design grooves, mould profiles etc. finished complete and getting mock-up for approved by Architect/Engineer in charge. The item shall be inclusive of key board tray , locks , drawer channels, handles etc. inclusive of all accessories, fixing implements, tools and tackle, men material and lift up to 20 mts., finished installed cleaned complete . Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.</p>
	<p>Avg. table size: 1800 x 900x 750 high. Side table: avg. 2000 x 450 x 750 high</p>
102	Cabin Table for GM- 2700 x 900 x 750 high.

	<p>Providing and fixing at location as per Design Drawings & Dimensions Laminate top BWP composite Ply board & block board Work-table for GM, Floor mounted storage lipped at all edges with PU polished TW, firmly jointed with TW fixing cleats/GI fixing angles, hidden TW stiffening sections, fixing implements, accessories etc. complete with all SS 304grade hardware as approved & design grooves, mould profiles etc. finished complete and getting mock-up for approved by Architect/Engineer in charge. The item shall be inclusive of key board tray , locks , drawer channels, handles etc. inclusive of all accessories, fixing implements, tools and tackle, men material and lift up to 20 mts., finished installed cleaned complete . Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.</p>
	<p>Avg. table size: 2100 x 900 x 750 high. Side table: avg. 1850 x 600 x 750 high</p>
103	Reception Table

	<p>Providing & fixing at location as per Design Drawings & Dimensions select water based PU polished 3.5 thk. Natural veneer faced BWP composite Ply board & block board Reception-table with avg. 20 mm thk. prefinished Engineered Quartzite based artificial granite/marble top with PU polished TW, firmly jointed with TW fixing cleats/GI fixing angles, hidden TW stiffening sections, SS 304Grd. hardware, powder coated GI drawer slides as approved, fixing implements, accessories etc. complete with all SS 304grade hardware as approved & design grooves, mould profiles, all cutting for junction boxes, switch boxes etc. finished complete and getting mock-up for approved by Architect/Engineer in charge. Item to be inclusive of all accessories, all design detailing of drawers, storage shelves, any operable shutters, niches etc., decorative SS 304Grd. studs/profiles etc. fixing implements, tools and tackle, men material and lift up to 20 mts., all 8 mm thk. polished brass inlay & neatly cutting grooves in veneer as per detailed drawing, skirting level clad with 125 high Artificial engg. Quartzite based Granite/marble on composite Marine Ply/BWP grade ply backer to match flooring finish as per design dwg. finished installed cleaned complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.</p>
104	<p>Portable pedestal storages of avg. size 2500 x 450 x 1800</p>

	<p>Providing & fixing portable pedestal storages of avg. size 2500 x 450 x 1800, made of AT treated BWP grade ply board with select laminate skin on both faces- pedestal box frame of 19 thick ply board with 12 thick backer ply, horizontal shelving of 19 thick ply board & drawer sideboard of 12 thick ply board, on 4 corner castors per unit, all as per Design drawing. Item to be inclusive of sample unit approval from Architect/Engineer-in-charge, all edge lipping of water based PU polished & stained good grade TW, all GI & Al. joining cleats, fixing accessories, phenol formaldehyde based adhesives, SS 304Grade 'Butler' finished hardware of handles, hinges, mortise locks, clip-locks, GI drawer slides, key-hole roses etc. as approved by Architect/Engineer-in-charge; and inclusive of all installation and lift up to 20 mts, all accessories, fitments, tools and tackle, finished, laid complete. Item to be inclusive of all accessories, fixing implements, tools and tackle, men material and lift up to 20 mts., finished installed cleaned complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.</p>
105	<p>Portable pedestal storages of avg. size 2500 x 450 x 1200</p>

	<p>Providing & fixing portable pedestal storages of avg. size 2500 x 450 x 1200, made of AT treated BWP grade ply board with select laminate skin on both faces- pedestal box frame of 19 thick ply board with 12 thick backer ply, horizontal shelving of 19 thick ply board & drawer sideboard of 12 thick ply board, on 4 corner castors per unit, all as per Design drawing. Item to be inclusive of sample unit approval from Architect/Engineer-in-charge, all edge lipping of water based PU polished & stained good grade TW, all GI & Al. joining cleats, fixing accessories, phenol formaldehyde based adhesives, SS 304Grade 'Butler' finished hardware of handles, hinges, mortise locks, clip-locks, GI drawer slides, key-hole roses etc. as approved by Architect/Engineer-in-charge; and inclusive of all installation and lift up to 20 mts, all accessories, fitments, tools and tackle, finished, laid complete. Item to be inclusive of all accessories, fixing implements, tools and tackle, men material and lift up to 20 mts., finished installed cleaned complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.</p>
106	<p>Portable pedestal storages of avg. size 600 x 600 x 725</p>

	<p>Providing & fixing portable pedestal storages of avg. size 600 x 600 x 725, made of AT treated BWP grade ply board with select laminate skin on both faces- pedestal box frame of 19 thick ply board with 12 thick backer ply, horizontal shelving of 19 thick ply board & drawer sideboard of 12 thick ply board, on 4 corner castors per unit, castors of composite Nylon soft type; all as per Design drawing. Item to be inclusive of sample unit approval from Architect/Engineer-in-charge, all edge lipping of water based PU polished & stained good grade TW, all GI & Al. joining cleats, fixing accessories, phenol formaldehyde based adhesives, SS 304Grade 'Butler' finished hardware of handles, hinges, mortise locks, clip-locks, GI drawer slides, key-hole roses etc. as approved by Architect/Engineer-in-charge; and inclusive of all installation and lift up to 20 mts, all accessories, fitments, tools and tackle, finished, laid complete. Item to be inclusive of all accessories, fixing implements, tools and tackle, men material and lift up to 20 mts., finished installed cleaned complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.</p>
107	<p>SS dustbins - 200 mm dia</p> <p>Worktable Dustbins- Providing and placing SS type dustbins, avg. 1.8 mm thick & avg. 200 mm dia. Mouth tapering bucket type of avg. height 325 mm; as per approved shade and pattern, with all turned, well-formed and moulded edges at the bucket rim. Item to include sample approval from Architect/Engineer-in-Charge, item provisioned, laid complete. Item to be inclusive of all accessories, fixing implements, tools and tackle, men material and lift up to 20 mts., finished installed cleaned complete .Item to be completed in all respects as per drawings & instructions from Project-in-charge/Architect.</p>

108	Pantry storage trolleys
	Providing and placing Pantry storage trolleys of 304 Gird. SS wire mesh woven bins as shelves, of avg. size 600 x 600 x 725 (h), on Nylon composite soft castors on all 4 corners. Avg. SS wire to be 2 mm thk., mesh s approved. Item inclusive of all edge trims in 304 grd. SS and all accessories, SS hardware, fixing implements etc. as approved; delivered and placed to lift of 20mts, finished complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.
109	Steel Lockers in ladies Toilet
	Providing and fixing modular oven baked enamel painted GI sheet pre-fabricated lockers with approved pre-installed CP mortise locks, overall dimensions as per detailed design drawing, each locker module 250mm x 250 mm x 450mm. Item inclusive of all accessories, men material & lift up to 20 mts., getting mock-up approved from Architect, protecting installation by avg. 20 micron polythene sheet till handover of facility, etc. cleaned complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.
110	Tea Trolley
	Providing and fixing SS- fabricated Tea trolley of avg. total height 750 mm of approved make and quality, holding SS 316 grd. sterile trays fixed to trolley; all tube/pipe ends capped with PVC type capping as end trims. Item inclusive of all accessories, men material & lift up to 20 mts., of make & type approved from Architect, protecting installation by avg. 20 micron polythene sheet till handover of facility, etc. cleaned complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.

111	Stool
	Providing and fixing polished 316 SS grade circular stool pad of avg. diameter 300 mm with side drop fascia avg. 25 mm wide of avg. 12 gauge over oven baked enamel painted GI tube frame pre-fabricated support leg-frame of avg. size 12" X 12" of approved make and quality, all tube/pipe ends capped with PVC type capping as end trims. Item inclusive of all accessories, men material & lift up to 20 mts., of make & type approved from Architect, protecting installation by avg. 20 micron polythene sheet till handover of facility, etc. cleaned complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.
	SANITARY & C.P. FITTINGS & FIXTURES :
112	European Water closet
	Providing and fixing offwhite/ Ivory/approved colour Constellation type glazed earthenware europium Water closet pan of Approved make including Colour PVC seat and cover of Commander make with integrated dual flush tank of 5/3 litres providing & fixing hidden flat anti corrosive painted MS bracket, cutting, grooving making good the walls, providing and fixing h necessary fittings etc. complete.as approved by Architect/Engineer-in-charge, men material and lift up to 20 mts., installed complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect. Basic Price EWC =14500 per no. The specific EWC will be selected as per the available models in the approved brand with in the basic rate with out fixing & miscellaneous charges.
113	Indian water closet

	<p>Providing fixing white/ Ivory /approved colour Constellation type glazed earthenware Indian Water closet of Approved make with necessary fittings etc. complete.as approved by Architect/Engineer-in-charge, Item to include all fixing accessories, men material and lift up to 20 mts., installed complete. The item to be completed with providing metropolis concealed flush value of Jaugur with top ss cover or approved equivalent with all fixtures complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect. Basic Price IWC =1745 per no. The specific EWC will be selected as per the available models in the approved brand with in the basic rate with out fixing & miscellaneous charges.</p>
114	<p>Wash basin -Oval / round / square</p>
	<p>Providing & fixing first quality white vitreous china oval / round / square wash basin (size as per architectural drawing) for under counter mounting, specially fabricated CI / MS brackets, painted with two or three coats of enamel paint of approved shade over a coat of primer, 32 mm CP brass waste and CP brass cast bottle trap and pipe to wall with CP brass flange and rubber adopter for waste connection complete including filling gap between counter and wash basin with approved type poly sulphide sealant, cutting and making good the walls wherever required. Item to include getting for approved by Architect/Engineer in charge.,Item to include all fixing accessories, men material and lift up to 20 mts., installed complete. .Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect. Basic Price of WB =2975 per no. The specific WB will be selected as per the available models in the approved brand with in the basic rate with out fixing & miscellaneous charges.</p>
115	<p>Urinal with automatic flush valve</p>

	<p>Providing & fixing glazed porcelain large flat back urinal of Approved make of ivory/ Off-white colour ,32 mm C.P Waste coupling of Approved make, 32 mm C P bottle trap of Approved make, Including providing & fixing C.I. Bracket, 32mm G.I. Waste pipe concealed up to C.I. Bend, etc. complete as approved by Architect/Engineer-in-charge. Item to include all fixing accessories, approved IR movement sensor flush valve, men material and lift up to 20 mts., item installed complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect. Basic Price of urinal =5000 per no. The specific urinal will be selected as per the available models in the approved brand with in the basic rate with out fixing & miscellaneous charges.</p>
116	<p>Urinal partition</p>
	<p>Providing, fixing, testing and commissioning of white vitreous china large urinal partition with concealed CI bracket, cutting and making good complete with all accessories etc., complete as approved by Architect/Engineer-in-charge. Item to include all fixing accessories, men material and lift up to 20 mts., installed complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect. Basic Price of urinal partition=2000 per no. The specific urinal partition will be selected as per the available models in the approved brand with in the basic rate with out fixing & miscellaneous charges.</p>
117	<p>Mirrors in Toilet</p>

	<p>Providing and Fixing Mirrors in toilet, homogenous piece 5 mm thick faultless Float glass mirrors of approved source glass. Mounted with approved 316 grd. SS Studs on 12mm thick Marine grade BWR & AT rated ply board backing of Ply or equip., entire assembly mounted over specified Dado to locations as per drawing and approval. Ply board edges to be sealed with min. 4 mm thick TW lipping AT treated and clear matt PU finished; and glass edges to be avg. 2.5 mm bevelled & grinded finished smooth. Exposed SS mounting studs on face of glass to be of brushed steel/Butler finish. Item to include all fixing hardware & accessories as approved, and a single unit mock-up for approval of the Architects. Item to be mounted, cleaned finished complete to correct line, surface level and plumb; and inclusive of all men, material & lift up to 20 mts; finished item suitably protected till handover. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.</p>
118	<p>Stainless steel kitchen sink</p>
	<p>Providing & fixing Stainless steel kitchen sink of approved make, 32 mm bottle trap with 300mm long wall connection pipe of approved make & CP waste coupling over the kitchen platform including providing and fixing G.I. waste pipe of 32mm dia 'C' class Approved make below the sink up to Nahani trap through required fixing arrangement like Jam nut etc. complete as per the direction of the Architect/Engineer incharge. Item to include all fixing accessories, men material and lift up to 20 mts., installed complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect. Basic Price of kitchen sink=9000 per no. The specific sink will be selected as per the available models in the approved brand with in the basic rate with out fixing & miscellaneous charges.</p>
119	<p>C.P.Two Way bibcock</p>

	<p>Providing & fixing 15mm dia C.P.Two Way bibcock of approved make with C.P. Wall flange with 15mm C.P. connector pipe for ablution with health faucet of approved make etc. complete.as approved by Architect/Engineer-in-charge, Item to include all fixing accessories, men material and lift up to 20 mts., installed complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect. Basic Price of bib cock=1535 per no. The specific model will be selected as per the available models in the approved brand with in the basic rate with out fixing & miscellaneous charges.</p>
120	C.P. Sink Mixer
	<p>Providing & fixing 15mm dia C.P. Sink mixer Cock of approved make with C.P. wall flange with 15mm C.P. inlet connections for sinks etc. complete. Item to include all fixing accessories, men material and lift up to 20 mts., installed complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect. Basic Price of sink mixer=4000 per no. The specific model will be selected as per the available models in the approved brand with in the basic rate with out fixing & miscellaneous charges.</p>
121	C.P. angle cock

	<p>Providing & fixing 15mm dia C.P. angle cock of approved make with C.P. wall flange & also 15mm C.P. connector pipes from Angle Stop cock to CP fixture etc. complete as approved by Architect/Engineer-in-charge. Item to include all fixing accessories, men material and lift up to 20 mts., installed complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect. Basic Price of angle cock=600 per no. The specific model will be selected as per the available models in the approved brand with in the basic rate with out fixing & miscellaneous charges.</p>
122	C.P. Stainless grating
	<p>Providing & fixing C.P. Stainless grating (Nirali) for Nahani trap either round or square including frame with fixing on tiles/ marble etc. complete.as approved by Architect/Engineer-in-charge, Item to include all fixing accessories, men material and lift up to 20 mts., installed complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.</p>
123	C.P. towel Rod 24"
	<p>Providing & fixing 15 mm dia C.P. towel Rod 24" for wash hand basin of approved make etc. complete.as approved by Architect/Engineer-in-charge, Item to include all fixing accessories, men material and lift up to 20 mts., installed complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect.</p>
124	C.P. brass Towel ring

	Providing & fixing C.P. brass Towel ring of approved make etc. complete.as approved by Architect/Engineer-in-charge, Item to include all fixing accessories, men material and lift up to 20 mts., installed complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect. Basic Price C.P.Towe ring = 620 per no
125	C.P.Toilet paper holder
	Providing & fixing C.P.Toilet paper holder of approved make continental range as per instructions of engineer in charge etc. complete as approved by Architect/Engineer-in-charge. Item to include all fixing accessories, men material and lift up to 20 mts., installed complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect. Basic Price C.P.Toilet paper holder = 530 per no
126	Hand Drier
	Providing & fixing Hand Drier of approved make as per approved by Architect/Engineer-in-chargecomplete.Item to include all fixing accessories, men material and lift up to 20 mts., installed complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect. Basic Price hand drier = 10000 per no.
127	Coat hook
	Providing & fixing CP metal Coat hook of approved make and approved finish as approved by Architect/Engineer-in-charge complete. Item to include all fixing accessories, men material and lift up to 20 mts., installed complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect. Basic Price Coat hook = 450 per no
128	CPVC pipe-20 mm dia

	<p>Providing and fixing CPVC (Chlorinated Poly Vinyl Chloride) water supply pipes with pipe as per CTS SDR 11 (operating pressure - 7 Bar @ 82 Deg C and 28 Bar @ 23 Deg C) for pipes from 1/2 Inch to 2 Inch. Schedule 40 Pipe to be used from 2-1/2 Inch to 6 Inch. Pipes shall be joined using solvent welded CPVC fittings i.e. Tees, Elbows, Couplers, Unions, Reducers, brushings etc. including transition fittings (connection between CPVC & metal pipe/GI) i.e. Brass Adaptors (both Male & Female threaded) conforming to ASTM D-2846. ASTM F441 with only CPVC solvent cement conforming to ASTM F-493.</p>
	<p>Cost shall be inclusive of (a) Making maximum of 7.5 x 7.5 cm chasing in wall and floors for the pipe, making good the same by using 1:1 cement mortar over the wire mesh and providing protection to embedded pipes and fittings (in wall chase) by wrapping two layers of 400 micron polythene sheet including proper overlaps on joints complete as required or (b) Fixing/supporting the pipes (& fittings) at wall/ceiling level supported by galvanized clamps, hangers etc., as per specification. Exposed pipes to be painted of legends with direction arrow. GI pipe sleeves suitable higher size shall be provided wherever the pipes are crossing the fire rated walls / floors slab and sealing the sleeves with glass wool in between and fire sealant compound at either end all as per Architect/Engineer-in-charge. All termination points for installation of faucets shall have brass termination fittings. Installation shall be to as per Technical Manual of manufacturer of pipes & fittings. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect</p>
129	CPVC pipe-25 mm dia
	Specification same as above but with 25 mm dia pipe
130	CPVC pipe-32 mm dia
	Specification same as above but with 32 mm dia pipe
131	PVC pipe-100 mm dia

	Providing and fixing in position PVC pipe (4 kg/sq.cm. of approved make) with required fittings & material and labour etc. complete including providing & fixing M.S. fabricated double angle bracket of required size with all necessary welding & fixing the same and grouting in wall / R.C.C wall using anchor fasteners of required size with clamping the pipe with 'U' clamp with nut & bolts and washers with giving red oxide paint to bracket etc. complete.
132	PVC pipe-75 mm dia
	Specification same as above but with 75 mm dia pipe.
133	Floor traps
	Providing and fixing CI floor traps with SS 316 grd. Sieved trap covers, Item to include all fixing accessories, men material and lift up to 20 mts., installed complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect
134	50 mm Gate valve

	Providing and fixing Gun metal valves of 50 mm size of approved makes tested up to 300lbs/sq. local 20kg/sq.cm of approved quality, Item to include all fixing accessories, men material and lift up to 20 mts., installed complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect
135	32 mm Gate valve
	Providing and fixing Gun metal valves of 32 mm size of approved makes tested up to 300lbs/sq. local 20kg/sq.cm of approved quality, Item to include all fixing accessories, men material and lift up to 20 mts., installed complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect
136	Soap Dispenser
	Providing & fixing PVC soap Dispenser of Kalvin Klenn or approved equivalent make as per instructions of engineer in charge etc. complete, Item to include all fixing accessories, men material and lift up to 20 mts., installed complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect
137	Grab Bar

	<p>Providing and fixing 304 Grd SS Grab Bar 32 mm dia. and 800 mm long of approved make, as approved by the Architect and Engineer-in-charge. Item to be inclusive of all fixing accessories, men material and lift up to 20 mts.,Item to include all fixing accessories, men material and lift up to 20 mts., installed complete. Item to be completed in all respects as per drawings & instructions from Project- in-charge/Architect</p>
	Demolition/ dismantling Work.
	<p>Note: The work of demolishing, cutting down, dismantling, etc. includes propping wherever required, removing the serviceable material as directed, stacking the same at suitable place or as detailed in individual items and carting away including loading and unloading on either side all unserviceable materials and debris from site to nearest municipal dump. The amount should include cost for carrying out any other unforeseen items required for the proper execution of the work. The contractor will have to put up a proper and sufficient hoarding, screen and fence during the time as may be necessary for the safety and convenience of the inmates of the existing buildings and maintain the same in the good condition during demolition and where necessary cause such hoarding or fence to be well lighted during the night to prevent accidents. Contractor will have to make good without any extra payment any damage done during construction. The tenderer are requested in their own interest to inspect the site to assess the nature and quantum of work. .Item to be completed in all respects as per instructions from Project- in-charge/Architect. The serviceable materials will have to transported to an identified place with in 40 km radius of the site. The contractors quoted rate shall include the above also.</p>
138	Dismantling -light and Electrical fittings, fixtures

	Dismantling the existing installations of light and Electrical fittings, fixtures including wiring & cabling etc. and stacking the same in/ outside building safely& taking away from the building premises to any unobjectionable area by transporting it to within 40 kms radius of the listed site address at Egmore Chennai, within 48 hours of the shift order from Engineer-in-Charge. The item includes transportation, loading & unloading of the material in any unobjectionable place, Item to include getting for approved by Architect/Engineer in charge..Item to be completed in all respects as per instructions from Project- in-charge/Architect
139	Removal of existing false ceiling
	Removal of existing false ceiling with all fixtures, after isolating electrical,HVAC,Firefighting and other utilities services in the ceiling void and carting away all to out of site, making area dust free and clean and stacking the same in/ outside building safely& taking away from the building premises to any unobjectionable area by transporting it within 40 kms radius of the listed site address at Egmore Chennai, within 48 hours of the shift order from Engineer-in-Charge. The item includes transportation, loading & unloading of the material in any unobjectionable place, Item to include getting for approved by Architect/Engineer incharge.The item includes all tackles and tools, required scaffolding etc. with all labour with electrical accessories to tap from nearest power point etc. complete. The item includes necessary labour, scaffolding, all tools and tackles to remove the same as required at site all complete. Item to include getting for approved by Architect/Engineer in charge.,
140	Removal of modular /designed workstations

	<p>Removal of modular /designed workstations with partition wall / wall paneling,existing wooden/PVC/Steel storages all fixtures, isolating electrical and other data / voids services and carting away all to out of site, and stacking the same in/ outside building safely& taking away from the building premises to any unobjectionable area by transporting it to within 40 kms radius of the listed site address at Egmore Chennai, within 48 hours of the shift order from Engineer-in-Charge. The item includes transportation, loading & unloading of the material in any unobjectionable place, Item to include getting for approved by Architect/Engineer incharge.making area dust free and clean. ,The item includes all tackles and tools, required scaffolding etc. with all labour with electrical accessories to tap from nearest power point etc. complete Item to include getting for approved by Architect/Engineer in charge.,</p>
141	Removal of all type of doors and window

	<p>Removal of all type of doors and window including all fixtures, disposal of debris making area dust free and clean. and stacking the same in/ outside building safely& taking away from the building premises to any unobjectionable area by transporting it to within 40 kms radius of the listed site address at Egmore Chennai, within 48 hours of the shift order from Engineer-in-Charge. The item includes transportation, loading & unloading of the material in any unobjectionable place, Item to include getting for approved by Architect/Engineer incharge.making area dust free and clean. ,The item includes all tackles and tools, required scaffolding etc. with all labour with electrical accessories to tap from nearest power point etc. complete Item to include getting for approved by Architect/Engineer in charge.,</p>
142	Removal of movable furniture

	<p>Removal of movable furniture like chairs,sofa,tables,centre tables/ boards etc. and carting away all to out of site stacking the same in/ outside building safely& taking away from the building premises to any unobjectionable area by transporting it to within 40 kms radius of the listed site address at Egmore Chennai, within 48 hours of the shift order from Engineer-in-Charge. The item includes transportation, loading & unloading of the material in any unobjectionable place, Item to include getting for approved by Architect/Engineer incharge.making area dust free and clean. ,The item includes all tackles and tools, required scaffolding etc. with all labour with electrical accessories to tap from nearest power point etc. complete Item to include getting for approved by Architect/Engineer in charge.</p>
143	Removal of AC ducts

	Removal of AC ducts, support structural, insulation, dampers and other allied low side AC system items etc. and carting away the same and stacking the same in/ outside building safely& taking away from the building premises to any unobjectionable area by transporting it to within 40 kms radius of the listed site address at Egmore Chennai, within 48 hours of the shift order from Engineer-in-Charge. The item includes transportation, loading & unloading of the material in any unobjectionable place, Item to include getting for approved by Architect/Engineer incharge.making area dust free and clean. ,The item includes all tackles and tools, required scaffolding etc. with all labour with electrical accessories to tap from nearest power point etc. complete Item to include getting for approved by Architect/Engineer in charge.
144	Removal of tiles
	Preparation of existing floor / toilet walls by way of hacking, removal of tiles if required and cleaning the surfaces to a maximum depth of 25mm. The debris or dismantled product to be taken away from the building premises to any unobjectionable area within/municipal dump yard near to the listed site address at Egmore Chennai & within 24 hours of valid order from Engineer-in-Charge, All including cartage and transportation. Item to include getting for approved by Architect/Engineer in charge.
145	Dismantling of brick work
	Dismantling of brick work by manual/ mechanical means and removal/disposal of debris to the satisfaction of site engineer. The debris or dismantled product to be taken away from the building premises to any unobjectionable area/municipal dump yard near to the listed site address at Egmore Chennai & within 24 hours of valid order from Engineer-in-Charge, All including cartage and transportation. The item includes necessary labour, scaffolding, all tools and tackles to remove the same as required at site all complete. Item to include getting for approved by Architect/Engineer in charge.
146	Dismantling Cement concretes All types

	<p>Dismantling of cement concrete /RCC by manual/ mechanical means and removal/disposal of debris to the satisfaction of site engineer. The debris or dismantled product to be taken away from the building premises to any unobjectionable area/ municipal dump yard near to the listed site address at Egmore Chennai & within 24 hours of valid order from Engineer-in-Charge, All including cartage and transportation. The item includes necessary labour, scaffolding, all tools and tackles to remove the same as required at site all complete. Item to include getting for approved by Architect/Engineer in charge.</p>
147	<p>Dismantling of Plumbing work</p> <p>Dismantling of sanitary ware, GI/CI/PVC lines after removal of toilets and carting away all to out of site and stacking in area earmarked for the same . stacking the same taking away from the building premises to any unobjectionable area temporarily and then transporting it to within 40 kms radius of the listed site address at Egmore Chennai, within 48 hours of the shift order from Engineer-in-Charge. The item includes transportation, loading & unloading of the material in any unobjectionable place, Item to include getting for approved by Architect/Engineer incharge.making area dust free and clean. ,The item includes all tackles and tools, required scaffolding etc. with all labour with electrical accessories to tap from nearest power point etc. complete Item to include getting for approved by Architect/Engineer in charge.</p>
148	<p>Work Stations Type 1 - 2400 X 2400 x 740 mm ht of 1200 high avg. 80 thick partition, Prelam Finish Table Top & Prelam Gable End, Pedestal Storage(3 Drawer) Keyboard Tray and CPU Trolley</p>

	<p>Manufacturing, providing and fixing Modular Furniture as Workstation as per Design Drawings of approved manufacturer as combination of 1200 high guard partition on outer side and Laminated premium particle board work-top with approved PVC edge banding. Partition to be Tile-type with pre-fabricated powder coated Al./Alloy sheet lower tiles and avg. 12mm thk. laminated particle board upper tiles. Partition to enclose a skeletal support system in extruded powder coated aluminium channels/profiles enclosing cable raceways etc. as approved, which is also the receiving support for anti-corrosive GI Brackets holding the work-top. Partition to be double skin type with Inner-side Upper tiles to be FR rated Fabric wrapped avg. 8 thk. soft board over avg. 15 thk. MDF backer & lower tiles similar metal tiles as the outside; all with Al. powder coated trim capping as coping piece & vertical edge trim. Item to be complete with all approved GI powder coated keyboard trays on approved Metal-alloy telescopic drawer slides, GI powder coated CPU Trolleys, laminated particle board & MDF floor placed pedestal storage units on wheel castors, 1 single white board tile as approved, cable manager grommet holes with PVC framing ring and covers, housing provision for Power board for elec. plug-ins, voice & data ports. Item inclusive of mock-up for 1 unit & getting approval to same. Item inclusive of all laying, alignment, final fixing, snagging & cleaning complete. Finishes of tiles, trims, all laminates subject to Approval & as per Design drawing records. Item to be completed in all respects as per instructions from Project- in-charge/Architect</p>
149	<p>Work Stations Type 2 - 1800 X 1800 x 740 ht of 1200 high avg. 80 thick partition, Prelam Finish Table Top & Prelam Gable End, Pedestal Storage(3 Drawer) Keyboard Tray and CPU Trolley</p>

	<p>Manufacturing, providing and fixing Modular Furniture as Workstation as per Design Drawings as combination of 1200 high guard partition on outer side and Laminated premium particle board work-top with approved PVC edge banding. Partition to be Tile-type with pre-fabricated powder coated Al./Alloy sheet lower tiles and avg. 12mm thk. laminated particle board upper tiles. Partition to enclose a skeletal support system in extruded powder coated aluminium channels/profiles enclosing cable raceways etc. as approved, which is also the receiving support for anti-corrosive GI Brackets holding the work-top. Partition to be double skin type with Inner-side Upper tiles to be FR rated Fabric wrapped avg. 8 thk. soft board over avg. 15 thk. MDF backer & lower tiles similar metal tiles as the outside; all with Al. powder coated trim capping as coping piece & vertical edge trim. Item to be complete with all approved GI powder coated keyboard trays on approved Metal-alloy telescopic drawer slides, GI powder coated CPU Trolleys, laminated particle board & MDF floor placed pedestal storage units on wheel castors, 1 single white board tile as approved, cable manager grommet holes with PVC framing ring and covers, housing provision for Power board for elec. plug-ins, voice & data ports. Item inclusive of mock-up for 1 unit & getting approval to same. Item inclusive of all laying, alignment, final fixing, snagging & cleaning complete. Finishes of tiles, trims, all laminates subject to Approval & as per Design drawing records. Item to be completed in all respects as per instructions from Project- in-charge/Architect</p>
150	<p>Work Stations Type 3 - 2100 X 1500 x 740 ht. of 1200 high avg. 80 thick partition, Prelam Finish Table Top & Prelam Gable End, Pedestal Storage(3 Drawer) Keyboard Tray and CPU Trolley</p>

	<p>Manufacturing, providing and fixing Modular Furniture as Workstation as per Design Drawings as combination of 1200 high guard partition on outer side and Laminated premium particle board work-top with approved PVC edge banding. Partition to be Tile-type with pre-fabricated powder coated Al./Alloy sheet lower tiles and avg. 12mm thk. laminated particle board upper tiles. Partition to enclose a skeletal support system in extruded powder coated aluminium channels/profiles enclosing cable raceways etc. as approved, which is also the receiving support for anti-corrosive GI Brackets holding the work-top. Partition to be double skin type with Inner-side Upper tiles to be FR rated Fabric wrapped avg. 8 thk. soft board over avg. 15 thk. MDF backer & lower tiles similar metal tiles as the outside; all with Al. powder coated trim capping as coping piece & vertical edge trim. Item to be complete with all approved GI powder coated keyboard trays on approved Metal-alloy telescopic drawer slides, GI powder coated CPU Trolleys, laminated particle board & MDF floor placed pedestal storage units on wheel castors, 1 single white board tile as approved, cable manager grommet holes with PVC framing ring and covers, housing provision for Power board for elec. plug-ins, voice & data ports. Item inclusive of mock-up for 1 unit & getting approval to same. Item inclusive of all laying, alignment, final fixing, snagging & cleaning complete. Finishes of tiles, trims, all laminates subject to Approval & as per Design drawing records. Item to be completed in all respects as per instructions from Project- in-charge/Architect</p>
151	<p>Work Stations Type 4 -1500 X 1500 x 740 mm ht. of 1200 high avg. 80 thick partition, Prelam Finish Table Top & Prelam Gable End, Pedestal Storage(3 Drawer) Keyboard Tray and CPU Trolley</p>

	<p>Manufacturing, providing and fixing Modular Furniture as Workstation as per Design Drawings as combination of 1200 high guard partition on outer side and Laminated premium particle board work-top with approved PVC edge banding. Partition to be Tile-type with pre-fabricated powder coated Al./Alloy sheet lower tiles and avg. 12mm thk. laminated particle board upper tiles. Partition to enclose a skeletal support system in extruded powder coated aluminium channels/profiles enclosing cable raceways etc. as approved, which is also the receiving support for anti-corrosive GI Brackets holding the work-top. Partition to be double skin type with Inner-side Upper tiles to be FR rated Fabric wrapped avg. 8 thk. soft board over avg. 15 thk. MDF backer & lower tiles similar metal tiles as the outside; all with Al. powder coated trim capping as coping piece & vertical edge trim. Item to be complete with all approved GI powder coated keyboard trays on approved Metal-alloy telescopic drawer slides, GI powder coated CPU Trolleys, laminated particle board & MDF floor placed pedestal storage units on wheel castors, 1 single white board tile as approved, cable manager grommet holes with PVC framing ring and covers, housing provision for Power board for elec. plug-ins, voice & data ports. Item inclusive of mock-up for 1 unit & getting approval to same. Item inclusive of all laying, alignment, final fixing, snagging & cleaning complete. Finishes of tiles, trims, all laminates subject to Approval & as per Design drawing records. Item to be completed in all respects as per instructions from Project- in-charge/Architect</p>
152	<p>Work Stations Type 5 - 1800 X 1500 x 740 ht. of 1200 high avg. 80 thick partition, Prelam Finish Table Top & Prelam Gable End, Pedestal Storage(3 Drawer) Keyboard Tray and CPU Trolley</p>

	<p>Manufacturing, providing and fixing Modular Furniture as Workstation as per Design Drawings as combination of 1200 high guard partition on outer side and Laminated premium particle board work-top with approved PVC edge banding. Partition to be Tile-type with pre-fabricated powder coated Al./Alloy sheet lower tiles and avg. 12mm thk. laminated particle board upper tiles. Partition to enclose a skeletal support system in extruded powder coated aluminium channels/profiles enclosing cable raceways etc. as approved, which is also the receiving support for anti-corrosive GI Brackets holding the work-top. Partition to be double skin type with Inner-side Upper tiles to be FR rated Fabric wrapped avg. 8 thk. soft board over avg. 15 thk. MDF backer & lower tiles similar metal tiles as the outside; all with Al. powder coated trim capping as coping piece & vertical edge trim. Item to be complete with all approved GI powder coated keyboard trays on approved Metal-alloy telescopic drawer slides, GI powder coated CPU Trolleys, laminated particle board & MDF floor placed pedestal storage units on wheel castors, 1 single white board tile as approved, cable manager grommet holes with PVC framing ring and covers, housing provision for Power board for elec. plug-ins, voice & data ports. Item inclusive of mock-up for 1 unit & getting approval to same. Item inclusive of all laying, alignment, final fixing, snagging & cleaning complete. Finishes of tiles, trims, all laminates subject to Approval & as per Design drawing records. Item to be completed in all respects as per instructions from Project- in-charge/Architect</p>
153	<p>Work Stations Type 6 - 2100 X 1500 x 740 ht. of 1200 high avg. 80 thick partition, Prelam Finish Table Top & Prelam Gable End, Pedestal Storage(3 Drawer) Keyboard Tray and CPU Trolley</p>

	<p>Manufacturing, providing and fixing Modular Furniture as Workstation as per Design Drawings as combination of 1200 high guard partition on outer side and Laminated premium particle board work-top with approved PVC edge banding. Partition to be Tile-type with pre-fabricated powder coated Al./Alloy sheet lower tiles and avg. 12mm thk. laminated particle board upper tiles. Partition to enclose a skeletal support system in extruded powder coated aluminium channels/profiles enclosing cable raceways etc. as approved, which is also the receiving support for anti-corrosive GI Brackets holding the work-top. Partition to be double skin type with Inner-side Upper tiles to be FR rated Fabric wrapped avg. 8 thk. soft board over avg. 15 thk. MDF backer & lower tiles similar metal tiles as the outside; all with Al. powder coated trim capping as coping piece & vertical edge trim. Item to be complete with all approved GI powder coated keyboard trays on approved Metal-alloy telescopic drawer slides, GI powder coated CPU Trolleys, laminated particle board & MDF floor placed pedestal storage units on wheel castors, 1 single white board tile as approved, cable manager grommet holes with PVC framing ring and covers, housing provision for Power board for elec. plug-ins, voice & data ports. Item inclusive of mock-up for 1 unit & getting approval to same. Item inclusive of all laying, alignment, final fixing, snagging & cleaning complete. Finishes of tiles, trims, all laminates subject to Approval & as per Design drawing records. Item to be completed in all respects as per instructions from Project- in-charge/Architect</p>
154	<p>Work Stations Type 7 - 1500 X 600 x 740 ht. of 1200 high avg. 80 thick partition, Prelam Finish Table Top & Prelam Gable End, Pedestal Storage(3 Drawer) Keyboard Tray and CPU Trolley</p>

	<p>Manufacturing, providing and fixing Modular Furniture as Workstation as per Design Drawings as combination of 1200 high guard partition on outer side and Laminated premium particle board work-top with approved PVC edge banding. Partition to be Tile-type with pre-fabricated powder coated Al./Alloy sheet lower tiles and avg. 12mm thk. laminated particle board upper tiles. Partition to enclose a skeletal support system in extruded powder coated aluminium channels/profiles enclosing cable raceways etc. as approved, which is also the receiving support for anti-corrosive GI Brackets holding the work-top. Partition to be double skin type with Inner-side Upper tiles to be FR rated Fabric wrapped avg. 8 thk. soft board over avg. 15 thk. MDF backer & lower tiles similar metal tiles as the outside; all with Al. powder coated trim capping as coping piece & vertical edge trim. Item to be complete with all approved GI powder coated keyboard trays on approved Metal-alloy telescopic drawer slides, GI powder coated CPU Trolleys, laminated particle board & MDF floor placed pedestal storage units on wheel castors, 1 single white board tile as approved, cable manager grommet holes with PVC framing ring and covers, housing provision for Power board for elec. plug-ins, voice & data ports. Item inclusive of mock-up for 1 unit & getting approval to same. Item inclusive of all laying, alignment, final fixing, snagging & cleaning complete. Finishes of tiles, trims, all laminates subject to Approval & as per Design drawing records. Item to be completed in all respects as per instructions from Project- in-charge/Architect</p>
155	<p>Work Stations Type 8 - 2400 X 1800 x 740 ht. of 1200 high avg. 80 thick partition, Prelam Finish Table Top & Prelam Gable End, Pedestal Storage(3 Drawer) Keyboard Tray and CPU Trolley</p>

	<p>Manufacturing, providing and fixing Modular Furniture as Workstation as per Design Drawings as combination of 1200 high guard partition on outer side and Laminated premium particle board work-top with approved PVC edge banding. Partition to be Tile-type with pre-fabricated powder coated Al./Alloy sheet lower tiles and avg. 12mm thk. laminated particle board upper tiles. Partition to enclose a skeletal support system in extruded powder coated aluminium channels/profiles enclosing cable raceways etc. as approved, which is also the receiving support for anti-corrosive GI Brackets holding the work-top. Partition to be double skin type with Inner-side Upper tiles to be FR rated Fabric wrapped avg. 8 thk. soft board over avg. 15 thk. MDF backer & lower tiles similar metal tiles as the outside; all with Al. powder coated trim capping as coping piece & vertical edge trim. Item to be complete with all approved GI powder coated keyboard trays on approved Metal-alloy telescopic drawer slides, GI powder coated CPU Trolleys, laminated particle board & MDF floor placed pedestal storage units on wheel castors, 1 single white board tile as approved, cable manager grommet holes with PVC framing ring and covers, housing provision for Power board for elec. plug-ins, voice & data ports. Item inclusive of mock-up for 1 unit & getting approval to same. Item inclusive of all laying, alignment, final fixing, snagging & cleaning complete. Finishes of tiles, trims, all laminates subject to Approval & as per Design drawing records. Item to be completed in all respects as per instructions from Project- in-charge/Architect</p>
156	<p>Small Meeting room round table 1200 Dia., top at 750 mm height</p>
	<p>Providing and fixing Laminated MDF top small meeting room table 1200 mm dia & 750 mm ht & PVC edge banded Meeting tables with min. 306 grd. SS pipe/sections under structure; factory fabricated finished complete as per approved laminate and finishing. Item to be completed in all respects as per instructions from Project- in-charge/Architect</p>

157	10 Seater Discussion Table - Shape as per design drawing of table-top height 750 mm
	Providing and fixing ready factory-finished discussion table- top to be 25 thk. MDF with edge moulding on PVC membrane type lamination to select shade; under structure of prelaminated particle board & PVC edge banded panels jointed in stable support formation with height adjustable levellers at foot as approved. Item to include Wire management conduits and wire manager table-top boxes/cubits with lift able top cove of membrane laminated 12 thk. MDF.Item to be completed in all respects as per instructions from Project- in-charge/Architect
158	14 Seater Discussion Table - Shape as per design drawing of table-top height 750 mm
	Providing and fixing ready factory-finished discussion table- top to be 25 thk. MDF with edge moulding on PVC membrane type lamination to select shade; under structure of prelaminated particle board & PVC edge banded panels jointed in stable support formation with height adjustable levellers at foot as approved. Item to include Wire management conduits and wire manager table-top boxes/cubits with lift able top cove of membrane laminated 12 thk. MDF.Item to be completed in all respects as per instructions from Project- in-charge/Architect
159	Wall Mounted Storages -
	Providing and fixing ready factory-finished storages integrated structure of prelaminated particle board 19 mm thk & PVC edge banded panels jointed in stable support formation with side-hung min. 306 grd. SS hinged shutters of the same material & GI cleated PVC edge-banded prelaminated MDF shelves, finished complete.
	Storages - Prelam size - 900 x 600 X 900 ht

160	Floor Mounted Storages -
	Providing and fixing ready factory-finished storages integrated structure of prelaminated particle board & PVC edge banded panels jointed in stable support formation with side-hung min. 306 grd. SS hinged shutters of the same material & GI cleated PVC edge-banded prelaminated MDF shelves, finished complete.
	Storages - Prelam size - 900 x 750 X 1200 ht
161	Reception Signage -3D Duco Painted Reception Logo
	Providing 3D Duco Painted Reception Logo as per drgs instructions of the EIC/Architect
162	Directory (400x750)
	<p>Providing & fixing Aluminium Modular Signage using Aluminium Alloy 6063 extrusion with Anodising (The thickness of the anodization is typically 30 microns. The integrity of the anodize coating is tested to meet the international specifications ISO 2143-1981.) With lifetime Warranty in normal working condition.</p> <p>Clear Cover : Clear UV protected 1mm thick Poly carbonate Sheet with Non Glare/Glossy Finish.</p> <p>Aluminium End Cap : High Quality Aluminium 5052 Grade with 30 Microns Anodised coating End Caps with Screws which can be fastened into the extrusion.</p> <p>Graphics : Photo paper Insert</p>
163	Pylon (600x1200)

	<p>Providing & fixing Aluminium Modular Signage using Aluminium Alloy 6063 extrusion with Anodising (The thickness of the anodization is typically 30 microns. The integrity of the anodize coating is tested to meet the international specifications ISO 2143-1981.) With lifetime Warranty in normal working condition.</p> <p>Clear Cover : Clear UV protected 1mm thick Poly carbonate Sheet with Non Glare/Glossy Finish.</p> <p>Aluminium End Cap : High Quality Aluminium 5052 Grade with 30 Microns Anodised coating End Caps with Screws which can be fastened into the extrusion.</p> <p>Graphics : Photo paper Insert</p>
164	Room Signages/ Manager Cabins/ Utility Rooms(150x300)
	<p>Providing & fixing Aluminium Modular Signage using Aluminium Alloy 6063 extrusion with Anodising (The thickness of the anodization is typically 30 microns. The integrity of the anodize coating is tested to meet the international specifications ISO 2143-1981.) With lifetime Warranty in normal working condition.</p> <p>Clear Cover : Clear UV protected 1mm thick Poly carbonate Sheet with Non Glare/Glossy Finish.</p> <p>Plastic End Cap : High Quality ABS End Caps with Screws which can be fastened into the extrusion.</p> <p>Graphics : Photo paper Insert</p>
165	Workstation Sign (60x250)

	<p>Providing & fixing Aluminium Modular Signage using Aluminium Alloy 6063 extrusion with Anodising (The thickness of the anodization is typically 30 microns. The integrity of the anodize coating is tested to meet the international specifications ISO 2143-1981.) With lifetime Warranty in normal working condition.</p> <p>Clear Cover : Clear UV protected 1mm thick Poly carbonate Sheet with Non Glare/Glossy Finish.</p> <p>Plastic End Cap : High Quality ABS End Caps with Screws which can be fastened into the extrusion.</p> <p>Graphics : Photo paper Insert</p>
166	<p>Way Finding Sign/Department Identification (150x600)</p>
	<p>Providing & fixing Aluminium Modular Signage using Aluminium Alloy 6063 extrusion with Anodising (The thickness of the anodization is typically 30 microns. The integrity of the anodize coating is tested to meet the international specifications ISO 2143-1981.) With lifetime Warranty in normal working condition.</p> <p>Clear Cover : Clear UV protected 1mm thick Poly carbonate Sheet with Non Glare/Glossy Finish.</p> <p>Plastic End Cap : High Quality ABS End Caps with Screws which can be fastened into the extrusion.</p> <p>Graphics : Photo paper Insert</p>
167	<p>Fire Escape –Signage</p>
	<p>Providing & fixing Aluminium Modular Signage using LED LIT WITH BATTERY BACKUP (150x450) made of Aluminium Alloy 6063 extrusion with Anodising (The thickness of the anodization is typically 30 microns. The integrity of the anodize coating is tested to meet the international specifications ISO 2143-1981.) With lifetime Warranty in normal working condition.</p> <p>Clear Cover : Clear UV protected 1mm thick Poly carbonate Sheet with Non Glare/Glossy Finish.</p> <p>Plastic End Cap : High Quality ABS End Caps with Screws which can be fastened into the extrusion.</p> <p>Graphics : Photo paper Insert</p>
168	<p>Fire Evacuation Map (400x300)</p>

	<p>Providing 7 fixing Aluminium Modular Signage , fire evacuation map using Aluminium Alloy 6063 extrusion with Anodising (The thickness of the anodization is typically 30 microns. The integrity of the anodize coating is tested to meet the international specifications ISO 2143-1981.) With lifetime Warranty in normal working condition.</p> <p>Clear Cover : Clear UV protected 1mm thick Poly carbonate Sheet with Non Glare/Glossy Finish.</p> <p>Plastic End Cap : High Quality ABS End Caps with Screws which can be fastened into the extrusion.</p> <p>Graphics : Night Glow Vinyl with clear film Printing</p>
169	Fire Exit (150x300)
	<p>Providing Aluminium Modular fire exit Signage using Aluminium Alloy 6063 extrusion with Anodising (The thickness of the anodization is typically 30 microns. The integrity of the anodize coating is tested to meet the international specifications ISO 2143-1981.) With lifetime Warranty in normal working condition.</p> <p>Clear Cover : Clear UV protected 1mm thick Poly carbonate Sheet with Non Glare/Glossy Finish.</p> <p>Plastic End Cap : High Quality ABS End Caps with Screws which can be fastened into the extrusion.</p> <p>Graphics : Vinyl with clear film Printing With LED and Battery Back up</p>
170	Fire Extinguisher (150x300)
	<p>Providing & fixing fire extinguisher signage using 3mm Acrylic Being bent to form as a triangle and fixed on to the wall. Auto Glow Vinyl to be used to glow in dark</p>
	ELECTRICAL WORK

	Notes:a) Rates quoted should be inclusive of Supply, Installation, Testing and Commissioning of items Specified in a Bill of Quantity.b) Running meter charges will be paid at actual measurements.
171	One point controlled by one No. 6Amp switch
	POINT WIRING AND CONDUITING WORK: Supplying, Installation, Testing and Commissioning of point wiring for light/ exhaust fan points with 2 x 1.5 sq.mm. 1100V grade PVC insulated colour coded stranded copper conductor FRLS wires made to IS:694 and continuous 1.5 sq.mm. copper conductor green coloured PVC insulated earth wire to run inside 16 gauge MS conduit of suitable size, from switch Board to point via controlling SP modular switch, including MS conduits & accessories like couplers, Elbows, junction boxes etc. above false ceiling and in concealed manner on wall/partition using 5A modular type switch mounted on concealed metal box including required numbers of BLANK SWITCH for closing the extra module as below:
172	Two points controlled by one No. 6 Amp switch
	Specification same as above but Two points controlled by one No. 6 Amp switch
173	Three points controlled by one No. 6Amp switch
	Specification same as above but Three points controlled by one No. 6 Amp switch
174	Four points controlled by one No. 6Amp switch
	Specification same as above but four points controlled by one No. 6 Amp switch

175	Exhaust Fan point controlled by one No. 6 Amp switch & 6A 5pin socket
	Specification same as above but Exhaust Fan point controlled by one No. 6 Amp switch & 6A 5pin socket near exhaust. fan
176	ON and OFF illuminated type push button
	Supply & installation of ON and OFF illuminated type push button in M S enclosure concealed in the wall / partitions with necessary accessories like screws, clamps. Etc., for lighting control near the reception area.
177	One no. circuit of 2 x 2.5 + 1x1.5 sq.mm wire in 20mm dia MS conduits.
	Supply & Laying of PVC insulated Copper wire drawn in 16SWG THICK MS conduits from distribution board to lighting switch boards/power sockets including conduits & all required accessories.
178	Two no. circuit of 2 x 2.5 + 1x1.5 sq.mm wire in 25mm dia MS conduits.
	Specification same as above but with Two no. circuit of 2 x 2.5 + 1x1.5 sq.mm wire in 25mm dia conduits.
179	1 x 6Amp switch in manufacturer's M S enclosure
	Supplying, erecting, connecting and commissioning 1 x 6Amp switch in manufacturer's M S enclosure fixed flush with the wall / partitions with necessary accessories.
180	2 x 6Amp switch in manufacturer's M S enclosure
	Supplying, erecting, connecting and commissioning 2 x 6Amp switch in manufacturer's M S enclosure fixed flush with the wall / partitions with necessary accessories.

181	2Runs of 2.5 sqmm.+1.5 sqmm PVC insulated Copper wire
	Supply & Laying of 2Runs of 2.5 and 1Run of 1.5Sq.mm. PVC insulated Copper wire drawn in 16SWG THICK MS conduits from emergency lighting distribution board to emergency lighting fittings/switch boards including conduits & all required accessories.
182	3core 2.5 sq.mm copper unarmoured cable
	Supply & Installation, testing & commissioning of wiring from M S manufacturer's box/ Switch socket outlets to distribution board with 3core 2.5 sq.mm copper unarmoured cable drawn in ALREADY LAID under floor raceways / conduits provided in wall / partitions / ceiling, etc.,
183	3core 4 sq.mm copper unarmoured cable
	Supply & Installation, testing & commissioning of wiring from M S manufacturer's box/ Switch socket outlets to distribution board with 3core 4 sq.mm copper unarmoured cable drawn in ALREADY LAID under floor raceways / conduits provided in wall / partitions / ceiling, etc.,
184	3 Runs of 2.5Sq. mm PVC Insulated multi stranded copper conductor

	Supplying, laying, connecting and commissioning 3Runs of 2.5Sq. mm PVC Insulated multi stranded copper conductor wires enclosed in 16SWG thick M S conduits in ceiling /wall / partitions or laid in open fashion above false ceiling with necessary clamps, screws etc., from DB to Power points.
185	2 run of 4 sqmm + 1Run of 2.5Sq.mm.PVC Insulated multi stranded copper conductor
	Supplying, laying, connecting and commissioning 2Runs of 4Sq. mm and 1Run of 2.5Sq.mm.PVC Insulated multi stranded copper conductor wires enclosed in 16SWG thick M S conduits in ceiling /wall / partitions or laid in open fashion above false ceiling with necessary clamps, screws etc., from DB to Power points.
186	2Runs of 6Sq. mm and 1Run of 2.5Sq.mm.PVC Insulated multi stranded copper conductor
	Supplying, laying, connecting and commissioning 2Runs of 6Sq. mm and 1Run of 2.5Sq.mm.PVC Insulated multi stranded copper conductor wires enclosed in 16SWG thick M S conduits in ceiling /wall / partitions or laid in open fashion above false ceiling with necessary clamps, screws etc., from DB to Power points.
187	6Amps 5pin single switch socket universal type

	Supply and Installation of 6Amps 5pin single switch socket universal type along with plate outlet with manufactures' MS box recessed on partition/wall/Above false ceiling areas.
188	6/16 Amps 5pin switch socket universal type
	Supply & Installation of 6/16 Amps 5pin switch socket universal type outlet along with plate with manufactures' MS box recessed on partition/wall/above false ceiling.
189	16 AMPS Switch
	Supplying, and fixing 16 AMPS Switch in Manufacturer's MS mounting box fixed flush with the wall/ partitions with necessary accessories .
190	16 AMPS 5pin Socket of universal type
	Supplying, and fixing 16 AMPS 5pin Socket of universal type in Manufacturer's MS mounting box fixed flush with the wall/ partitions with necessary accessories
191	Work station switch socket
	Supply & Installation of group of plug points for computer with modular type, 5pin 6Amps universal Socket x 3 Nos. to be installed on provided with manufacture's MS mounting box 1no. 16Amp switch.
192	125 Amps TPN 25kA (Ics) MCCB

	Supplying, erecting, connecting and commissioning 125 Amps TPN 25kA (Ics) MCCB in M S BOX with enclosure adaptor boxes, interconnections, etc., the box shall have an extended adaptor box to terminate 1Run of 3.5Core 70 Sq.mm. AYFY cables with out any problem.
193	100 Amps TPN 25kA (Ics) MCCB
	Supplying, erecting, connecting and commissioning 100 Amps TPN 25kA (Ics) MCCB in M S BOX with enclosure adaptor boxes, interconnections, etc., the box shall have an extended adaptor box to terminate 1Run of 3.5Core 70 Sq.mm. AYFY cables with out any problem.
194	63Amps TPN 25kA (Ics) MCCB
	Supplying, erecting, connecting and commissioning 63Amps TPN 25kA (Ics) MCCB in M S BOX with weather proof enclosure adaptor boxes, interconnections, etc., with locking arrangements , the box shall have an extended adaptor box to terminate 1Run of 4Core 16 Sq.mm. AYFY cables with out any problem.
195	63Amps DP (Ics) MCB

	Supplying, erecting, connecting and commissioning 63Amps DP (Ics) MCB in M S BOX with enclosure adaptor boxes, interconnections, etc., the box shall have an extended adaptor box to terminate 5Runs of 10 Sq.mm. copper wires & 2Runs of 6 sq.mm. copper wires with out any problem.
196	32Amps TPN (Ics) MCB
	Supplying, erecting, connecting and commissioning 32Amps TPN (Ics) MCB in M S BOX with weather proof enclosure adaptor boxes, interconnections, etc., with locking arrangements , the box shall have an extended adaptor box to terminate 1Run of 4Core 10 Sq.mm. AYWY cables with out any problem.
197	32Amps DP (Ics) MCB
	Supplying, erecting, connecting and commissioning 32Amps DP (Ics) MCB in M S BOX with enclosure with necessary knock out holes ,cable / adapter box,screws,clamps & interconnections recessed on partition / wall etc.,
198	20 DP MCB
	Supply & Installation of 20 DP MCB in weather proof enclosure with necessary knock out holes ,cable / adapter box,screws,clamps & interconnections recessed on partition / wall.
199	16 DP MCB

	Supply & Installation of 16 DP MCB in MS Box with enclosure with necessary knock out holes ,cable / adapter box,screws,clamps & interconnections recessed on partition / wall.
200	20Amp SPN Metal clad socket outlet with plug top & 20A DP MCB .
	Supply & Installation of 20Amp SPN Metal clad socket outlet with plug top & 20A DP MCB in manufactures MS enclosure with necessary adapter box & interconnections recessed on partition / wall.
201	16Amp DP modular type switch
	Supply & Installation of 16Amp DP modular type switch in manufactures MS enclosure with necessary adapter box & interconnections recessed on partition / wall.
202	20Amp DP modular type switch
	Supply & Installation of 20Amp DP modular type switch in manufactures MS enclosure with necessary adapter box & interconnections recessed on partition / wall.
203	Spike Yard with 2.5Mtr cable extension
	Supply & Installation of Spike Yard with 2.5Mtr cable extension with necessary accessories.. 6Nos. 6Amps 5pin Socket with 1 x 16Amps switch.
	LIGHT FIXTURES

	Note: The rate of the each items shall be inclusive of supply, fixing, testing & commissioning of the item including the supply of lamps & any other accessories. The item shall be completed as per draws and instructions of EIC/Architect.
204	2x18 Watts CFL Recess mounted direct down light luminaire
	Supply, Installation and commissioning of 2x18 Watts CFL Recess mounted direct down light square luminaire with louvers WIPRO Cat # GCP 15218SGW / PHILIPS Cat # FBS033 2X18W / approved equivalent with 1No. electronic ballast & other accessories including lamps and supports for fixing the light fittings.
205	2x18 Watts CFL Recess mounted direct down light luminaire dimmable electronic ballast electronic ballast
	Supply, Installation and commissioning of 2x18 Watts CFL Recess mounted direct down light square luminaire with louvers WIPRO Cat # GCP 15218SGW / PHILIPS Cat # FBS033 2X18W / approved equivalent with 1No. dimmable electronic ballast & other accessories including lamps and supports for fixing the light fittings.
206	1x18 Watt CFL recess mounted low depth down lighter
	Supply, Installation and commissioning of 1x18 Watt CFL recess mounted low depth down lighter with frosted diffuser WIPRO Cat # WCP 27118SGW / PHILIPS Cat # FBH145 1x18W / approved equivalent with electronic ballast & other accessories including lamps and supports for fixing the light fittings.

207	1x18 Watt CFL recess mounted low depth down lighter dimmable electronic ballast
	Supply, Installation and commissioning of 1x18 Watt CFL recess mounted low depth down lighter with frosted diffuser WIPRO Cat # WCP 27118SGW / PHILIPS Cat # FBH145 1x18W / approved equivalent with 1No. dimmable electronic ballast & other accessories including lamps and supports for fixing the light fittings.
208	4x14 Watt T5 Recess mounted direct-indirect down light luminaire.
	Supply, Installation and commissioning of 4x14 Watt T5 Recess mounted direct-indirect down light luminaire with paralite P5 louvers WIPRO Cat # WCF 64414SGW / PHILIPS Cat # TBS440 4X14w / approved equivalent with 2Nos. electronic ballast & other accessories including lamps and supports for fixing the light fittings.
209	4x14 Watt T5 Recess mounted direct-indirect down light luminaire dimmable electronic ballast
	Supply, Installation and commissioning of 4x14 Watt T5 Recess mounted direct-indirect down light luminaire with paralite P5 louvers WIPRO Cat # WCF 64414SGW / PHILIPS Cat # TBS440 4X14w / approved equivalent with 2Nos. dimmable electronic ballast & other accessories including lamps and supports for fixing the light fittings.

210	1x13 Watt LED Recess mounted LED swivel down lighters
	Supply, Installation and commissioning of 1x13/15 Watt LED Recess mounted LED swivel down lighters, recessed frame made of extruded white powder coated aluminium with gimballed luminaire housing made of black powder coated CRCA, and individually adjustable luminaire heads made of pressure die-cast powder coated aluminium with special reflector made of anodized matt super high purity aluminium, high wattage, high efficiency 13W led chips. WIPRO Cat # LD60-013-XXX-WH-XX /BBS170(or) approved equivalent with other accessories including lamps and supports for fixing the light fittings.
211	1 x36 Watts Box Type Fluorescent Light Fitting
	Supplying, erecting, connecting and commissioning of 1 x36 Watts Box Type Fluorescent Light Fitting with 1No. Electronic Ballast of WIPRO Cat # WRF 80136 SG / PHILIPS Cat # TMS520 1X36W / approved Equivalent with necessary lamp holders, interconnections and other standard accessories including lamps also.
212	1x28 Watt T5 Coral-indoor decorative luminaire suitable for T5 lamp.

	Supply & Installation of 1x28 Watt T5 Coral-indoor decorative luminaire suitable for T5 lamp. Proposed for cove lighting WIPRO Cat # WRF 80128EBQ / PHILIPS Cat # TMS540 1X28W / approved equivalent with other accessories including lamps and supports for fixing the light fittings.
213	Exhaust fans
	Providing and fixing of heavy duty Exhaust fans of window mounted type with bird screen & louvered shutters – 12 inch dia of approved make and colour.
214	4.8 Watt / m LED IP 20 Non Integral Flexible Strip Light
	Supply & Installation of 4.8 Watt / m LED IP 20 Non Integral Flexible Strip Light for cove lighting. Each fitting is a 5m reel WIPRO Cat # LS06-005-120-WH-50 WITH LG40-024 (or) approved equivalent. The cost inclusive of driver and interconnections, etc.,
215	12V,50W Eyeball Halogen light fitting
	Supplying, fixing, connecting and commissioning 12V,50W Eyeball Halogen light fitting of WIPRO Cat # WCQ 21150/WBX 1350 /approved equivalent with other accessories including lamps and supports for fixing the light fittings.
216	Chandelier fitting
	Supplying, fixing, connecting and commissioning Chandelier fitting with necessary brackets, interconnections, lamps, etc., The fitting will be selected by HPCL from reputed sources in Chennai. Basic Price of fitting will be ` Rs 24000 per nos.

217	Picture light fitting
	Supplying, fixing, connecting and commissioning picture light fitting with necessary accessories, interconnections, lamps, brackets, etc., The fitting will be selected by HPCL. Basic price of the fitting will be `Rs 5,000.00 per piece
218	Box type 1 x 28watts T5 Fluorescent light fitting
	Supplying, fixing, connecting and commissioning box type 1 x 28watts T5 Fluorescent light fitting of PHILIPS Cat # TMS 122 (or) approved equivalent with necessary accessories, interconnections, lamps, brackets, etc.,
219	4W LED fixture with drivers and other accessories
	Supplying, fixing, connecting and commissioning of Recessed LED accent lighting fitting of PHILIPS Cat # QBS026/with MR16 LED 4W with drivers/ approved equivalent fitting with other accessories including lamps and supports for fixing the light fittings. Every 5 m will be taken as one no for the item. If it need to be cut and additional drivers need to be used as per site requirement the cost shall be included in quoted rate.
	PANEL BOARDS & CABLING WORK

	<p>Note: The item shall be with Supply, Installation, Testing & Commissioning of main power panels. Before supply of the panel the vendor shall ensure that fabrication drgs of the panel is made and all the bill of quantities are approved by HPCL/Consultant. The panel shall be inspected by the consultant during fabrication and shall be shipped out of factory after approval from HPCL. The various components of the panel shall be preferably sourced from single approved manufacturer only. The necessary coordination with the building estate department shall be done for commissioning the panel for shutdown etc. The required potential free contacts for integration of system with IBMS shall be incorporated during fabrication stage as per requirement.</p>
220	<p>Main Power Panel-West Wing at 3rd Floor</p>
	<p>Supply , installation, testing, commissioning of Main Power Panel-West Wing at 3rd Floor :- Panel fabricated from 14 and 16 Gauge CRCA sheet steel, pre-treated by seven tank process and epoxy painted / powder coated in Siemens grey shade with fully compartmentalized arrangement having cable entry from top, front operated with no back access required for operation and maintenance</p>
	<p>Incomer - 3 Nos. 200 A, 4P MCCB 25KA (Ics) With standing capacity with electrical interlocking & IBMS provision, 3 Sets of 3 Nos. single core tape wound CTs of ratio 200/5A of class 1.0 for measurement. The CT burden shall be 15VA. 1 No. Class 1.0, 72 sq mm Digital Multifunction meter with RS 485c Port, R Y B Indicating Lamps 3 sets Indicating Lamp for Mains 'ON' indication</p>
	<p>Bus coupler - 2 Nos. 200 A, 4P MCCB 25KA (Ics) With standing capacity with electrical interlocking & IBMS provision, 2 sets Indicating Lamp for Mains 'ON' & 'OFF' indication.</p>

	Bus bars – 1 Set of 200 Amps. Capacity TPN electrolytic grade Aluminium bus bar duly mounted on SMC insulator. Bus bar size : Phase 25 mm x 12 mm : 3 Nos. For Neutral 25 mm x 6 mm : 1 No. For Earth 25 mm x 6 mm : 2 Nos.
	Outgoing:-
	Section # 01 : – 125 A TP+N MCCB 25KA(Ics) with standing capacity = 01 No. 63 A TP+N MCCB 25KA(Ics) with standing capacity = 02 Nos.
	Section # 02 : – 63 A TP+N MCCB 25KA(Ics) with standing capacity = 02 Nos.
	Section # 03 : – 125 A TP+N MCCB 25KA(Ics) with standing capacity = 01 No. 63 A TP+N MCCB 25KA(Ics) with standing capacity = 03 Nos.
221	Main Panel - West Wing at 4th Floor
	Supply , installation, testing, commissioning of Main Panel - West Wing at 4th Floor:- Panel fabricated from 14 and 16 Gauge CRCA sheet steel, pre-treated by seven tank process and epoxy painted / powder coated in Siemens grey shade with fully compartmentalized arrangement having cable entry from top, front operated with no back access required for operation and maintenance
	Incomer - 3 Nos. 250 A, 4P MCCB 25KA (Ics) With standing capacity with electrical interlocking & IBMS provision, 3 Sets of 3 Nos. single core tape wound CTs of ratio 250/5A of class 1.0 for measurement. The CT burden shall be 15VA. 1 No. Class 1.0, 72 sq mm Digital Multifunction meter with RS 485c Port, R Y B Indicating Lamps 3 sets Indicating Lamp for Mains 'ON' indication

	Bus coupler - 2 Nos. 250 A, 4P MCCB 25KA (Ics) With standing capacity with electrical interlocking & IBMS provision, 2 sets Indicating Lamp for Mains 'ON' & 'OFF' indication.
	Bus bars – 1 Set of 250 Amps. Capacity TPN electrolytic grade Aluminium bus bar duly mounted on SMC insulator. Bus bar size : Phase 40 mm x 10 mm : 3 Nos. For Neutral 40 mm x 6 mm : 1 No. For Earth 25 mm x 6 mm : 2 Nos.
	Outgoing:-
	Section # 01 : – 125 A TP+N MCCB 25KA(Ics) with standing capacity = 01 No. 63 A TP+N MCCB 25KA(Ics) with standing capacity = 04 Nos. 32 A TP+N MCCB 25KA(Ics) with standing capacity = 01 No.
	Section # 02 : – 160 A TP+N MCCB 25KA(Ics) with standing capacity = 01 No. 63 A TP+N MCCB 25KA(Ics) with standing capacity = 04 Nos.
	Section # 03 : – 125 A TP+N MCCB 25KA(Ics) with standing capacity = 02 Nos. 63 A TP+N MCCB 25KA(Ics) with standing capacity = 02 Nos.
222	AC Panel - West Wing at 3rd Floor
	Supply , installation, testing, commissioning of AC Panel - West Wing at 3rd Floor:- Panel fabricated from 14 and 16 Gauge CRCA sheet steel, pre-treated by seven tank process and epoxy painted / powder coated in Siemens grey shade with fully compartmentalized arrangement having cable entry from top, front operated with no back access required for operation and maintenance

	<p>Incomer - 1 No. 125 A, TP+N MCCB 25KA(Ics) with standing capacity with IBMS provision, 3 Nos. single core tape wound CTs of ratio 125/5A of class 1.0 for measurement. The CT burden shall be 15VA.1 No. Class 1.0,72 sq mm Multi Function Meter with RS 485c Port, R Y B Indicating Lamps1 No. Indicating Lamp for Mains 'ON' indication</p>
	<p>Bus bars – 1 Set of 125 Amps. Capacity TPN electrolytic grade Aluminium bus bar duly mounted on SMC insulator. Bus bar size : Phase 32 mm x 6 mm : 3 Nos. For Neutral 25 mm x 6 mm : 1 No.For Earth 25 mm x 6 mm : 2 Nos.</p>
	<p>Outgoing – 63 A TP+N MCCB 25KA(Ics) with standing capacity = 4 Nos.</p>
223	<p>AC Panel- West Wing at 4th Floor</p>
	<p>Supply , installation, testing, commissioning of AC Panel- West Wing at 4th Floor:- Panel fabricated from 14 and 16 Gauge CRCA sheet steel, pre-treated by seven tank process and epoxy painted / powder coated in Siemens grey shade with fully compartmentalized arrangement having cable entry from top, front operated with no back access required for operation and maintenance</p>

	<p>Incomer - 1 No. 160 A, TP+N MCCB 25KA(Ics) with standing capacity with IBMS provision, 3 Nos. single core tape wound CTs of ratio 160/5A of class 1.0 for measurement. The CT burden shall be 15VA.1 No. Class 1.0,72 sq mm Multi Function Meter with RS 485c Port, R Y B Indicating Lamps1 No. Indicating Lamp for Mains 'ON' indication</p>
	<p>Bus bars – 1 Set of 160 Amps. Capacity TPN electrolytic grade Aluminium bus bar duly mounted on SMC insulator. Bus bar size : Phase 25 mm x 10 mm : 3 Nos. For Neutral 25 mm x 6 mm : 1 No. For Earth 25 mm x 6 mm : 2 Nos.</p>
	<p>Outgoing – 63 A TP+N MCCB 25KA(Ics) with standing capacity = 7 Nos. 32 A TP+N MCCB 25KA(Ics) with standing capacity = 1 No.</p>
224	<p>Outgoing UPS Panel-West Wing at 4th Floor</p>
	<p>Supply , installation, testing, commissioning of Outgoing UPS Panel-West Wing at 4th Floor :- Panel fabricated from 14 and 16 Gauge CRCA sheet steel, pre-treated by seven tank process and epoxy painted / powder coated in Siemens grey shade with fully compartmentalized arrangement having cable entry from top, front operated with no back access required for operation and maintenance</p>

	<p>Incomer - 1 Nos. 125 A, TP+2N MCCB with IBMS provision , 3 Nos. single core tape wound CTs of ratio 125/5A of class 1.0 for measurement. The CT burden shall be 15VA.1 No. Class 1.0,72 sq mm Multifunction meter with RS 485c Port, R Y B Indicating Lamps1 No. Indicating Lamp for Mains 'ON' indication</p>
	<p>Bus bars – 1 Set of 125 Amps. Capacity TP+2N electrolytic grade Copper bus bar duly mounted on SMC insulator. Bus bar size : Phase 25 mm x 6 mm : 3 Nos. For Neutral 25 mm x 6 mm : 2 Nos. For Earth 25 mm x 3 mm : 2 Nos.</p>
	<p>Outgoing – 63 A TP+2N MCCB 25KA(Ics) with standing capacity = 9 Nos.</p>
225	<p>Sub Lighting Panel - West Wing at 3rd Floor</p>
	<p>Sub Lighting Panel - West Wing at 3rd Floor:- Panel fabricated from 14 and 16 Gauge CRCA sheet steel, pre-treated by seven tank process and epoxy painted / powder coated in Siemens grey shade with fully compartmentalized arrangement having cable entry from top, front operated with no back access required for operation and maintenance</p>

	<p>Incomer - 1 No. 100 A, TP+N MCCB 25KA(Ics) with standing capacity with IBMS provision, 3 Nos. single core tape wound CTs of ratio 100/5A of class 1.0 for measurement. The CT burden shall be 15VA.1 No. Class 1.0,72 sq mm Multi Function Meter with RS 485c Port, R Y B Indicating Lamps1 No. Indicating Lamp for Mains 'ON' indication</p>
	<p>Bus bars – 1 Set of 100 Amps. Capacity TPN electrolytic grade Aluminium bus bar duly mounted on SMC insulator. Bus bar size : Phase 32 mm x 6 mm : 3 Nos. For Neutral 25 mm x 6 mm : 1 No. For Earth 25 mm x 6 mm : 2 Nos.</p>
	<p>Outgoing – 63 A TP+N MCCB 25KA(Ics) with standing capacity = 03 Nos.</p>
226	<p>Sub Lighting Panel - West Wing at 4th Floor</p>
	<p>Sub Lighting Panel - West Wing at 4th Floor:- Panel fabricated from 14 and 16 Gauge CRCA sheet steel, pre-treated by seven tank process and epoxy painted / powder coated in Siemens grey shade with fully compartmentalized arrangement having cable entry from top, front operated with no back access required for operation and maintenance</p>

	<p>Incomer - 1 No. 125 A, TP+N MCCB 25KA(Ics) with standing capacity with IBMS provision, 3 Nos. single core tape wound CTs of ratio 125/5A of class 1.0 for measurement. The CT burden shall be 15VA.1 No. Class 1.0,72 sq mm Multi Function Meter with RS 485c Port, R Y B Indicating Lamps1 No. Indicating Lamp for Mains 'ON' indication</p>
	<p>Bus bars – 1 Set of 125 Amps. Capacity TPN electrolytic grade Aluminium bus bar duly mounted on SMC insulator. Bus bar size : Phase 32 mm x 6 mm : 3 Nos. For Neutral 25 mm x 6 mm : 1 No. For Earth 25 mm x 6 mm : 2 Nos.</p>
	<p>Outgoing – 63 A TP+N MCCB 25KA(Ics) with standing capacity = 06 Nos.</p>
	<p>DISTRIBUTION BOARDS</p>
	<p>Note: The item consist of Supply, Installation, Testing & commissioning of Distribution Boards as below as per details.</p>
227	<p>Power Distribution Board (8 way TPN)</p>

	<p>Power Distribution Board (8 way TPN):- Panel fabricated from 16 Gauge CRCA sheet steel, pre-treated by seven tank process and epoxy painted / powder coated in Siemens grey shade with fully compartmentalized arrangement having cable entry from top, front operated with no back access required for operation and maintenance. The DB shall be of 3Tier 7Segemnet phase segregated MCB DB of double door.</p>
	i) Incomer : 63A, 4 Pole MCB – 01 No.
	ii) Outgoings : 63 A, DP 30mA ELCB - 03 Nos.
	32A / 6 A S.P. MCB = 24 Nos.
228	<p>Lighting Distribution Board (12 way TPN)</p>
	<p>Lighting Distribution Board (12 way TPN) :- Panel fabricated from 16 Gauge CRCA sheet steel, pre-treated by seven tank process and epoxy painted / powder coated in Siemens grey shade with fully compartmentalized arrangement having cable entry from top, front operated with no back access required for operation and maintenance. The DB shall be of 3Tier 7Segemnet phase segregated MCB DB of double door.</p>
	i) Incomer : 63A, 4 Pole MCB with 40Amps 4Pole AC3 duty power contactor with 2NO+2NC auxiliary contactor – 01 No.
	ii) Outgoings : 63 A, DP 30mA ELCB = 03 Nos.
	32A/20A / 10 A S.P. MCB = 36 Nos.

229	UPS Distribution Board (8 way TPN)
	UPS Distribution Board (8 way TPN):- Panel fabricated from 16 Gauge CRCA sheet steel, pre-treated by seven tank process and epoxy painted / powder coated in Siemens grey shade with fully compartmentalized arrangement having cable entry from top, front operated with no back access required for operation and maintenance. The DB shall be of 3Tier 7Segemnet phase segregated MCB DB of double door.
	i) In comer: 63A TP MCB+125A NL – 01 No.
	ii) Outgoings : 63 A, DP MCB = 03 Nos.
	16 A / 6 A SP MCB = 24 Nos.
230	UPS Distribution Board (6 way TPN)
	UPS Distribution Board (6 way TPN):- Panel fabricated from 16 Gauge CRCA sheet steel, pre-treated by seven tank process and epoxy painted / powder coated in Siemens grey shade with fully compartmentalized arrangement having cable entry from top, front operated with no back access required for operation and maintenance. The DB shall be of 3Tier 7Segemnet phase segregated MCB DB of double door.
	i) In comer: 63A TP MCB+125A NL – 01 No.
	ii) Outgoings : 63 A, DP MCB = 03 Nos.
	16 A / 6 A SP MCB = 18 Nos.
231	UPS Distribution Board (4 way TPN)

	<p>UPS Distribution Board (4 way TPN):- Panel fabricated from 16 Gauge CRCA sheet steel, pre-treated by seven tank process and epoxy painted / powder coated in Siemens grey shade with fully compartmentalized arrangement having cable entry from top, front operated with no back access required for operation and maintenance. The DB shall be of 3Tier 7Segemnet phase segregated MCB DB of double door.</p>
	i) In comer: 63A TP MCB+125A NL – 01 No.
	ii) Outgoings : 63 A, DP MCB = 03 Nos.
	16 A / 6 A SP MCB = 12 Nos.
232	A/C Distribution Board (12 way TPN)
	<p>A/C Distribution Board (12 way TPN):- Panel fabricated from 16 Gauge CRCA sheet steel, pre-treated by seven tank process and epoxy painted / powder coated in Siemens grey shade with fully compartmentalized arrangement having cable entry from top, front operated with no back access required for operation and maintenance. The DB shall be of 3Tier 7Segemnet phase segregated MCB DB of double door.</p>
	i) Incomer : 63A, 4 Pole MCB – 01 No.
	ii) Outgoings : 63 A, DP 30mA ELCB = 03 Nos.
	32A / 6 A S.P. MCB =36 Nos.
233	Emergency lighting Distribution Board (SPN)

	<p>Emergency lighting Distribution Board (SPN):- Panel fabricated from 16 Gauge CRCA sheet steel, pre-treated by seven tank process and epoxy painted / powder coated in Siemens grey shade with fully compartmentalized arrangement having cable entry from top, front operated with no back access required for operation and maintenance.</p>
	i) Incomer : 32A, DP 30mA ELCB – 01 No.
	ii) Outgoings : 10A / 6 A S.P. MCB = 08 Nos.
	Cabling
	<p>The details of the following cabling item consist of Supply ,Laying, connection, testing and commissioning of PVC / XLPE insulated Armoured Aluminium cables of following sizes including supports, clamps, termination of cables with lugs & glands etc. Bare earth wire to be binded with cables and taken to the same saddles/clamps of cable fixing all complete from main power supply to various panels.</p>
234	3.5 Core x 185 sq.mm AYXFY
235	3.5 Core x 95 sq.mm AYXFY
236	3.5 Core x 70 sq.mm AYXFY
237	3.5 Core x 50 sq.mm AYXFY

238	3.5 Core x 25 sq.mm AYXFY
239	4 Core x 16 Sq.mm. AYWY.
240	4 Core x 10 Sq.mm. AYWY.
241	3 Core x 16 Sq.mm. AYWY.
242	4 Core x 1.5 Sq.mm. YWY.
243	3 Core x 4 Sq.mm. YFY.
	Supply & Providing Cable Terminations with Alumnium Lugs & Glands :
244	3.5 Core x 185 sq.mm AYXFY (Double compression lugs to be provided)
245	3.5 Core x 95 Sq.mm. AYXFY.(Single compression lugs to be provided)
246	3.5 Core x 70 Sq.mm. AYXFY.(Single compression lugs to be provided)
247	3.5 Core x 50 Sq.mm. AYXFY.(Single compression lugs to be provided)
248	3.5 Core x 25 Sq.mm. AYXFY.(Single compression lugs to be provided)
249	4 Core x 16 Sq.mm. AYWY.(Single compression lugs to be provided)
250	4 Core x 10 Sq.mm. AYWY.(Single compression lugs to be provided)
251	3 Core x 16 Sq.mm. AYWY.(Single compression lugs to be provided)
252	4 Core x 1.5 Sq.mm. YWY.(Single compression lugs to be provided)

253	3 Core x 4 Sq.mm. YWY.(Single compression lugs to be provided)
	The details of the following cabling consist of supply ,Laying, connection, testing and commissioning of PVC Unarmoured Copper cables of following sizes enclosed in 16SWG thick MS conduit/metallic flexible hose including supports, clamps, termination of cables with lugs & glands etc.
254	4Runs of 16 Sq.mm PVC Insulated copper conductor wires
255	4Runs of 35 Sq.mm PVC Insulated copper conductor wires
256	3Runs of 10 Sq.mm PVC Insulated copper conductor wires
257	5Runs of 50 Sq.mm PVC Insulated copper conductor wires
258	5Runs of 10Sq. mm. and 2Runs of 6Sq.mm. PVC Insulated copper conductor wires
259	2Runs of 10Sq. mm. and 1Run of 4Sq.mm. PVC Insulated copper conductor wires
	EARTHING
260	S/I/T/C of Copper plate earthing.

	<p>Supplying, installing and connecting a Copper plate of size 600mm.x 600 mm.x 3.15mm. at a depth of 2000 mm. in an earth pit of 700 x 700 x 2500 mm.filled with salt and with sand in alternate layers 150 mm. each up to a height of charcoal mixed 2000mm. from bottom. The pipe shall have provision for watering through a funnel. It shall also have a provision for connecting 25 x 6 mm. Copper Flat on two sides. The cost of digging and back filling shall also be included along with Sand, salt and charcoal are in the Contractor's scope. The item shall be completed as per drgs and as per IS 3043 latest provisions.</p>
261	S/I/T/C of pipe earthing
	<p>Supplying, installing and connecting a 2.5 Mtr. long 40 mm. dia G.I. Pipe with holes drilled diametrically opposite to each other once every 150mm. in an earth pit of 380 x 380 x 3000 mm. filled with salt and charcoal mixed with sand in alternate layers 150 mm. each up to a height of 2500 mm. from bottom. The pipe shall have provision for watering through a funnel. It shall also have provision for connecting 50 x 6 mm. G I flat on two sides. A masonry structure shall be constructed to a depth of 750 mm. and a heavy duty CI Cover shall be used to cover the pit. The cost of digging and back filling along with cost of Sand, salt and charcoal are in the Contractor's scope. - Body earthing of sub panels. The item shall be completed as per drgs and as per IS 3043 latest provisions.</p>
262	S/I/T/C of Earth Inspection pit- 450x450mmsize

	Supply, installation and commissioning of masonry earth inspection pit for each earth station to made as follows:450x450mm brick construction wall and 450 mm depth form ground level completed with Sand-Cement plastering with 450x450mm 8mm thick C.I cover plate. Earth connection terminal (with earth electrode terminal and earth drawing wire) should not more than 150mm depth from ground level.
263	S/I/T/C of 8 SWG Cu bare wire for earthing
	Supply, laying, fixing and connection of earth line by 8 SWG Cu bare wire with necessary accessories.
264	S/I/T/C of 10 SWG Cu bare wire for earthing.
	Supply, laying, fixing and connection of earth line by 10 SWG Cu bare wire with necessary accessories.
265	S/I/T/C of 2 Runs of 35Sq. mm. PVC Insulated copper conductor flexible cable
	Supplying, laying and connecting 2 Runs of 35Sq. mm. PVC Insulated copper conductor flexible cable enclosed in 40mm DIA 2 mm thick PVC conduits in open fashion (or) concealed in the wall / partitions with necessary clamps, screws, interlinks etc.,
266	S/I/T/C of 2 Runs of 16Sq. mm. PVC Insulated copper conductor flexible cable
	Supplying, laying and connecting 2 Runs of 16Sq. mm. PVC Insulated copper conductor flexible cable in enclosed in 32mm DIA 2 mm thick PVC conduits in open fashion (or) concealed in thw wall / partitions with necessary clamps, screws, interlinks etc.,

267	S/I/T/C of 2 Runs of 10Sq. mm. PVC Insulated copper conductor flexible cable
	Supplying, laying and connecting 2 Runs of 10Sq. mm. PVC Insulated copper conductor wires enclosed in 25mm DIA 2mm thick PVC conduits in open fashion (or) concealed in the wall / partitions with necessary clamps, screws, interlinks etc.,
268	S/I/T/C of 1 Run of 6Sq. mm. PVC Insulated copper conductor wires
	Supplying, laying and connecting 1 Run of 6Sq. mm. PVC Insulated copper conductor wires enclosed in 20 mm DIA 2mm thick PVC conduits in open fashion (or) concealed in the wall / partitions with necessary clamps, screws, interlinks etc.,
269	S/I/T/C of 400 mm. long 50 x 6 mm. Copper flat
	Supplying, laying and connecting 400 mm. long 50 x 6 mm. Copper flat in open fashion with necessary SMC Type Insulators, clamps, screws, etc., as earth link etc.,
270	S/I/T/C of 300 mm. long 25 x 6 mm. Copper flat
	Supplying, laying and connecting 300 mm. long 25 x 6 mm. Copper flat in open fashion with necessary SMC Type Insulators, clamps, screws, etc., as earth link
271	S/I/T/C of 450 mm. long 50 x 6 mm. GI flat

	Supplying, laying and connecting 450 mm. long 50 x 6 mm. GI flat in open fashion with necessary, clamps, screws, etc., as earth link.
272	S/I/T/C of 50 x 6mm G I flats
	Supplying, laying and connecting 50 x 6mm G I flats with necessary accessories
273	S/I/T/C of 25 x 6mm G I flats
	Supplying, laying and connecting 25 x 6mm G I flats with necessary accessories
274	S/I/T/C of 25 x 6mm Cu. flats
	Supplying, laying and connecting 25 x 6mm Cu. flats with necessary SMC type insulators, clamps, screws and other associated accessories
	UNDER FLOOR RACEWAYS & ACCESSORIES
	Supply and installation, of under floor raceways & accessories including floor cutting, chiselling and necessary Civil work as per approval of Architect/Consultant.
275	S/I/C of 100mm wide, 45mm deep single Compartment, 16 SWG
	100mm wide, 45mm deep single Compartment, 16 SWG, Aluminium extruded section for under floor raceways (rectangular shape).

276	S/I/C of 100mm wide, 25mm deep single Compartment, 16 SWG
	100mm wide, 25mm deep single Compartment, 16 SWG, Aluminium extruded section for under floor raceways (rectangular shape).
277	S/I/C of 150mm x 150mm x 30mm, 14 SWG MS Junction Box
	150mm x 150mm x 30mm, 14 SWG MS Junction Box with MS cover. All boxes shall be painted with approved colour.
278	S/I/C of 250mm x 250mm x 30mm, 14 SWG MS Junction Box
	250mm x 250mm x 30mm, 14 SWG MS Junction Box with MS cover. All boxes shall be painted with approved colour.
279	S/I/C of 350mm x 200mm x 30mm, 14 SWG MS Junction Box
	350mm x 200mm x 30mm, 14 SWG MS Junction Box with MS cover all boxes shall be painted with approved colour.
280	S/I/C of 450mm x 200mm x 30mm, 14 SWG MS Junction Box
	450mm x 200mm x 30mm, 14 SWG MS Junction Box with MS cover. All boxes shall be painted with approved colour.

	Supplying, erecting, connecting and commissioning of the following M S powder coated Trunking box with top open able cover and necessary jointing arrangements, supports, etc., and other associated accessories. The design should be got approved from the Consultant / Client before fabrication.
281	S/I/C of 300mm(W) x 100mm(H) MS trunking
282	S/I/C of 200mm(W) x 100mm(H) MS trunking
283	S/I/C of 150mm(W) x 100mm(H) MS trunking
	Supplying, erecting and connecting the following G I perforated cable trays with necessary supports, etc.,
284	S/I/C of 300mm(W) x 50mm(H) GI perforated cable trays
285	S/I/C of 150mm(W) x 50mm(H) GI perforated cable trays
286	S/I/C of 300mm(W) x 75mm(H) GI perforated cable trays
	Supplying, erecting and connecting the following G I Ladder type cable trays with necessary supports, etc.,
287	S/I/C of 450mm(W) x 50mm(H) GI ladder type trays
288	S/I/C of 300mm(W) x 50mm(H) GI ladder type trays

	Supplying and laying the following 2mm thick PVC Conduits concealed (or) open in wall/ceiling/false ceiling etc. with necessary accessories clamps, screws etc. with 1 Run of 16SWG G.I. Fish wire.
289	S/I/C of 25mm DIA PVC CONDUITS
290	S/I/C of 32mm DIA PVC CONDUITS
	Supplying and laying the following 16SWG thick MS Conduits concealed (or) open in wall/ceiling/false ceiling etc. with necessary accessories clamps, screws etc. with 1 Run of 16SWG G.I. Fish wire.
291	S/I/C of 25mm DIA 16SWG thick MS CONDUITS
292	S/I/C of 32mm DIA 16SWG thick MS CONDUITS
293	Structural work

	Supplying, fabricating, erecting and connecting M S angles S Flats, M S channels, M S flats as per requirement for structural support including necessary welding, fixing at required height. The item shall be complete with mechanical cleaning of the structure before painting it with two coats of red oxide primer and two coats of final coat enamel paint Approved colour and make. The cost shall also includes necessary supports, foundation bolts,etc.,The item shall be completed as per drgs and instructions from EIC/Architect.
294	Liaison with The Chief Electrical Inspector
	Liaison with The Chief Electrical Inspector to Government of Tamilnadu /CEA for preparation of Working drawings etc., obtaining approval for drawing and Safety Certificate approval for Energisation. (LUMPSUM). All the statutory fees shall be paid and HPCL will reimburse the same on obtaining the demand note/receipt.
	FIRE FIGHTING & DETECTION SYSTEM

	<p>ANALOG ADDRESSABLE FIRE DETECTION AND ALARM SYSTEM : Design, Supply, Installation, Testing and Commissioning of Analogue Addressable Micro Processor based controller with Main Fire Alarm Control Panel, Repeater panel, Mimic Panels and other accessories. However the BOQ of Cable and Conduits are subject to change of site requirement. Contractor should verify and confirm BOQ with Drawing & Actual Requirement.</p>
	<p>FIRE ALARM CONTROL PANELS : Analogue addressable Micro Processor based controller with Fire Alarm Control Panels, possible add additional loop cards, capable of being networked to the central monitoring System, to integrate with PAS, to monitor and integrated with following accessories like detectors, MCP's/hooters/Input & output control modules, Isolator Modules, hooter with strobe, remote indicators, fire/fault indicators, audio-visual signals, central processing units, complete with LCD display, zone indicating LEDs as per the detailed specification: complete with 1 hr. Battery backup with charger for each panel. Each loop should have at least 125 devices and minimum loop length shall be 1Km and the should have Modbus facility to integrate with IBMS</p>
295	FIRE ALARM CONTROL PANEL - 2 LOOPS
	DETECTORS:
	Supply, Installation, Testing and Commissioning of following Addressable various analogue type detectors, Detector with Suitable Base, UL/FM approved, Normal/Fire indicating LEDs and as per detailed specification
296	OPTICAL SMOKE DETECTOR

297	OPTICAL HEAT DETECTOR
298	OPTICAL MULTISENSOR DETECTOR
299	DUCT OPTICAL SMOKE DETECTOR WITH PROBE
	INPUT AND OUTPUT MODULES : Supply, Installation, Testing and Commissioning of following Addressable various analogue type Input and Output modules with suitable back boxes with front cover, UL/FM approved, Normal/Fire indicating LEDs and as per detailed specification
300	MONITOR INPUT MODULE for Flow switch monitoring, Builder's FACP interface
301	CONTROL RELAY OUTPUT MODULE
302	SHORT CIRCUIT ISOLATORS
	Supply, Installation, Testing and Commissioning of Addressable analogue short circuit isolator with suitable back boxes with front cover, UL/FM approved, Normal/Fire indicating LEDs, each and every group of 20 devices per isolator and as per detailed specification
303	MANUAL CALL POINT/PULL STATION
	Supply, Installation, Testing and Commissioning of MCPs/ Pull Station UL/FM approved and as per detailed specification
304	EMERGENCY BREAK GLASS
	Supply, Installation, Testing and Commissioning of Break Glass, UL/FM approved and as per detailed specification
305	Mimic panel

	Design, Supply, Installation, Testing and Commissioning of Mimic panel, Normal/Fire indicating LEDs and as per detailed specification
306	S/I/T/C of 2C x 1.5 Sqmm Ar. Cu FRLS cables
	Supply, installation, testing & commissioning of 2C x 1.5 Sqmm armoured copper FRLS wires / cable - Red & Black combination for the fire system as per detailed specification including terminations.
	CONDUITS: Supply and installation(Embedded and surface) conduits of the following size with complete accessories and as per detailed specification
307	25 MM Rigid GI conduits
308	25 MM PVC Coated flexible metal conduits
	AUTOMATIC SPRINKLER SYSTEM
309	S/L/C of 150mm dia GI C class pipe

	Supplying, installing,hydraulic testing and commissioning of G.I. Pt - I Heavy grade('C' Class) Pipes confirming to IS 1239 with painting & supports (for above 50 mm dia, shall be fabricated by M.S. Channel / Angle / Falts etc.), anchor fasteners, bolts nuts , clamps, "U" bolted, wieldable specials (for pipes up to 50mm dia)such as socket weld Reducers,Tees & elbows. Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc., as per drawings. The quoted rate shall also include for two coat zinc rich epoxy primer and two coat of enamel red paint, chasing / chipping walls, making bore holes in walls and making them good with filler material and finished in cement mortar etc. complete.
310	S/L/C of 100mm GI C class pipe
	Specification same as above but with 100mm GI C class pipe
311	80mm nominal dia
	Specification same as above but with 80mm GI C class pipe
312	65mm nominal dia
	Specification same as above but with 65mm nominal dia
313	50mm nominal dia
	Specification same as above but with 50mm nominal dia
314	40mm nominal dia
	Specification same as above but with 40mm nominal dia

315	32mm nominal dia
	Specification same as above but with 32mm nominal dia
316	25mm nominal dia
	Specification same as above but with 25mm nominal dia
317	15 mm dia Pendent type sprinkler head
	Supply testing and commissioning of 15 mm dia. Chrome finished sprinkler head pendent type with standard response 5mm quartz bulb and to operate at 68 deg C (of K-Factor 5.6) complete. (UL Listed/FM approved)
318	Dial type pressure gauge for 150 mm dia
	Supply testing and commissioning of Dial type pressure gauge for 150 mm dia with necessary nipple & other fittings, mounting arrangements and with a 25 mm ball valve.
319	Flow Switches with two NO and two NC contacts
	Supply, Installation, Testing & Commissioning of Flow Switches with two NO and two NC contacts with necessary nipple & other fittings.
320	C.I butterfly flanged valves -50mm dia
	Providing and fixing 50 mm dia C.I. butterfly flanged butterfly valves to IS:13095 with operating lever, bolts, nuts, washers and companion flanges complete. (PN-16)
321	C.I butterfly flanged valves 100mm dia

	Specification same as above but with 100 mm dia valve.
322	Non Return Valve of 150mm dia
	Supply, installation, testing & commissioning of Non Return Valve of 150mm dia IS:5312(PN 16). (Refer the drawing for location of NRV fixing typical details) as per detailed specification
323	Rosette plates (Recessed type, in two piece)
	Supply & fixing of approved type rosette plates (Recessed type, in two piece) for Sprinklers below false ceiling area. The Rosette shall be chrome finished Rosette plate with twin-piece recessed escutcheon plate, UL listed/FM approved, suitable for 15 mm size sprinklers.
324	Stainless steel corrugated flexible pipe(hose)
	Supply, fixing, testing & commissioning of Stainless steel corrugated flexible pipe(hose) for dropping sprinklers below false ceiling, pipe shall be UL Listed, 16 bar pressure rating and 1500 mm long 25 mm dia with union / reducer collar, clamps etc. as required.(UL Listed)
325	Drain Pipe (25 mm)

	Supply, fixing, testing & commissioning of Drain Pipe of 25 mm dia with G.I. Pt. - I Heavy grade('C' Class) Pipes confirming to IS 1239 with painting & supports , anchor fasteners, bolts nuts , clamps, "U" bolted, weld able specials such as socket weld Reducers, Tees & elbows. Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc., as per drawings. The quoted rate shall also include for two coat zinc rich epoxy primer and two coat of enamel red paint, chasing / chipping walls, making bore holes in walls and making them good with filler material and finished in cement mortar etc. complete.
326	5 kg automatic dry powder fire extinguisher
	Supply & fixing of 5 kg automatic dry powder extinguisher for server room.DCP type cylindrical shape fire extinguisher with fixing hangers, hose, brackets, screws to required size etc., complete as per IS:28278- wall mounted type.
327	5 kg CO2 fire extinguisher
	Same as above but with 5 kg CO ₂ extinguisher with all accessories.
328	Supply & fixing of 10 kg DCP extinguisher
	ABC' stored pressure type 10 kg Dry Chemical Powder (Mono-Ammonium Phosphate)Fire extinguisher with fixing hangers, hose, brackets, screws to required size etc., complete as per IS:14609
	FM 200 Storage cylinder (HFC -227 ea)

	Supply, installation, design, fabrication, testing & commissioning of clean agent gas fire suppression system for server & other It rooms. The vendor need to provide the design document initially for the approval of HPCL/Consultant.
329	S/I/T/C of 35 Litres Cylinder
	Supply , installation, testing & commissioning of 35 kg CCOE approved cylinder along with closing valve
330	S/I/T/C of 25 Litres Cylinder
	Supply , installation, testing & commissioning of 25 kg CCOE approved cylinder along with closing valve for It room
331	S/I/T/C of FM200(HFC-227ea) Gas
	Supply of FM 200 /HFC-227ea gas for the cylinder
332	S/I/T/C of Primy. Complete Kit
	Supply, installation, testing & commissioning of Primary Completer Kit complete with Solenoid & Gauge assembly, Discharge Tube, Manual Pneumatic Actuator, Flex Hoses, Warning Sign, Nameplate and Connectors.
333	S/I/T/C of FM200 Check Valve
	Supply, installation , testing & commissioning of check valve for manifold.
334	S/I/T/C of FM200 Nozzles
	Supply, installation , testing & commissioning of FM 200 nozzles for piping.
335	S/I/T/C of FM200 Rk-Wl.Mnt.Kit
	Supply, installation , testing & commissioning of rack - wall mount kit for fM 200 system.
336	S/I/T/C of FM200 MS Smls Pipe

	Supply, installation, fabrication, testing & commissioning of M.S. Seamless pipes as per ASTM A 106 Gr. B, schedule 40 with necessary fittings.
337	S/I/T/C of two zone Gas Rls.Panel
	Supply, installation, testing & commissioning of 2 Zone Gas Release Panel with Battery Backup for the system
338	S/I/T/C of Smoke Dtctr: FM 200
	Supply, installation, testing & commissioning of independent smoke detectors for the server rooms.
339	S/I/T/C of Man.Rel.Switch: FM 200
	Supply, installation, testing & commissioning of manual release switch as per drgs and directions including all accessories.
340	S/I/T/C of Abort Switch: FM 200
	Supply, installation, testing & commissioning of manual abort switch as per drgs and directions including all accessories.
341	S/I/T/C of Elec.Hooter: FM 200
	Supply, installation, testing & commissioning of electronic hooter as per drgs and directions including all accessories.
	INTEGRATED BUILDING MANAGEMENT SYSTEM
342	BACnet BUILDING CONTROLLER / WEB SERVER (B-BC)

	<p>BACnet BUILDING CONTROLLER / WEB SERVER (B-BC):Supply, installation, testing & commissioning of</p> <p>Micro-processor based Building Controller, Motherboard With 2 integrated USB 2.0 ports, Two Ethernet ports, RS-232 port for Work Station connection, Minimum two RS-485 port for BACnet distributed controller connection, RAM, 256MB Graphics Card, Real time Clock, System Memory, Operating system, Application Software and System Graphics Packages as per specification.</p>
343	<p>DDC 1 : (02 AI, 02 AO, 25 BI, 07 BO)</p>
	<p>ADVANCED APPLICATION CONTROLLERS (B-AAC-DDC) :</p> <p>Supply, Installation, Testing and Commissioning of one or more independent / standalone microprocessor based DDC (BACnet Master Controller), Freely programmable for HVAC Chilled Water application,MODBUS integrator, BACnet Integrator, Air side application, Input/output modules, Main disconnect switch assemblies, AC Power supply transformers / DC Power supplies, Terminal strips,Ferruls, Internal wiring between I/O modules and the terminal strips, Cabinet/Enclosure, Wall mounting accessories, Laminated Wiring Diagram pasted on the Panel door inside, with BACnet communication device as per specification. Refer to technical specification for the detailed Point list and DDC panel requirement.</p>
344	<p>DDC 2 : (02 AI, 02 AO, 28 BI, 08 BO)</p>
	<p>Specification same as above but with DDC 2 : (02 AI, 02 AO, 28 BI, 08 BO)</p>

345	Pole mounted outdoor Temperature + Humidity sensor
	Supply, Installation, Testing and Commissioning of following field devices compatible with DDC as per specification
	Pole mounted outdoor Temperature + Humidity sensor (0 to 50 Deg C, 95 %)
346	Current Sensor
	Specification same as above but with Current Sensor for EXF run Status (0- 50 A)
347	Workstation
	Supply, installation, testing & commissioning of PC-based microcomputer with Motherboard: With 8 integrated USB 2.0 ports, integrated Intel Pro 10/100 (Ethernet), integrated audio, bios, and hardware monitoring; Processor: Intel® Core™ i5 with 3.1GHz., Random-Access Memory: 4 GB, Graphics: Video adapter, minimum 1600 x 1200, Intel HD i5 2000K, Monitor: 20 Inch LED monitor; Keyboard: 105 keys in ergonomic shape, Hard-Disk Drive: 500GB, DVD-RW: DVD read & Write Drive; Mouse: Three button, optical; Operating System: Microsoft Windows Server 2008 professional with high-speed Internet access and 5 user license; Printer: Black-and-white, laser-jet type. Refer specification for details
	CABLES , CONDUITS AND GI CABLE TRUNKING:

348	S/I/T/C of 3Cx0.75 SQ.MM Multistrandard Screened cable
	Supply, installation, testing and commissioning of 3Cx0.75 SQ.MM Multistrandard Screened cable for communication as per specification . Cable quantity subject to vary as per site condition
349	S/I/T/C of 2Cx0.75 SQ.MM Multistrandard Screened cable
	Specification same as above but with 2Cx0.75 SQ.MM Multistrandard Screened cable for Analogue signal
350	S/I/T/C of 2Cx0.75 SQ.MM Multistrandard Un-Screened cable
	Specification same as above but with 2Cx0.75 SQ.MM Multistrandard un Screened cable for Analogue signal
351	S/I/T/C of 4Cx0.75 SQ.MM Multistrandard Screened cable
	Specification same as above but with 4Cx0.75 SQ.MM Multistrandard Screened cable for Analogue signal
352	S/I/T/C of 4Cx0.75 SQ.MM Multistrandard Un-Screened cable Binary signal
	Specification same as above but with Specification same as above but with 4Cx0.75 SQ.MM Multistrandard Un-Screened cable Binary signal
353	Hardware and software to integrate VRF system with the BMS.

	<p>Supply, Installation, Testing and Commissioning of factory-installed hardware and software to integrate VRF system with the BMS. BMS contractor shall consider open protocol BACnet over IP or BACnet over MS/TP for VRF system integration. BMS contractor shall consider license for S/W points =1500 Nos. The BMS Contractor is responsible to integrate the VRF system with the BMS. The BMS Contractor is should co ordinate with VRF system vendor and VRF system integrator/contractor for the VRF system with the BMS. Refer to the specification for detailed list of Analogue/Binary mapping point list. The points shown in the specification is Tentative only. The point description may change however the total quantity shall be within 1500 only.</p>
354	<p>Hardware and software to interface/integrate energy meters .</p>
	<p>Supply, Installation, Testing and Commissioning of factory-installed hardware and software to interface/integrate energy meters for monitoring and analysis of the energy consumed by the HVAC equipment's and other services (Through open protocol MODBUS & BACnet). The BMS Contractor is responsible to integrate the multifunction energy meter/KWH meter with the BMS. The BMS Contractor is should co ordinate with Electrical panel manufacturer and Electrical contractor for the multi-function energy metering system integration with the IBMS.</p>
355	<p>Hardware and software to interface/integrate Fire Alarm panel</p>

	Supply, Installation, Testing and Commissioning of factory-installed hardware and software to interface/integrate Fire Alarm panel for monitoring Through open protocol MODBUS . The IBMS Contractor is responsible to integrate the FAS with the IBMS. The IBMS Contractor should co ordinate with Fire Alarm integrator and manufacturer system with the IBMS.
356	Hardware and software to interface/integrate UPS system
	Supply, Installation, Testing and Commissioning of factory-installed hardware and software to interface/integrate UPS system for monitoring (Through open protocol MODBUS & BACnet). The BMS Contractor is responsible to integrate the UPS system with the IBMS. The BMS Contractor should co ordinate with Electrical panel manufacturer and Electrical contractor for the UPS system integration with the IBMS.
357	Hardware and software to interface/integrate Generator system

	Supply, Installation, Testing and Commissioning of factory-installed hardware and software to interface/integrate Generator system for monitoring (Through open protocol MODBUS & BACnet). The IBMS Contractor is responsible to integrate the Generator system with the IBMS. The IBMS Contractor should co ordinate with Electrical panel manufacturer and Electrical contractor for system integration with the IBMS.
358	Hardware and software to interface/integrate FM 200
	Supply, Installation, Testing and Commissioning of factory-installed hardware and software to interface/integrate FM 200 for monitoring Through open protocol MODBUS . The BMS Contractor is responsible to integrate the FM200 with the IBMS. The IBMS Contractor should co ordinate with Integrator and manufacturer for system integration with the BMS.
359	Hardware and software to interface/integrate Access Control System

	Supply, Installation, Testing and Commissioning of factory-installed hardware and software to interface/integrate Access Control System for monitoring & Controlling Through open protocol MODBUS and BACnet . The IBMS Contractor is responsible to integrate the ACS with the IBMS. The IBMS Contractor should co ordinate with ACS integrator and manufacturer for system integration with the IBMS.
360	Hardware and software to interface/integrate CCTV
	Supply, Installation, Testing and Commissioning of factory-installed hardware and software to interface/integrate CCTV for monitoring Through open protocol . The IBMS Contractor is responsible to integrate the CCTV with the IBMS. The IBMS Contractor should co ordinate with CCTV integrator and manufacturer for system integration with the IBMS.
	LAN SYSTEM
361	Supply of Cat6e cable

	<p>Supply of Cat6-e cables Supply, data Point wiring using cat6-e, 4Pair twisted computer networking cable specifications conforming to all TIA/ EIA and ISO category6, class E Requirements, screened and shielded in 1” or 1.5” PVC conduit pipe (pipe will be pid separately in respective item)partly fully concealed in all types of walls, floors, wooden partitions, modular furniture’s, above false ceilings etc. complete with all accessories, including wiring terminators, connected civil works, rough plastering etc. The above work includes ferruling and termination of cables at both ends. One end of the cable should be terminated in the Information Outlet & the other end should be terminated in the Jack Panel. Cables shall be coiled in the in-wall or surface-mount boxes if adequate space is present to house the cable coil without exceeding the manufacturer’s bend radius. In hollow wall installations where box-eliminators are used, excess wire can be stored in the wall. No more than 300mm of slack shall be stored in a wall box, modular furniture raceway, or insulated walls. Excess slack may be neatly coiled and stored in the ceiling or raised access floor for each drop location when there is not enough space present in the outlet box to store slack cable. Cables shall be dressed and terminated in accordance with the recommendations made in the ISO/IEC 11801 2nd Edition document, manufacturer’s recommendations and/or best industry practices. Pair untwist at the termination shall not exceed 6mm for Category 6A / Class EA connecting hardware. Bend radius of the cable in the termination area shall not be less than 4 times the outside diameter of the cable. The cable jacket shall be maintained as close as possible to the termination point. Cables shall be installed in continuous lengths from origin to destination (no splices) unless specifically addressed in this document.</p>			
362	Supply	of	Cat6e	Information outlet

	<p>Supplying, Cat 6 Information outlets(RJ-45) in all types of walls, wooden partitions, modular furniture with all accessories likes screws, face plate, back boxes etc. points shown as in the Layout diagram everything as per Local authorities etc., complete in all respects as directed and Instructed.. The Face Plate should be numbered properly. All modular jacks shall be wired to the T568B wiring pattern. The connector shall terminate 22-24 AWG solid or 24-26 AWG stranded conductors with a maximum insulation diameter of 1, 60 mm and a maximum cable jacket diameter of 9, 00 mm. The modular jack contacts shall be plated with a minimum of 1, 27 micro meters of gold in the contact area and a minimum of 381 micro metre of tin-lead in the solder area over a 1, 27 micro metre minimum nickel under plate. Modular jacks shall be compatible with panel thicknesses of 1, 47 – 1, 60 mm. The colour of the face Plate, back boxes all should be in white only. The item also include providing concealed metal/PVC Back boxes for the information outlet .</p>						
363	Supply	of	24	Port	cat	6e	Patch Panel

	<p>Supply of Patch panels of approved make of 1U high and provide 24 modular jack ports wired to T568B. Patch panel modular jacks shall be configured as 6-port, replaceable modules. The front of each module shall be capable of accepting 9mm to 12mm labels. Each port shall be capable of accepting an icon to indicate its function. Cables shall be dressed and terminated in accordance with the recommendations made in the ISO/IEC 11801 2nd Edition document, manufacturer's recommendations and/or best industry practices. Pair untwist at the termination shall not exceed 6mm for Category 6A / Class EA connecting hardware. Bend radius of the 4 pair cable in the termination area shall not exceed 4 times the outside diameter of the cable. Bend radius of the > 4 pair cable in the termination area shall not exceed 8 times the outside diameter of the cable. Cables shall be neatly bundled and dressed to their respective panels or blocks. Each panel or block shall be fed by an individual bundle separated and dressed back to the point of cable entrance into the rack or frame. The cable jacket shall be maintained as close as possible to the termination point. Each cable shall be clearly labelled on the cable jacket behind the patch panel at a location that can be viewed without removing the bundle support ties. Cables labelled within the bundle, where the label is obscured from view shall not be acceptable.</p>				
364	Supply	of	Rack	42U	Equipment Rack
	<p>Supply of 19" 42U Equipment Rack (depth 1000mm) c/w power supply (as Per requirement in each rack), vertical (four side) & horizontal cable management, 4 Nos of Ventilation Fans, Lockable Lift off perforated side panels, glass door perforated frame panel door, 4 Nos of equipment trays With perforated enclose base panel. The horizontal data cross-connect shall be contained in 19" x 1000mm wide rack(s), All equipment racks shall be augmented with horizontal and vertical management hardware, allowing excess patch cord lengths to be stored in the sides of the cabinet, both front and rear, to properly dress horizontal cables and patch cords.</p>				
365	Supply	of	Patch	cables (2	Meters) cat6e

	Supply 2 Meter Length UTP Cat6 (EIA/ TIA) factory terminated patch cords c/w RJ45 Connectors and boots from Patch panel to network switch in RACK. The work also installing and fixing all the passive components given by HPCL in the Networking rack. The horizontal cross-connect for data circuits shall consist of patch cords from the horizontal Category 6A / Class EA termination panels to the network equipment within the same or adjacent racks.
366	Supply of Cat 5e Cable

	<p>Supply of complete Voice Point using cat5e, 4Pair twisted computer networking cable specifications conforming to all TIA/ EIA and ISO category5, class E Requirements, screened and shielded in 1” or 1.5” PVC conduit pipe partly fully concealed in all types of walls, floors, wooden partitions, modular furniture’s, above false ceilings etc. complete with all accessories, including wiring terminators, connected civil works, rough plastering etc. Out of the 4 Pair of wires available in the Cat5e cable, two pairs of wire should be connected to one RJ45 (RJ 11 Type) and the other two pairs in the other RJ45 (RJ 11 Type) available in the same gang box. The above work includes ferruling and termination of cables at both ends. One end of the cable should be terminated in the Information Outlet & the other end should be terminated in the Voice Jack Panel. Cables shall be coiled in the in-wall or surface-mount boxes if adequate space is present to house the cable coil without exceeding the manufacturer’s bend radius. In hollow wall installations where box-eliminators are used, excess wire can be stored in the wall. No more than 300mm of slack shall be stored in a wall box, modular furniture raceway, or insulated walls. Excess slack may be neatly coiled and stored in the ceiling or raised access floor for each drop location when there is not enough space present in the outlet box to store slack cable. Cables shall be dressed and terminated in accordance with the recommendations made in the ISO/IEC 11801 2nd Edition document, manufacturer’s recommendations and/or best industry practices. Pair untwist at the termination shall not exceed 6mm for Category 5A / Class EA connecting hardware. Bend radius of the cable in the termination area shall not be less than 4 times the outside diameter of the cable. The cable jacket shall be maintained as close as possible to the termination point. Cables shall be installed in continuous lengths from origin to destination (no splices) unless specifically addressed in this document.</p>
367	<p>Supply of Cat 5e Information Outlet (I/O)</p>

	<p>Supply, Install, terminate, testing and commissioning of Cat 5e Information outlets in all types of walls, wooden partitions, modular furniture with all accessories like screws, face plate, back boxes etc. points shown as in the Layout diagram everything as per Local authorities etc., complete in all respects as directed and Instructed. Each cat5e I/O should be connected only to 4 Wires of the Cat5e cable. The Face Plate should be numbered properly. All modular jacks shall be wired to the T568B wiring pattern. The connector shall terminate 22-24 AWG solid or 24-26 AWG stranded conductors with a maximum insulation diameter of 1, 60 mm and a maximum cable jacket diameter of 9, 00 mm. The modular jack contacts shall be plated with a minimum of 1, 27 micro metre of gold in the contact area and a minimum of 381 micro metre of tin-lead in the solder area over a 1, 27 micro metre minimum nickel under plate. Modular jacks shall be compatible with panel thicknesses of 1, 47 – 1, 60 mm. The colour of the face Plate, back boxes all should be in white only. The outlet plates, unless otherwise noted, shall be mounted to single gang boxes, surface mount boxes as required. Back boxes must be supplied where required. The item also includes providing concealed metal/PVC Back boxes for the information outlet</p>
368	Supply of Cat5e 24 port voice Patch Panel

	<p>Supply of 24 port voice patch panels with 1U high and provide 24 modular jack ports or 2U high and provide 48 modular jack ports, wired to T568B. Patch panel modular jacks shall be configured as 6-port, replaceable modules. The front of each module shall be capable of accepting 9mm to 12mm labels. Each port shall be capable of accepting an icon to indicate its function. Cables shall be dressed and terminated in accordance with the recommendations made in the ISO/IEC 11801 2nd Edition document, manufacturer's recommendations and/or best industry practices. Bend radius of the 4 pair cable in the termination area shall not exceed 4 times the outside diameter of the cable. Bend radius of the > 4 pair cable in the termination area shall not exceed 8 times the outside diameter of the cable. Cables shall be neatly bundled and dressed to their respective panels or blocks. Each panel or block shall be fed by an individual bundle separated and dressed back to the point of cable entrance into the rack or frame. The cable jacket shall be maintained as close as possible to the termination point. Each cable shall be clearly labelled on the cable jacket behind the patch panel at a location that can be viewed without removing the bundle support ties. Cables labelled within the bundle, where the label is obscured from view shall not be acceptable.</p>						
369	S/I	of	32	mm	PVC	Conduit	Pipe
	<p>Supplying, installation of 32mm PVC conduit Pipe of approved ISI make for Telephone and Lan cabling network partly or fully concealed in all types of walls, floors, wooden partitions, modular furniture's, above false ceilings etc. with all accessories like elbow bends, offsets, 'Y's, Tees etc. required for joining the Pipes, everything as per Local authorities etc., complete in all respects as directed and Instructed. The above work includes connected civil works, rough plastering etc.</p>						
370	S/I	of	25	mm	PVC	Conduit	Pipe

	<p>Supplying, installation of 25 mm PVC conduit Pipe of approved ISI make for Telephone and Lan cabling network partly or fully concealed in all types of walls, floors, wooden partitions, modular furniture's, above false ceilings etc. with all accessories like elbow bends, offsets, 'Y's, Tees etc. required for joining the Pipes, everything as per Local authorities etc., complete in all respects as directed and Instructed. The above work includes connected civil works, rough plastering etc.</p>
371	<p>Supply of Network Face Plates(4 Ports)</p>
	<p>Supply of Network Face Plates (4 Ports) for the Cat5e & cat6e Information Outlets used for Data & Voice network which may or may not be housed in the same back box or gang box.</p>
372	<p>S/I of Cable Manger</p>
	<p>Supply, installation of cable Manager (ISI) in the equipment rack for proper dressing of all the cables inside the Networking rack or equipment Rack</p>
373	<p>Supply & installation of RJ11 Pins</p>
	<p>Supply , installallation ,testing & commissioning of RJ 11 Pin for terminating the telephones wires in analog phones</p>
374	<p>Supply & installation of MDF Tag Block 100 pair (For Voice)</p>

	<p>To supply, Install fix MDF tag Block/Krone for terminating all Telephone wires connecting into EPBX / IPPBX. The above work also includes termination of all telephony wires from Patch Panel to MDF tag block & from MDF Tag Block either to another MDF tag Block or to EPBX/IPPBX Located in the same wing / floor or present in another wing/ Floor.</p>
375	<p>Supply of Rizer Cable (100 Pair)</p>
	<p>Supply , installallation ,testing & commissioning of Voice backbone cabling shall be 24 AWG / 0.5mm, 100-pair UTP, with a PVC/LSZH jacket. Cable shall be third party verified to comply with IEC 61156-4 Category 3 requirements. Cable shall be supplied on reels. A coupled bonding conductor will be installed within the riser bundle and bonded and grounded at each end. The cable would be used to connect the different wings of HPCL. The necessary Pipes should be used to house the cables.</p>
376	<p>Supply of 12 Core Optic Fibre- Multi Mode</p>
	<p>Supply , installallation ,testing & commissioning of 12 Core 50/125 Micron multimode outdoor fibre optics cable in 100mm Diameter in PVC pipes, JC9C manholes connection as given in the schematic diagrams. Termination of 12 Core 50/125 micron outdoor multimode fibre with sc connectors at both end. Supply & install 2 Meter Length 1 Pair Multimode fibre patch cords c/w factory terminated sc connectors in equipment rack. Supply & install 3 Meter Length UTP Cat6 (EIA / TIA) factory terminated patch cords c/w RJ45 connectors and boots from Patch panel to existing core switch. Fibre slack shall be neatly coiled within the fibre termination panel. No slack loops shall be allowed external to the fibre panel(s).Each cable shall be individually attached to the respective termination panel by mechanical means. The cables strength member(s) shall be securely attached to the cable strain relief bracket in the panel. Each fibre cable shall be stripped upon entering the termination panel and the individual fibers routed in the termination panel. Each cable shall be clearly labelled at the entrance to the termination panel. Cables labelled within the bundle shall not be acceptable. Dust caps shall be installed on the connectors and couplings at all times unless physically connected.</p>

391	Supply of Fibre Media converter & other accessories
377	Supply , installallation ,testing & commissioning of the optical fiber media converter to connect the optical fiber network across the wings / floors
378	Installation ,testing & commission of system
	Installation, testing & commissioning of the LAN points including the laying of cables for the information outlets, tagging ,commissioning and handing over system to HPCL. The measurement will be done by the no of point commissioned & laid.
	CCTV SYSTEM
379	IP Based Flexi Dome Camera with required Power adaptor .
	Supply of IP Based Flexi Dome Camera with required Power adaptor , with Latest Imager 1/3" Progressive Scan CCD , with Video standards Dual streaming H.264 , Color Resolution of 530 TV Lines, with ONVIF , video resolutions of 704x 576 (4 CIF), 352 x 288 (CIF), with Overall Delay H.264, 120 ms, SD Memory Slot, with PoE IEEE 802.3af compliant, Operating Temperature -30°C to +50°C and complying the specifications as given separately, which is part of this BOQ.
380	Digital Network Attached Storage Array.

	<p>Supply of Digital Network Attached Storage Array, with Redundant dual Gigabit Ethernet network interface ports, with storage capacity (8 x 1 TB), Bandwidth - 200 Mbit/s , Dedicated storage operating system delivers robust , secure operation , Hot-swappable hard drives, Remote monitoring via desktop application or browser, Operating Temperature +10 °C to +35 °C ,Processor Intel® Pentium G6950 Dual Core , Cache memory 1 x 3 MB Level 2 cache and complying the specifications as given separately, which is part of this BOQ.</p>
381	<p>Video Management Client Software .</p>
	<p>Supply of Video Management Client Software , software shall allow a mix of HD as well as SD cameras , with live view comprising of Alarm and relay list with status, Relay activation and deactivation, PTZ camera control console, Log and export task status panels, with play back view , with Replay of exported recordings and snapshots from lists and complying the specifications as given separately, which is part of this BOQ.</p>
382	<p>Work Station for Video Management.</p>
	<p>Work Station for Video Management, with Operating system – Windows XP (with SP3), Vista (with SP2), Windows 7 (32 and 64 bit), with Graphic software – DirectX 9.0C March 2009 update, Processor – I5 processor or comparable, Ram – 3 Gbyte , HDD – Minimum 250 GB, Free disk space - 10 GByte , Graphics card - NVIDIA GeForce 8600 or better , Network interface - 100/1000 BaseT and complying the specifications as given separately, which is part of this BOQ.</p>

383	40" LED Display for Monitoring.
	Supply of 40" LED Display for Monitoring , with 40 Inch Full HD with Edge LED Backlight, Colour System : PAL , with Video Signal : 480 / 60i, 480 / 60p, 1080 / 60i, 1080 / 24p, 1080 / 50p, etc. , with Terminals : HDMI, USB, Ethernet Connection, Component Video, HD15, PC Input / Audio , with Brackets : Wall Mount & Table Top and complying the specifications as given separately, which is part of this BOQ.
384	2 Core x 1.5 Sq mm, multi strand, copper, shielded, un-armoured cable .
	Supply and Laying of 2 Core x 1.5 Sq mm, multi strand, copper, shielded, un-armoured cable along with accessories .
385	Installation and Commissioning of CCTV system.
	Installation, testing and Commissioning of the CCTV system along required assistance for integrating it with IBMS system complete. Any hardware which is not explicitly included shall also deemed to be included be part of the system supplied, installed & commissioned for the over all performance of the CCTV system for the building and the vendor shall accordingly thr installation & commissioning item .
	PA SYSTEM
386	Voice Alarm Controller

	<p>Supply of Voice Alarm Controller, essential functionality for compliance with the EN 60849 and 54-16 standards, Voltage 230VAC, 50/60 Hz Max power consumption 600 VA, Battery power supply Voltage 24 VDC, +15% / -15%, Output power (rms/maximum) 240 W / 360 W, Frequency response 60 Hz to 18 kHz, Distortion <1% at rated output power, 1 kHz, Programmable Trigger Inputs 12, Speech filter -3 dB at 315 Hz, high-pass, 6 dB/oct, Messages Data format WAV-file, 16-bit PCM, mono, Memory capacity 16 MB Flash ROM, Loudspeaker outputs 12, Number of messages 255 max, Volume override outputs 6, Operating temperature -10 °C to +55 °C (14 °F to +131 °F), Storage temperature -40 °C to +70 °C (-40 °F to +158 °F) and complying the specifications as given separately, which is part of this BOQ.</p>
387	<p>Voice Alarm Call Station with keypad</p>
	<p>Supply of Voice Alarm Call Station with keypad of Voltage range 24 VDC , with Current consumption <30 mA, Nominal sensitivity 85 dB SPL, Nominal output level 700 mV, Input sound level (max) 110 dB SPL Distortion <0.6%, Input noise level 25 dB SPLA, Frequency response 100 Hz to 16 kHz, Output impedance 200 ohm with Keypad of Power Supply 24 VDC supplied by call station, Current consumption <15 mA, Base dimensions 40 x 100 x 235 mm, Operating temperature -10 °C to +45 °C (14 °F to +113 °F), Storage temperature -40 °C to +70 °C (-40 °F to +158 °F) and complying the specifications as given separately, which is part of this BOQ.</p>
388	<p>Ceiling Loud Speaker</p>

	<p>Supply of Ceiling Loud Speaker with Flush-mounting suitable for both speech and music reproduction. The speaker assembly consists of a single piece, 6 W loudspeaker and frame with a 100 V matching transformer mounted on the back. Maximum power 9 W, Rated power 6W (6 – 3 – 1.5-0.75 W), Sound pressure level at 6 W / 1 W (1 kHz, 1 m) 98 dB / 90 dB (SPL), Effective frequency range (-10 dB) 90 Hz to 20 kHz, Rated voltage 100 Rated impedance 1667 , Opening angle at 1 kHz/4 kHz (-6 dB) 180° / 50° and complying the specifications as given separately, which is part of this BOQ.</p>
389	<p>Mixer & Amplifier</p> <p>Supply of Mixer & Amplifier, capable of connecting to the Booster Amplifier, BGM source and the Microphone with RMS Power output 240W, Power Supply 115Vac or 230Vac, Frequency response 50 Hz to 18 kHz, Battery Power Supply 24V Voltage Output(Line) 100V / 70V, Line impedance 4 ohm / 8 ohm Inputs 4 balanced inputs / 3 stereo line inputs, Sensitivity 1.0mV (misc. inputs), Signal to noise ratio >80dB, Operating Temperature –10 to +45°C and complying the specifications as given separately, which is part of this BOQ.</p>
390	<p>4 Channel Power Amplifier</p>

	<p>Supply of 4 Channel Power Amplifier of ground breaking Class-D technology for maximum amp efficiency and minimized heat dissipation in 19-inch racks, Each channel providing individually transformer less, switchable output characteristics, which enable specific channels to achieve maximum drive. Power into 2 Ohms, 4 Ohms, 70V, or 100V line – without transformers. In Hi-Z operation (70V or 100V), a 50 Hz HPF saturation. Additional amplifier channels can be bridged in pairs for double output power. Each contractor-friendly, amplifier having features of Phoenix-type connectors for inputs and outputs, pre-programmable power-on delay, easy power-on remote via contact closure, and rear level controls and complying the specifications as given separately, which is part of this BOQ.</p>
391	<p>DVD, Tuner, MP3 Player</p>
	<p>Supply of DVD, Tuner, MP3 Player with Source unit for background music, MP3, JPEG, and multi-format video outputs, AM/FM tuner with 10 pre-sets and digital control, Simultaneous operation of-player and tuner, Separate outputs and level controls for player and tuner, Combined DVD/CD-player/tuner output with player priority, Remote control, Built in / External USB facility and complying the specifications as given separately, which is part of this BOQ.</p>
392	<p>Volume Controller for Cabin</p>
	<p>Supply of Volume Controller for Cabin with 12 W, 36 W and 100 W versions, power-save or failsafe versions, Built-in 24 VDC override relay, Continuous rotating system, Suitable for 3-wire and 4-wire systems, Program selector with up to five channels, Optional surface mounting box, Complies with international installation, safety regulations and complying the specifications as given separately, which is part of this BOQ.</p>
393	<p>2x2.5sq.mm speaker cable</p>
	<p>Supply and Laying of 2x2.5sq.mm speaker cable – Make Belden, Exton or Equivalent</p>

394	22U Equipment Rack with Accessories
	Supply of 22U Equipment Rack with Accessories
395	Installation and Commissioning of PA system
	Installation , testing & Commissioning of the entire P.A system works including commissioning assistance to integration with IBMS system all complete.Any hardware which is not explicitly included shall also deemed to be included be part of the system supplied, installed & commissioned for the over all performance of the PA system for the building and the vendor shall accordingly thr installation & commissioning item .
	ACCESS CONTROL SYSTEM
396	ACCESS CONTROLLER
	Supply of CONTROLLER with Minimum facility to control the access of 32 doors , with Storing downloaded data, Interpretation of transaction data, Control / monitoring, CPU RENESAS M32C84 (Integrated Microcontroller), 512 Kb – EPROM / FLASH, Pluggable 2 GB compact flash, Battery for SRAM and RTC and complying the specifications as given separately, which is part of this BOQ.
397	Smart Card Reader
	Supply of Smart Card Reader , with read range up to 3.25" and power supply of 5-16VDC, Linear Supply , transmit frequency of 13.56 Mhz and complying the specifications as given separately, which is part of this BOQ.
398	Smart Card Biometric Reader

	Supply of Smart Card Biometric Reader , with One unit providing access control verification and fingerprint template enrolment., Selection of language, Administration rights, Template storage location and complying the specifications as given separately, which is part of this BOQ.
399	16KB, 16 application area smart cards
	Supply of 16KB, 16 application area smart cards with lettering on the same as per approval from HPCL.
400	ACCESS CONTROL SOFTWARE & HARDWARE
	Supply of ACCESS CONTROL SOFTWARE & HARDWARE with controls like Sophisticated access control, Direct Alarm Management, User friendly configuration through the use of Door Model Templates and import & existing card holder datas, Flexible calendar function, N person access , Man trap, Random screening, Guard Tour for high level security, Visitor Management, with system requirements like Quad Core Inter Xeon 2.4 GHz, 4 GB DDR 2 SDR , 500 GB hard disk, 2 PCI – X & 2 PCI Express expansion slot , 2 / 4 USB, 2 Serial and 2 VGA Adapter , CD / DVD ROM, Dual integrated 10 / 100 / 1000 Ethernet, I/O Expansion Option, USB Keyboard & Mouse and complying the specifications as given separately, which is part of this BOQ.
401	Double Door Electro Magnetic Lock
	Supply of Double Door Electro Magnetic Lock of Suitable Capacity Holding Force Up to 1000 LBS, Voltage tolerance 15%, Current Draw 270mA @ 24Vdc, Required Features Spike & surge protection, Anodized aluminium housing, Mounting Plate Selectable Operating Voltage – 12 or 24 Vdc and complying the specifications as given separately, which is part of this BOQ.
402	Door Position Sensor for door information feed back

	Supply of Door Position Sensor for door information feed back as per attached specification.
403	Exit Push Button
	Supply of Exit Push Button with 5Amps at 250 VAC ,Construction Aluminium face plate, Mounting type Flush, Contact Resistance 20m Ohms, Mechanical Life Minimum 45000 Cycles, Switch type Momentary SPDT Micro switch and complying the specifications as given separately, which is part of this BOQ.
404	Power Supply for Electro Magnetic Lock.
	Providing Power Supply for Electro Magnetic Lock as per detailed specification.
405	Power Supply for Biometric reader
	Providing Power Supply for Biometric reader as per detailed technical specification
406	6 Core x 0.2 sq mm multi strand, copper, unarmoured shielded Cable
	Supply and Laying of 6 Core x 0.2 sq mm multi strand, copper, unarmoured shielded Cable including terminations and all accessories complete.
407	2 Core x 1.5 Sq mm, multi strand, copper, shielded, un armoured cable
	Supply and Laying of 2 Core x 1.5 Sq mm, multi strand, copper, shielded, un armoured cable including termination & all accessories
408	Server
	Supply of work Server (Dell / HP / IBM) for the access control system as per detailed specification.

409	Workstation
	Workstation (Dell / HP/IBM) with Operating system – Windows XP (with SP3), Vista (with SP2), Windows 7 (32 and 64 bit), with Graphic software – DirectX 9.0C March 2009 update, Processor – I5 processor or comparable, Ram – 3 Gbyte , HDD – Minimum 250 GB, Free disk space - 10 GByte , Graphics card - NVIDIA GeForce 8600 or better , Network interface - 100/1000 BaseT and complying the specifications as given separately, which is part of this BOQ.
410	125 mm PVC Conduit with accessories
	Supply and Laying of 125mm PVC Conduit with accessories
411	Installation and Commissioning of access system
	Installation and Commissioning Charges for Access Control System works including commissioning assistance for integration with IBMS.Any hardware which is not explicitly included shall also deemed to be included be part of the system supplied, installed & commissioned for the over all performance of the Access system for the building and the vendor shall accordingly thr installation & commissioning item .
	Video Conferencing System
412	HD Video conferencing System

	<p>Supply of HD Video conferencing System with provision for PC connectivity and built in facility for recording media with Camera : 1/3 – Type CMOS HD Camera with following specifications of 2 Mega pixels (16 : 9), Focal Length : 3.4 to 33.9 mm (F1.8 to F2.1), Focus : Auto / manual, Zoom Ratio : x 10 optical zoom (x40 with digital zoom), Pan / Tilt Angle : - 100° to + 100° (Pan), - 25° to + 25° (Tilt) S / N – More than 50 dB, Gain – Auto, Control Out : VISCA Out RS-232C for 2nd camera control, 100 position pre-sets, Bright face function, Noise reduction, Backlight compensation, Auto white balance and complying the specifications as given separately, which is part of this BOQ.</p>
413	<p>Full HD Multi Media Projector</p>
	<p>Supply of Full HD Multi Media Projector with Ceiling Mount Kit Light of Output 4300 LUMENS ,Panel Display Resolution 1920 x 1200 (WUXGA),Contrast Ratio 2000 : 1, LCD Panels 0.76” x 3 Bright Era LCD Panel, Lamp Life 3500 Hours, Projection Lens Approx. 1.6x Manual Zoom / Manual Focus, Screen Size 40” to 600”,Control Signal Input / Output RS232C, RJ45 and Control Computer & Video Input / Output 5 BNC, RGB, DVI-D, HDMI, S – Video, Scanning Frequency H : 14 to 93 kHz, V : 47 TO 93 Hz, Video Signal Input PAL, 480 / 60i, 720 / 60p, 720 / 50p, 576 / 50i, 1080 / 60p, 1080 / 50p, Power Requirement AC 100 to 240V, 50Hz / 60Hz, Ceiling Mount Kit Ceiling Mount Kit, Required AV, VGA & Power Cable and complying the specifications as given separately, which is part of this BOQ.</p>
414	<p>Cross Point Switcher</p>
	<p>Supply of Cross Point Switcher , with Inputs / Outputs 8 x 8 ,Video Routing Gain Unity , Cross Talk -70dB @ 1 MHz, -63 dB @ 30 MHz, Switching Speed 200 nsImpedance 75Ω, Horizontal Frequency 15 kHz to 150 kHz, Vertical Frequency 30 Hz to 150 Hz, Control RS232, RJ45, Mount Type Rack Mount Cooling Convection, No vents, Enclosure Type Metal, Regulatory Compliance C, CUL, UL, C-tick, EMI / EMC : CE, C-tick, Class A, ICES, VCCI and complying the specifications as given separately, which is part of this BOQ.</p>
415	<p>Cable Cubby Type</p>

	Supply of Cable Cubby Type of Durable Pneumatic movement with mechanical latching Connectivity Options Single Power, Dual Network, Single VGA and Single Audio & Video and complying the specifications as given separately, which is part of this BOQ.
416	8' x 6' Motorized Screen
	Supply of 8' x 6' Motorized Screen of Size 8' x 6' ,Type Motorized, Wall Mount Finish Matte White, Format 16 : 9 and complying the specifications as given separately, which is part of this BOQ.
417	55" LED / LCD Display.
	Supply of 55" LED / LCD Display , with Size 55 Inch ,Type LCD / LED, Display Resolution Full HD 1080, Backlight Module Edge LED / LCD, Viewing Angle 178° Audio output power Minimum 20W (10W x 2), Others All standard accessories including wall mount and table top stands and complying the specifications as given separately, which is part of this BOQ.
418	240W Mixer Amplifier
	240W Mixer Amplifier with Rated output Wattage of 240Watts, Frequency Response 50Hz to 18kHz, Distortion <1% ,Inputs 4 balanced input / 3 stereo inputs, Sensitivity 1mV, S/N >75dB and complying the specifications as given separately, which is part of this BOQ.
419	Line Array Loud Speaker 90 / 60W

	Supply of Line Array Loud Speaker 90 / 60W with Maximum Power 90 Watts Rated Power 60 / 30 Watts, Effective Frequency Range 190Hz to 18kHz, Opening angle Horizontal - 210° / 132°, Vertical - 50° / 22°, Features comprising of Extended listening area, Excellent intelligibility of speech and music, Uniform distribution of natural sound through out the room, Slim type Others Wall mount bracket and other accessories to be provided and complying the specifications as given separately, which is part of this BOQ.
420	4000 W, 4 Zone Lighting Controller Control
	Supply of 4000 W, 4 Zone Lighting Controller Control with 4 Zone Lighting Control , Fade smoothly between scenes, Input Power 230V – 50Hz, Lighting Strike Protection Up to 6000V and current surges up to 3000 Amps Memory Minimum 5 year power failure memory and complying the specifications as given separately, which is part of this BOQ.
421	RGBHV Cable
	Supply and Laying & termination of RGBHV Cable along with accessories
422	2 core shielded cable
	Supply and Laying & termination of 2 core shielded cable with all accessories.
423	3 core x 1.5 sqmm Power cable
	Supply and Laying & termination of 3 core x 1.5 sqmm Power cable all accessories
424	Video Coaxial Cable
	Supply and Laying & termination of Video Coaxial Cable with all accessories.
425	VGA Switcher

	<p>Supply of VGA Switcher of Inputs 4 with audio, VGA Output 1 with audio, Selection Normal/ Auto, Input Level 1.0V to 5.0Vp-p, Power 100VAC to 240VAC, Cooling with Convection or no vents, Rack Mount Type and complying the specifications as given separately, which is part of this BOQ.</p>
426	<p>Installation and Commissioning of AV& VC system</p>
	<p>Installation and Commissioning Charges for AV & video Conferencing system and commissioning assistance with over all BMS system. This item shall include any item which are not explicitly mentioned in the above boos but are required to the successful working/commissioning of the system.</p>

UNPRICED BID

SL NO	DESCRIPTION	UNIT	QTY
1	230 mm Fly ash Brick work	Cum	3.5
2	115 mm Fly ash Brick work	Sq.m	200
3	Floor Finishing with CM 1:4	Cum	100
4	12 mm thk Plastering	Sq.m	350
5	20 mm thk Plastering	Sq.m	350
6	Structural repair- Rust Remover	KG	4
7	Structural repair- Epoxy resin	KG	4
8	Structural repair- Acrylic Primer	KG	10
9	Polymer modified Repair Mortar	KG	100
10	Water Proofing-Toilet	Sq.m	100
11	Light weight filling	Cum	2
12	Synthetic Floor Carpet	Sq.m	100
13	Laminated Wooden flooring	Sq.m	465
14	Vitrified tile Flooring -600 mmx 600mm	Sq.m	780
15	False Flooring 300mm high	Sq.m	48
16	IPS finish Flooring -avg. 20 mm thick	Sq.m	250
17	Vinyl tiles Flooring avg. 300 x 300 x 2 mm thick -	Sq.m	85
18	Vitrified Exterior tile Flooring -300 mmx 300mm	Sq.m	100
19	Anti skid Ceraminc Tiles	Sq.m	100
20	Vitrified tiles -dado of avg .size 450 x 300 mm	Sq.m	390
21	Engineered Marble Flooring	Sq.m	250
22	Brass inlay - 8x8mm	RM	120
23	Artifical Marble inlay	Sq.m	10
24	Marble Floor - Re-Polishing	Sq.m	200
25	Natural Granite slabs - Flooring	Sq.m	200
26	Natural Granite slabs - coping	RM	100
27	Counter top Platform with -Engineered Marble	Sq.m	9

28	GRC (Grey) Flooring bed	Sq.m	100
29	False ceiling with Gypboard	Sq.m	1250
30	False ceiling with Aluminium Composite Panel	Sq.m	75
31	False ceiling with Perforated Aluminium tiles	Sq.m	420
32	False ceiling with plain Aluminium -300C	Sq.m	280
33	False ceiling with Calcium silicate board	Sq.m	900
34	3 mm thk. Clear Acrylic sheets	Sq.m	70
35	Aluminium Partition	Sq.m	1140
36	12 mm BWP Grade Plyboard skinning	Sq.m	2280
37	6 mm BWP Grade Plyboard skinning	Sq.m	50
38	19 mm BWP Grade Plyboard skinning	Sq.m	50
39	Acoustic Insulation in partition-50 mm thick	Sq.m	1140
40	Finish with -Natural Wood veneer - With brass inlay	Sq.m	40
41	Finish with -Natural Wood veneer (basic rate: Rs. 750 per sqm)	Sq.m	280
42	Finish with -Natural Wood veneer (basic rate: Rs. 3000 per sqm)	Sq.m	70
43	Finish with -Laminate	Sq.m	870
44	12 mm thk. Toughened Float Glass - Partition	Sq.m	200
45	Cement Board partition	Sq.m	20
46	Frost decorative film on glass	Sq.m	200
47	Printable decorative translucent film on glass	Sq.m	140
48	Gypsum Plastering	Sq.m	600
49	Premium Acrylic Putty for Wall	Sq.m	300
50	Premier Acrylic Emulsion Paint	Sq.m	4410
51	Premier Emulsion Texture Paint(Basic price- 40 per sqft)	Sq.m	1100
52	Premier Emulsion Texture Paint(Basic price- 110 per sqft)	Sq.m	40
53	Wall paper	Sq.m	270
54	Artworks on walls -Type-1	Nos	45

55	Artworks on walls Type-2	Nos	14
56	Column Panelling with Natural veneer	Sq.m	130
57	Wall Panelling with Natural veneer finish	Sq.m	190
58	Wall Panelling with laminated finish	Sq.m	300
59	False column	Each	12
60	Soft board with fire rated fabric	Sq.m	20
61	Soffits-Veneered	Sq.m	100
62	Pelmets	RM	200
63	White board-Portable	Sq.m	24
64	Roller Fabric Blinds	Sq.m	510
65	TW Wall corbelling/moulding 12mm x 12 mm	RM	60
66	TW Wall corbelling/moulding 25 mmx 25mm	RM	60
67	TW Wall corbelling/moulding 50mm x 50 mm	RM	60
68	TW Wall corbelling /moulding 75 mmx 50 mm	RM	60
69	Glass Door with Aluminium frame 2.00 x 2.10 mm	Each	2
70	Glass Door with Aluminium frame 1.50 x 2.10 mm	Each	4
71	Glass Door with Aluminium frame - 1.10 x 2.100	Each	4
72	Frameless clear glass doors - 1.00 x 2.100	Each	34
73	Solid core flush door with vision panel -1.00 x 2.10	Each	8
74	Solid core flush door with vision panel -0.75 x 2.10	Each	1
75	Solid core flush door with vision panel(250x1765) -1.00 x 2.10	Each	1
76	Solid core flush door -1.00 x 2.10	Each	6
77	Solid core flush door -0.75 x 2.10	Each	9
78	Solid core flush door For Handicaped toilet -1.00x2.10-25 mm thk	Each	4
79	Fire resistant steel door 1.00 x 2.10	Each	4
80	Aluminium fixed M3 sliding windows	Sq.m	160
81	Modifications and repairs to existing plyboard storages	Sq.m	220
82	MDF display boards	Sq.m	40

83	Dry Planters Boxes of avg. size 750 x 600 x 600(H)	Each	70
84	Artificial SMALL Plants upto 1100mm HT. :	Each	40
85	Artificial BIG Plants upto 1500mm HT. :	Each	30
86	Medium bushes & Creepers upto 300 mm HT. :	Each	30
87	FRP planters-size 350mm dia.	Each	20
88	FRP planters-size 225mm * 225mm	Each	20
89	300 mm dia Brass planters	Each	8
90	Glass Shelves	Sq.m	15
91	Cill Ledge - Post-formed laminate over plyboard	Sq.m	55
92	Sofa -Single seater - Rexin-on-foam	Each	5
93	Sofa -Three seater - Rexin-on-foam	Each	6
94	Sofa -Curve shape- Rexin-on-foam	Each	1
95	Sofa -Centre table	Each	4
96	Sofa -side table	Each	3
97	Cabin Table for Manager - 1500 x 750 x 750 high.	Each	11
98	Cabin Table for E / F- 1600 x 750 x 750 high.	Each	21
99	Cabin Table for PA to DGM - 1200 x 750 x 750 high.	Each	3
100	Cabin Table for PA to GM - 1500 x 750 x 750 high.	Each	1
101	Cabin Table for DGM- 2250 x 900x 750 high.	Each	3
102	Cabin Table for GM- 2700 x 900 x 750 high.	Each	1
103	Reception Table	Each	2
104	Portable pedestal storages of avg. size 2500 x 450 x 1800	Sq.m	180
105	Portable pedestal storages of avg. size 2500 x 450 x 1200	Sq.m	150
106	Portable pedestal storages of avg. size 600 x 600 x 725	Sq.m	40
107	SS dustbins - 200 mm dia	Each	191
108	Pantry storage trolleys	Each	1
109	Steel Lockers in ladies Toilet	Sq.m	2
110	Tea Trolley	Each	1
111	Stool	Each	30

112	Europien Water closet	Each	10
113	Indian water closet	Each	4
114	Wash basin - Oval / round / square	Each	11
115	Urinal with automatic flush valve	Each	9
116	Urinal partition	Each	8
117	Mirrors in Toilet	Sq.m	15
118	Stainless steel kitchen sink	Each	4
119	C.P.Two Way bibcock	Each	24
120	C.P. Sink Mixer	Each	4
121	C.P. angle cock	Each	21
122	C.P. Stainless grating	Each	23
123	C.P. towel Rod 24"	Each	13
124	C.P. brass Towel ring	Each	13
125	C.P.Toilet paper holder	Each	10
126	Hand Drier	Each	6
127	Coat hook	Each	11
128	CPVC pipe-20 mm dia	RM	50
129	CPVC pipe-25 mm dia	RM	30
130	CPVC pipe-32 mm dia	RM	30
131	PVC pipe-100 mm dia	RM	10
132	PVC pipe-75 mm dia	RM	10
133	Floor traps	Each	14
134	50 mm Gate valve	Each	6
135	32 mm Gate valve	Each	8
136	Soap Dispenser	Each	4
137	Grab Bar	Each	2
138	Dismantling -light and Electrical fittings, fixtures	Lot	2
139	Removal of existing false ceiling	Sq.m	1000
140	Removal of modular /designed workstations	Lot	1

141	Removal of all type of doors and window	Lot	1
142	Removal of movable furniture	Lot	1
143	Removal of AC ducts	Sq.m	30
144	Removal of tiles	Sq.m	1500
145	Dismantling of brick work	Cum	10
146	Dismantling Cement concretes All types	Cum	10
147	Dismantling of Plumbing work	Lot	1
148	Work Stations Type 1 - 2400 X 2400 x 740 mm ht	Each	14
149	Work Stations Type 2 - 1800 X 1800 x 740 ht	Each	8
150	Work Stations Type 3 - 2100 X 1500 x 740 ht.	Each	4
151	Work Stations Type 4 -1500 X 1500 x 740 mm ht.	Each	14
152	Work Stations Type 5 - 1800 X 1500 x 740 ht.	Each	5
153	Work Stations Type 6 - 2100 X 1500 x 740 ht.	Each	6
154	Work Stations Type 7 - 1500 X 600 x 740 ht.	Each	10
155	Work Stations Type 8 - 2400 X 1800 x 740 ht.	Each	3
156	Small Meeting room round table 1200 Dia.,	Each	2
157	10 Seater Discussion Table	Each	1
158	14 Seater Discussion Table	Each	1
159	Wall Mounted Storages - 900 x 600 X 900 ht	Sq.m	24
160	Floor Mounted Storages - 900 x 750 X 1200 ht	Sq.m	90
161	Reception Signage -3D Duco Painted Reception Logo	Each	2
162	Directory (400x750)	Each	2
163	Pylon (600x1200)	Each	1
164	Room Signages/ Manager Cabins/ Utility Rooms(150x300)	Each	60
165	Workstation Sign (60x250)	Each	85
166	Way Finding Sign/Department Identification (150x600)	Each	9
167	Fire Escape -Signanage	Each	12
168	Fire Evacuation Map (400x300)	Each	6

169	Fire Exit (150x300)	Each	6
170	Fire Extinguisher (150x300)	Each	10
171	One point controlled by one No. 6Amp switch	Each	81
172	Two points controlled by one No. 6 Amp switch	Each	136
173	Three points controlled by one No. 6Amp switch	Each	126
174	Four points controlled by one No. 6Amp switch	Each	145
175	Exhaust Fan point controlled by one No. 6 Amp switch & 6A 5pin socket	Each	6
176	ON and OFF illuminated type push button	Each	4
177	One no. circuit of 2 x 2.5 + 1x1.5 sq.mm wire in 20mm dia MS conduits.	RM	1100
178	Two no. circuit of 2 x 2.5 + 1x1.5 sq.mm wire in 25mm dia MS conduits.	RM	2400
179	1 x 6Amp switch in manufacturerr's M S enclosure	Each	104
180	2 x 6Amp switch in manufacturerr's M S enclosure	Each	5
181	2Runs of 2.5 sqmm.+1 x 1.5 sqmm PVC insulated Copper wire	RM	825
182	3core 2.5 sq.mm copper unarmoured cable	RM	20
183	3core 4 sq.mm copper unarmoured cable	RM	40
184	3Runs of 2.5Sq. mm PVC Insulated multi stranded copper conductor	RM	4473
185	2 run of 4 sqmm + 1Run of 2.5Sq.mm.PVC Insulated multi stranded copper conductor	RM	3813
186	2Runs of 6Sq. mm and 1Run of 2.5Sq.mm.PVC Insulated multi stranded copper conductor	RM	20
187	6Amps 5pin single switch socket universal type	Each	112
188	6/16 Amps 5pin switch socket universal type	Each	226
189	16 AMPS Switch	Each	2
190	16 AMPS 5pin Socket of universal type	Each	2
191	Work ststaion switch socket	Each	135
192	125 Amps TPN 25kA (Ics) MCCB	Each	2
193	100 Amps TPN 25kA (Ics) MCCB	Each	1

194	63Amps TPN 25kA (Ics) MCCB	Each	2
195	63Amps DP (Ics) MCB	Each	1
196	32Amps TPN (Ics) MCB	Each	1
197	32Amps DP (Ics) MCB	Each	3
198	20 DP MCB	Each	3
199	16 DP MCB	Each	6
200	20Amp SPN Metal clad socket outlet with plug top & 20A DP MCB .	Each	3
201	16Amp DP moduler type switch	Each	2
202	20Amp DP moduler type switch	Each	2
203	Spike Guard with 2.5Mtr cable extension	Each	10
204	2x18 Watts CFL Recess mounted direct downlight luminaire	Each	375
205	2x18 Watts CFL Recess mounted direct downlight luminaire electronic dimmable ballast electronic ballast	Each	1
206	1x18 Watt CFL recess mounted low depth downlighter	Each	238
207	1x18 Watt CFL recess mounted low depth downlighter dimmable electronic ballast	Each	1
208	4x14 Watt T5 Recess mounted direct-indirect downlight luminaire.	Each	98
209	4x14 Watt T5 Recess mounted direct-indirect downlight luminaire with dimmable electronic ballast	Each	1
210	1x13 Watt LED Recess mounted LED swivel downlighters	Each	2
211	1 x36 Watts Box Type Flourescent LightFitting	Each	10
212	1x28 Watt T5 Coral-indoor decorative luminaire suitable for T5 lamp.	Each	638
213	Exhaust fans	Each	4
214	4.8 Watt / m LED IP 20 Non Integral Flexible Strip Light	Each	35
215	12V,50W Eyeball Hallogen light fitting	Each	4
216	Chandelier fitting	Each	2
217	Picture light fitting	Each	13

218	Box type 1 x 28watts T5 Fluorescent light fitting	Each	2
219	4W LED fixture with drivers and other accessories	Each	58
220	Main Power Panel-West Wing at 3rd Floor	Each	1
221	Main Panel - West Wing at 4th Floor	Each	1
222	AC Panel - West Wing at 3rd Floor	Each	1
223	AC Panel- West Wing at 4th Floor	Each	1
224	Outgoing UPS Panel-West Wing at 4th Floor	Each	1
225	Sub Lighting Panel - West Wing at 3rd Floor	Each	1
226	Sub Lighting Panel - West Wing at 4th Floor	Each	1
227	Power Distribution Board (8 way TPN)	Each	4
228	Lighting Distribution Board (12 way TPN)	Each	4
229	UPS Distribution Board (8 way TPN)	Each	4
230	UPS Distribution Board (6 way TPN)	Each	1
231	UPS Distribution Board (4 way TPN)	Each	1
232	A/C Distribution Board (12 way TPN)	Each	3
233	Emergency lighting Distribution Board (SPN)	Each	2
234	S/I/L of 3.5 Core x 185 sq.mm AYXFY	RM	220
235	S/I/L of 3.5 Core x 95 sq.mm AYXFY	RM	45
236	S/I/L of 3.5 Core x 70 sq.mm AYXFY	RM	125
237	S/I/L of 3.5 Core x 50 sq.mm AYXFY	RM	60
238	S/I/L of 3.5 Core x 25 sq.mm AYXFY	RM	180
239	S/I/L of 4 Core x 16 Sq.mm. AYWY.	RM	735
240	S/I/L of 4 Core x 10 Sq.mm. AYWY.	RM	90
241	S/I/L of 3 Core x 16 Sq.mm. AYWY.	RM	30
242	S/I/L of 4 Core x 1.5 Sq.mm. YWY.	RM	140
243	S/I/L of 3 Core x 4 Sq.mm. YFY.	RM	235
244	S/I/L/C of 3.5 Core x 185 sq.mm AYXFY (DC terminations)	Each	8
245	S/I/L/C of 3.5 Core x 95 Sq.mm. AYXFY.(SC lugs terminations)	Each	2

246	S/I/L/C of 3.5 Core x 70 Sq.mm. AYXFY.(SC lugs terminations)	Each	8
247	S/I/L/C of 3.5 Core x 50 Sq.mm. AYXFY.(SC lugs terminations)	Each	4
248	S/I/L/C of 3.5 Core x 25 Sq.mm. AYXFY.(SC lugs terminations)	Each	2
249	S/I/L/C of 4 Core x 16 Sq.mm. AYWY.(SC lugs terminations)	Each	24
250	S/I/L/C of 4 Core x 10 Sq.mm. AYWY.(SC lugs terminations)	Each	2
251	S/I/L/C of 3 Core x 16 Sq.mm. AYWY.(SC lugs terminations)	Each	2
252	S/I/L/C of 4 Core x 1.5 Sq.mm. YWY.(SC lugs terminations)	Each	8
253	S/I/L/C of 3 Core x 4 Sq.mm. YWY.(SC lugs terminations)	Each	6
254	S/I/T/C of 4Runs of 16 Sq.mm Cu. PVC cables	RM	15
255	S/I/T/C of 4Runs of 35 Sq.mm Cu. PVC cables	RM	50
256	S/I/T/C of 3Runs of 10 Sq.mm Cu. PVC cables	RM	30
257	S/I/T/C of 5Runs of 50 Sq.mm Cu.PVC cables	RM	15
258	S/I/T/C of 5Runs of 10Sq. mm. + 2Runs of 6Sq.mm Cu. PVC cables	RM	380
259	S/I/T/C of 2Runs of 10Sq. mm. +1Run of 4Sq.mm. Cu PVC Insulated cables	RM	95
260	S/I/T/C of Copper plate earthing.	Each	3
261	S/I/T/C of pipe earthing	Each	1
262	S/I/T/C of Earth Inspection pit- 450x450mm size	Each	3
263	S/I/T/C of 8 SWG Cu bare wire for earthing	RM	400
264	S/I/T/C of 10 SWG Cu bare wire for earthing.	RM	1000
265	S/I/T/C of 2 Runs of 35Sq. mm. PVC Insulated copper conductor flexible cable	RM	110
266	S/I/T/C of 2 Runs of 16Sq. mm. PVC Insulated copper conductor flexible cable	RM	220
267	S/I/T/C of 2 Runs of 10Sq. mm. PVC Insulated copper	RM	60

	conductor flexible cable		
268	S/I/T/C of 1 Run of 6Sq. mm. PVC Insulated copper conductor wires	RM	190
269	S/I/T/C of 400 mm. long 50 x 6 mm. Copper flat	Each	2
270	S/I/T/C of 300 mm. long 25 x 6 mm. Copper flat	Each	8
271	S/I/T/C of 450 mm. long 50 x 6 mm. GI flat	Each	6
272	S/I/T/C of 50 x 6mm G I flats	RM	600
273	S/I/T/C of 25 x 6mm G I flats	RM	160
274	S/I/T/C of 25 x 6mm Cu. flats	RM	10
275	S/I/C of 100mm wide, 45mm deep single Compartment, 16 SWG	RM	2
276	S/I/C of 100mm wide, 25mm deep single Compartment, 16 SWG	RM	30
277	S/I/C of 150mm x 150mm x 30mm, 14 SWG MS Junction Box	Each	20
278	S/I/C of 250mm x 250mm x 30mm, 14 SWG MS Junction Box	Each	6
279	S/I/C of 350mm x 200mm x 30mm, 14 SWG MS Junction Box	Each	4
280	S/I/C of 450mm x 200mm x 30mm, 14 SWG MS Junction Box	Each	2
281	S/I/C of 300mm(W) x 100mm(H) MS trunking	RM	135
282	S/I/C of 200mm(W) x 100mm(H) MS trunking	RM	10
283	S/I/C of 150mm(W) x 100mm(H) MS trunking	RM	230
284	S/I/C of 300mm(W) x 50mm(H) GI perforated cable trays	RM	195
285	S/I/C of 150mm(W) x 50mm(H) GI perforated cable trays	RM	215
286	S/I/C of 300mm(W) x 75mm(H) GI perforated cable trays	RM	10
287	S/I/C of 450mm(W) x 50mm(H) GI ladder type trays	RM	85
288	S/I/C of 300mm(W) x 50mm(H) GI ladder type trays	RM	80
289	S/I/C of 25mm DIA PVC CONDUITS	RM	2400

290	S/I/C of 32mm DIA PVC CONDUITS	RM	1450
291	S/I/C of 25mm DIA 16SWG thick MS CONDUITS	RM	200
292	S/I/C of 32mm DIA 16SWG thick MS CONDUITS	RM	110
293	Structural work	KG	4100
294	Liasion with The Chief Electrical Inspector	Each	2
295	FIRE ALARM CONTROL PANEL - 2 LOOPS	Each	1
296	OPTICAL SMOKE DETECTOR	Each	84
297	OPTICAL HEAT DETECTOR	Each	1
298	OPTICAL MULTISENSOR DETECTOR	Each	7
299	DUCT OPTICAL SMOKE DETECTOR WITH PROBE	Each	4
300	MONITOR INPUT MODULE	Each	4
301	CONTROL RELAY OUTPUT MODULE	Each	7
302	SHORT CIRCUIT ISOLATORS	Each	4
303	MANUAL CALL POINT/PULL STATION	Each	20
304	EMERGENCY BREAK GLASS	Each	1
305	Mimic panel	Each	2
306	S/I/T/C of 2C x 1.5 Sqmm Ar. Cu FRLS cables	RM	1100
307	25 MM Rigid GI conduits	RM	860
308	25 MM PVC Coated flexible metal conduits	RM	170
309	S/L/C of 150mm dia GI C class pipe	RM	10
310	S/L/C of 100mm GI C class pipe	RM	10
311	80mm nominal dia	RM	90
312	65mm nominal dia	RM	50
313	50mm nominal dia	RM	50
314	40mm nominal dia	RM	20
315	32mm nominal dia	RM	50
316	25mm nominal dia	RM	184
317	15 mm dia Pendent type sprinkler head	Each	180
318	Dial type pressure guage for 150 mm dia	Each	2

319	Flow Switches with two NO and two NC contacts	Each	2
320	C.I butterfly flanged valves -50mm dia	Each	2
321	C.I butterfly flanged valves 100mm dia	Each	4
322	Non Return Valve of 150mm dia	Each	3
323	Rosette plates (Recessed type, in two piece)	Each	184
324	Stainless steel corrugated flexible pipe(hose)	Each	184
325	Drain Pipe (25 mm)	RM	10
326	5 kg automatic dry powder fire extinguisher	Each	2
327	5 kg CO2 fire extinguisher	Each	10
328	Supply & fixing of 10 kg DCP extinguisher	Each	10
329	S/I/T/C of 35 Litres Cylinder	Each	1
330	S/I/T/C of 25 Litres Cylinder	Each	1
331	S/I/T/C of FM200(HFC-227ea) Gas	KG	65
332	S/I/T/C of Primy. Completr Kit	Each	1
333	S/I/T/C of FM200 Check Valve	Each	2
334	S/I/T/C of FM200 Nozzles	Each	3
335	S/I/T/C of FM200 Rk-Wl.Mnt.Kit	Each	1
336	S/I/T/C of FM200 MS Smls Pipe	RM	15
337	S/I/T/C of two zone Gas Rls.Panel	Each	1
338	S/I/T/C of Smoke Dtctr: FM 200	Each	3
339	S/I/T/C of Man.Rel.Switch: FM 200	Each	2
340	S/I/T/C of Abort Switch: FM 200	Each	2
341	S/I/T/C of Elec.Hooter: FM 200	Each	2
342	BACnet BUILDING CONTROLLER / WEB SERVER (B-BC)	Each	1
343	DDC 1 : (02 AI, 02 AO, 25 BI, 07 BO)	Lot	1
344	DDC 2 : (02 AI, 02 AO, 28 BI, 08 BO)	Lot	1
345	Pole mounted outdoor Temperature + Humidity sensor	Each	1
346	Current Sensor	Each	8

347	Workstation	Each	1
348	S/I/T/C of 3Cx0.75 SQ.MM Multistrandard Screened cable	RM	550
349	S/I/T/C of 2Cx0.75 SQ.MM Multistrandard Screened cable	RM	300
350	S/I/T/C of 2Cx0.75 SQ.MM Multistrandard Un-Screened cable	RM	600
351	S/I/T/C of 4Cx0.75 SQ.MM Multistrandard Screened cable	RM	300
352	S/I/T/C of 4Cx0.75 SQ.MM Multistrandard Un-Screened cable Binary signal	RM	600
353	Hardware and software to integrate VRF system with the BMS.	Lot	1
354	Hardware and software to interface/integrate energy meters	Lot	1
355	Hardware and software to interface/integrate Fire Alarm panel	Lot	1
356	Hardware and software to interface/integrate UPS system	Lot	1
357	Hardware and software to interface/integrate Generator system	Lot	1
358	Hardware and software to interface/integrate FM 200	Lot	1
359	Hardware and software to interface/integrate Access Control System	Lot	1
360	Hardware and software to interface/integrate CCTV	Lot	1
361	Supply of Cat6e cable	RM	16480
362	Supply of Cat6e Information outlet	Each	330
363	Supply of 24 Port cat 6e Patch Panel	Each.	15
364	Supply of Rack 42U Equipment Rack	Each.	2
365	Supply of Patch cables (2 Meters) cat6e	Each.	550
366	Supply of Cat 5e Cable	RM	6000

367	Supply of Cat 5e Information Outlet (I/O)	Each.	240
368	Supply of Cat5e 24 port voice Patch Panel	Each.	11
369	S/I of 32 mm PVC Conduit Pipe	RM	500
370	S/I of 25 mm PVC Conduit Pipe	RM	1700
371	Supply of Network Face Plates(4 Ports)	Each.	170
372	S/I of Cable Manger	Each.	25
373	Supply & installation of RJ11 Pins	Each.	100
374	Supply & installation of MDF Tag Block 100 pair (For Voice)	Each.	4
375	Rizer Cable (100 Pair)	RM	120
376	12 Core Optic Fiber- Multi Mode	RM	70
377	Fiber Media converter & other accessories	Each.	6
378	Installation ,testing & commissioning of data points	Each.	570
379	IP Based Flexi Dome Camera with required Power adaptor	Each	18
380	Digital Network Attached Storage Array	Each	1
381	Video Management Client Software	Each	2
382	Work Station for Video Management	Each	2
383	40" LED Display for Monitoring	Each	2
384	2Cx1.5 Sqmm,multi strand,copper,shielded,un-armoured cable	RM	1300
385	Installation and Commissioning of CCTV system.	Lot	1
386	Voice Alarm Controller	Each	1
387	Voice Alarm Call Station with keypad	Each	1
388	Ceiling Loud Speaker	Each	85
389	Mixer & Amplifier	Each	1
390	4 Channel Power Amplifier	Each	1
391	DVD, Tuner, MP3 Player	Each	1
392	Volume Controller for Cabin	Each	50

393	2x2.5sq.mm speaker cable	RM	2400
394	22U Equipment Rack with Accessories	Each	3
395	Installation and Commissioning of PA system	Lot	1
396	ACCESS CONTROLLER	Each	5
397	Smart Card Reader	Each	14
398	Smart Card Biometric Reader	Each	4
399	16KB, 16 application area smart cards	Each	1
400	ACCESS CONTROL SOFTWARE & HARDWARE	Each	1
401	Double Door Electro Magnetic Lock	Each	20
402	Door Position Sensor for door information feed back	Each	20
403	Exit Push Button	Each	1
404	Power Supply for Electro Magnetic Lock.	Each	10
405	Power Supply for Biometric reader	Each	24
406	6Cx 0.2 sq mm multi strand, copper, unarmoured shielded Cable	RM	200
407	2Cx 1.5 Sqmm,multi strand,copper,shielded,un armoured cable	RM	700
408	Server	Each	1
409	Workstation	Each	2
410	125 mm PVC Conduit with accessories	RM	35
411	Installation and Commissioning of access system	Lot	1
412	HD Video conferencing System	Each	1
413	Full HD Multi Media Projector	Each	1
414	Cross Point Switcher	Each	1
415	Cable Cubby Type	Each	9
416	8' x 6' Motorized Screen	Each	1
417	55" LED / LCD Display.	Each	2
418	240W Mixer Amplifier	Each	1
419	Line Array Loud Speaker 90 / 60W	Each	2
420	4000 W, 4 Zone Lighting Controller Control	Each	1

421	RGBHV Cable	RM	300
422	2 core shielded cable	RM	200
423	3 core x 1.5 sqmm Power cable	RM	100
424	Video Coaxial Cable	RM	400
425	VGA Switcher	Each	1
426	Installation and Commissioning of AV& VC system	Lot	1