

**National Institute of Health & Family Welfare
(NIHFW), Munirka, New Delhi.**

Tender

For

**Construction of International Hostel for National Institute of
Health & Family Welfare (NIHFW) at Munirka, New Delhi.**

BILL OF QUANTITIES (AMMENDED)

Volume-V

October' 2012



HSCC (INDIA) LTD.
(CONSULTANTS & ENGINEERS FOR MEGA HOSPITALS & LABORATORIES)
E-6(A), sector-1, NOIDA(U.P) 201301 (India)

Phone : 0120-2542436-40

Fax : 0120-2542447

Tender No. HSCC/NIHFW/HOSTEL/2012

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

SUMMARY

S.No	DESCRIPTION OF WORK	AMOUNT (Rs)
1	CIVIL WORK	
2	PLUMBING WORK	
3	FIRE FIGHTING WORK	
4	ELECTRICAL WORK	
5	HVAC WORK	
	TOTAL	

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

ABSTRACT OF COST(Civil Work)		
S.No	DESCRIPTION OF WORK	AMOUNT (Rs)
1	EARTHWORK	
2	CONCRTE WORK	
3	RCC WORK	
4	BRICK WORK	
5	DOORS & WINDOWS	
6	STEEL WORK	
7	FLOORING	
8	CEILING & ROOFING	
9	FINISHING	
10	MISCELLANEOUS	
11	Road Work and Development	
	TOTAL	

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work

Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
1.00	EARTH WORK					
1.01	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50m and lift up to 1.5m, disposed earth to be levelled and neatly dressed.					
a)	All kinds of soil	1786.00	cum			
b)	Ordinary rock	10.00	cum			
c)	Hard rock (blasting prohibited)	10.00	cum			
1.02	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.					
a)	All kinds of soil.	10.00	cum			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
1.03	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m.	1875.00	cum			
1.04	Extra for every additional lift of 1.5 m or part thereof in excavation/banking excavated or stacked materials.					
a)	All kinds of soil.					
i)	1.5 to 3.0m	100.00	cum			
1.05	Supplying and filling in plinth with jamuna sand under floors including, watering, ramming consolidating and dressing complete.	97.00	cum			
1.06	Extra for disposal of excavated earth for additional lead beyond 50m or part thereof upto 9 such additional leads					
a)	All kinds of soil	1875.00	cum			
	Total					

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
2.00	Concrete Work					
2.01	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:					
a)	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	5.00	cum			
b)	1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size).	165.00	cum			
c)	1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size)	114.00	cum			
2.02	Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets etc. up to floor five level, excluding the cost of centering, shuttering and finishing:					
a)	1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	5.00	cum			
2.03	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 12.5mm nominal size).	109.00	sqm			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
2.04	Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer specification .	29.00	per 50 kg cement			
2.05	Applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	109.00	sqm			
2.06	Providing and laying in position cement concrete 1:5:10 (1 Cement : 5 fine sand : 10 broken brick bats 40 mm nominal size) including consolidation etc all complete.	58.00	100 sqm			
2.07	Providing precast cement concrete Jali 1:2:4 (1 cement : 2 coarse sand:4 graded stone aggregate 6 mm nominal size), reinforced with 1.6 mm dia mild steel wire, including centering and shuttering, roughening cleaning, fixing and finishing in cement mortar 1:3 (1 cement: 3 fine sand) etc. complete, excluding plastering of the jambs, sills and soffits.					
a)	50 mm thick	300.00	sqm			
	Total					

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
3.00	REINFORCED CEMENT CONCRETE					
3.01	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge.					
	(Note :- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately).					
a)	All works upto plinth level	324.00	cum			
b)	All work above plinth level upto floor V level	638.00	cum			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
3.02	Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using fly ash and cement content as per approved design mix, and manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering, finishing and reinforcement, including cost of admixtures in recommended proportions as per IS : 9103 to accelerate / retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge.					
	(Note :- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately). Fly ash conforming to grade 1 of IS: 3812 (Part-1) only be used as part replacement of OPC as per IS:456. Uniform blending with cement to be ensured in accordance with clause 5.2 and 5.2.1 of IS:456-2000 in the items of BMC and RMC.					

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
a)	All works upto plinth level	36.00	cum			
b)	All work above plinth level upto floor V level	71.00	cum			
3.03	Add or deduct for providing richer or leaner mixes respectively at all floor levels.					
a)	Providing M-30 grade concrete instead of M-25 grade BMC/ RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum)	160.00	cum			
3.04	Centering and shuttering including strutting, propping etc. and removal of form for:					
a)	Foundations, footings, bases of columns, etc. for mass concrete.	159.00	sqm			
b)	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	64.00	sqm			
c)	Suspended floors, roofs, landings, balconies and access platform.	2054.00	sqm			
d)	Shelves (Cast in situ)	85.00	sqm			
e)	lintels, beams, plinth beams. girders. bressumers and cantilevers.	2430.00	sqm			
f)	Columns, Pillars, Piers, Abutments, Posts and Struts.	2245.00	sqm			
g)	Stairs, (excluding landings) except spiral-staircases	120.00	sqm			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
h)	Small lintels not exceeding 1.5m clear span, moulding as in cornices, window sills, string courses, bands, copings, bed plates, anchor blocks and the like.	9.00	sqm			
j)	Extra for shuttering in circular work for					
i)	columns	10.00	Sqm			
ii)	Beams	10.00	sqm			
3.05	Extra for additional height in centering, shuttering where ever required with adequate bracing, propping etc. including cost of de-shuttering and decentering at all levels, over a height of 3.5 m, for every additional height of 1 metre or part thereof (Plan area to be measured)					
a)	Suspended floors, <i>roofs</i> , landings, beams and balconies (Plan area to be measured).	500.00	sqm			
3.06	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.					
a)	Thermo-Mechanically Treated bars	164551.00	Kg			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
3.07	Add for using extra cement in the items of design mix over and above the specified cement content therein.	100.00	Qtl			
Total						

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
4.00	BRICK WORK					
4.01	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:					
a)	Cement mortar 1:6 (1 cement: 6 coarse sand)	70.00	cum			
4.02	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level					
a)	Cement mortar 1:6 (1 cement: 6 coarse sand)	328.00	cum			
4.03	Brick work with common burnt clay machine moulded modular bricks of class designation 12.5 in exposed brick work including making horizontal and vertical grooves 10 mm wide 12 mm deep complete in cement mortar 1:6 (1 cement : 6 coarse sand).					
a)	From ground level upto plinth level	70.00	cum			
b)	Above plinth level upto floor V level	562.00	cum			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
4.04	Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundations and plinth in :					
a)	cement mortar 1:4 (1 cement: 4 coarse sand)	10.00	sqm			
4.05	Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level.					
a)	Cement mortar 1:4 (1 cement :4 coarse sand)	780.00	sqm			
4.06	Extra for providing and placing in position 2 Nos. 6mm dia. M.S. bars at every third course of half brick masonry (with F.P.S. bricks).	790.00	sqm			
4.07	Brick edging 7cm wide 11.4 cm deep to plinth protection with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 including grouting with cement mortar 1:4 (1 cement : 4 fine sand).	237.00	Metre			
Total						

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
5.00	DOORS, WINDOWS AND FITTINGS					
5.01	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :					
a)	For fixed portion					
i)	Powder coated aluminium (minimum thickness of powder coating 50 micron)	2237.00	kg			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
b)	For shutters of doors, windows & ventilators including providing and fixing hinges/pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately).					
a)	Powder coated aluminium (minimum thickness of powder coating 50 micron)	662.00	kg			
5.02	Providing and fixing anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868. Minimum anodic coating of grade AC 15) sub frame work for windows and ventilators a with extruded built up standard tubular sections of approved make conforming to IS: 733 and IS : 1285 fixed with dash fastener of required dia and size(Dash fastener to be paid for separately).	427.00	kg			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
5.03	Providing and fixing pressed steel door frames conforming to IS: 4351, manufactured from commercial mild steel sheet of 1.60 mm thickness, including hinges, jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50x25 mm, or base ties of 1.60 mm, pressed mild steel welded or rigidly fixed together by mechanical means, including M.S. pressed butt hinges 2.5 mm thick with mortar guards, lock strike-plate and shock absorbers as specified and applying a coat of approved steel primer after pre-treatment of the surface as directed by Engineer-in-charge:					
a)	Profile C					
i)	Fixing with adjustable lugs with split end tail to each jamb	10.00	metre			
5.04	Providing and fixing 12mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-in-charge.					

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
a)	Pre-laminated particle board with decorative lamination on both sides.	10.00	Sqm			
5.05	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge. (Cost of aluminium snap beading shall be paid in basic item) :					
a)	With float glass panes of 5.50 mm thickness	95.00	sqm			
5.06	Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315, having brand logo embossed on the body / plate with double spring mechanism and door weight upto 125 kg, for doors, including cost of cutting floors, embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge.					
a)	With brass cover plate minimum 1.25 mm thickness	2.00	each			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
5.07	Providing and fixing anodised aluminium grill (anodised transparent or dyed to required shade according to IS: 1868 with minimum anodic coating of grade AC 15) of approved design/pattern, with approved standard section and fixed to the existing window frame with C.P. brass/ stainless steel screws @ 200 mm centre to centre, including cutting the grill to proper opening size for fixing and operation of handles and fixing approved anodised aluminium standard section around the opening, all complete as per requirement and direction of Engineer-in-charge. (Only weight of grill to be measured for payment).	2229.00	kg			
5.08	Providing and fixing ISI marked flush door shutters conforming to IS: 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters :					
a)	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws.	221.00	sqm			
b)	25 mm thick (for cupboard) including ISI marked nickel plated bright finished M.S. piano hinges with necessary screws	186.00	sqm			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
5.09	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of shutters (over all area of door shutter to be measured).	407.00	sqm			
5.10	Extra for providing vision panel not exceeding 0.1 sqm in all type of flush doors (cost of glass excluded) (overall area of door shutter to be measured) :					
a)	Rectangular or square.	204.00	sqm			
5.11	Providing and fixing flat pressed 3 layer particle board medium density exterior grade (Grade I) or graded wood particle board IS : 3087 marked, to frame, backing or studding with screws etc. complete (Frames, backing or studding to be paid separately) :					
a)	18 mm thick	461.00	sqm			
5.12	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length (hold fast lugs or dash fastener shall be paid for separately).					

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
a)	Second class teak wood	2.00	Cum			
5.13	Providing and fixing curtain rods of 1.25 mm thick chromium plated brass plate, with two chromium plated brass brackets fixed with C.P. brass screws and wooden plugs, etc., wherever necessary complete					
a)	20 mm dia	45.00	mtr			
5.14	Extra for providing frosted glass panes 4 mm thick instead of ordinary float glass panes 4 mm thick in doors, windows and clerestory window shutters. (Area of opening for glass panes excluding portion inside rebate shall be measured).	20.00	sqm			
5.15	Providing glass panes, with wooden fillets wherever necessary.					
a)	Float glass panes of thickness 4 mm	10.00	Sqm			
5.16	Extra for Providing etching on glass panes in doors, windows shutters, partition etc in desired pattern complete as per drawing and as directed.(Area of etching shall be measured for payment)	20.00	sqm			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
5.17	Providing & Fixing decorative high pressure laminated sheet of plain / wood grain in gloss / matt / suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S including cost of adhesive of approved quality					
a)	1.0 mm thick.	442.00	sqm			
5.18	Providing and installation of fully insulated wooden fire rated shutter of 120min. fire rating conforming to BS: 476 part 22 and IS:3614 Part II as per the prototype tested and certified by CBRI Roorkee, of 55mm thickness, comprising of 75mm x 49mm hardwood internal timber frame work, with infill of 96 kg/m ³ , ceramic fiber blankets, coated with VIPER FR or equivalent intumescent coating on both sides for insulation. The coated insulation shall be sandwiched between 12mm thick, Non combustible Boards (Calcium Silicate) on both sides (edge to edge on internal Hardwood frame) and clad with 3mm thick commercial ply of approved quality & 1mm thick laminate of approved brand and manufacture on both sides, with 55mm x 14mm 2nd class teak wood lipping all round the shutter.					

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
	The shutter is suitable for mounted on the door frame, as per the item given below.. Both frame and shutter shall be fitted with fire & smoke intumescent seal of Viper or equivalent make of size 20 x 4mm on all the three sides except bottom. The pasting of the ply/veneer/laminate should be done using automatic machine and should be free from any nails or perforations. The board shall be Resistant to vermin, mould growth, minor impact, abrasion and short term water attack. The shutter shall be fixed with the frame with the help of SS 304 grade ball bearing hinges of size 100x76x2mm with necessary screws and making cut out for vision panel. Provisions/reinforcement for fixing all fixtures shall be built in on the door prior to the supply.					
a)	Single/Double Shutter	32.00	sqm			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
5.19	Providing and fixing door frames as per BS: 476 part 22, IS:3614 Part II as per the prototype certified by CBRI Roorkee made out of 2nd class Teak Wood (Ivory Coast)frame of section 140x65mm for fire resistant doors of 120 minutes fire rating, with heat activated intumescent fire seal strips of size 20 x 4 mm(for smoke sealing) provided in grooves on all three sides of the frame with one coat of approved brand of fire retardant primer including two coats of fire retardant paint FR 881 or equivalent un thinned on cleared hard wood surface of door frames (@3.5 sq.m. per litre per coat) including preparation of base surface as per recommendations of manufacturer to make the surface fire retardant, including fixing the frame with 8 nos. 100 mm long, 10 mm dia metal dash fastners complete as per directions of the Engineer in charge NOTE:- cost of fire seal strips, dash fastners are included in the item. Nothing extra shall be paid if size of any component of material exceeds the limit mentioned in the item.	72.00	Metre			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
5.20	Providing and fixing UL listed door Co-ordinator (of Becker Fire Solutions or approved equivalent Make) for coordination of double leaf doors, of approved brand and manufacture with minimum one year warrantee.	10.00	Each			
5.21	Providing & fixing of Fire-stop Fire sealing System Board Type(barriers) of approved make for sealing of floors, wall openings under control panels for the purpose of compartmentation.The FPSS consists of 100mm thick mineral wool insulation pad (density 48 kg per cum) coated with FR in tumescent compound encased with 10 mm thick GRG board of approved brand and manufacture, sealed with intumescent Fire Seal Putty SP#711 of VIPER or equivalent make. The system is coated and fixed with openings with the help of M.S. slotted angles of size 40X40X5mm , nutbolts and dash fasteners of approved make and quality, wire net etc. The FPSS system must provide min. 2 hours fire rating as per IS 12458-1989.After insulation of this system it will be painted with Fire Retardant Paint.					

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
	CERTIFICATION of specialized agency of the system has to be tested at CBRI, Roorkee for 2 hrs. Fire rating as per the following specifications. 1. BS: 476 Part 8. 2. UL: 1479 . ISO:834 4. ASTM E 814 5. ASTM E 119 6. IS: 12458-1989	5.00	sqm			
5.22	Providing and fixing 6 mm thick pyroswiss extra or equivalent fire rated clear toughened glass of approved make, of 120 minutes fire rating to be fixed in vision panel including cost of fire ceramic tape and moulding/beading etc all complete	5.00	sqm			
5.23	Providing and fixing Aluminium die cast body tubular type universal hydraulic door closer (having brand logo with ISI:3564, embossed on the body,door weight upto 35 kg and door width upto 700 mm), with necessary accessories and screws etc. complete.3	105.00	each			
5.24	Providing and fixing aluminium sliding door bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS: 1868) transparent or dyed to required colour or shade with nuts and screws etc. complete:					
a)	300x16 mm	2.00	each			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
b)	250x16 mm	2.00	each			
5.25	Providing and fixing aluminium tower bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete:					
a)	250x10 mm	151.00	each			
b)	150x10 mm	315.00	each			
5.26	Providing and fixing aluminium handles ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete :					
a)	125 mm	302.00	each			
b)	100 mm	10.00	each			
5.27	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade with necessary screws etc. complete.					
a)	Twin rubber stopper	151.00	each			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
5.28	Providing and fixing bright finished brass 100 mm mortice latch and lock ISI marked with six levers and a pair of anodised (anodic coating not less than grade AC 10 as per IS : 1868) aluminium lever handles of approved quality with necessary screws etc. complete.	105.00	each			
5.29	Providing and fixing stainless steel (SS 304 grade) adjustable friction windows stays of approved quality with necessary stainless steel screws etc. to the side hung windows as per direction of Engineer-in-charge complete.					
a)	255 X 19 mm	138.00	each			
5.30	Providing and fixing aluminium tubular handle bar 32 mm outer dia, 3.0 mm thick & 2100 mm long with SS screws etc .complete as per direction of Engineer-in-Charge.					
a)	Powder coated minimum thickness 50 micron aluminium tubular handle bar.	4.00	each			
5.31	Providing and fixing 100mm brass locks (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete.	2.00	each			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
5.32	Providing and fixing aluminium casement windows fastener of required length for aluminium windows with necessary screws etc. complete.					
a)	Powder coated minimum thickness 50 micron aluminium.	138.00	each			
5.33	Providing and fixing aluminium round shape handle of outer dia 100mm with SS screws etc. complete as per direction of Engineer-in-charge					
a)	Powder coated minimum thickness 50 micron aluminium	2.00	each			
5.34	Providing and fixing special quality bright finished brass cupboard or ward robe locks with four levers of approved quality including necessary screws etc. complete					
a)	40 mm	72.00	each			
5.35	Providing and fixing bright finished brass hasp and staple (safety type) with necessary screws etc. complete					
a)	150 mm	72.00	each			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
5.36	Providing and fixing of UL listed fire rated single/double leaf panic exit devices tested in accordance with BS EN 1125: 1997 & BS EN 179: 1997, EN 1670 (Corrosion Resistant), & BS 476 Part 22 (for fire rating) with min. one year warrantee.					
a)	Double Leaf	10.00	each			
5.37	Providing and fixing of fire rated heavy duty door closer tested in accordance with BS:476 Part 22 for fire rating) and BS EN 1154 with minimum one year warranty.	10.00	each			
5.38	Providing and fixing fire rated mortice lock with lever handle tested in accordance with European Standard EN12209 / DIN18251 and 80mm Long cylinder to EN1303 of SCHLAGE (IR) EL2020 or approved equivalent manufacturer having 1 year manufacturers warranty.	10.00	each			
5.39	Providing and fixing 300 mm long stainless steel grade 304 D type back to back pull handle (of Dorset or approved equivalent make) with necessary bolts with alen key arrangement etc complete.	20.00	each			
	Total					

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
6.00	Steel Works					
6.01	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming cost with approved steel primer all complete.					
a)	Fixed to steel windows by welding.	50.00	kg			
6.02	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.					
a)	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	500.00	Kg			
6.03	Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing and staircase railing including applying a priming coat of approved steel primer.					
a)	M.S. tube.	50.00	Kg			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
6.04	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	771.00	kg			
Total						

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
7.00	Flooring					
7.01	Cement concrete flooring 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate) finished with a floating coat of neat cement including cement slurry, but excluding the cost of nosing of steps etc. complete.					
a)	40mm thick with 20mm nominal size stone aggregate.	40.00	sqm			
7.02	Cement plaster skirting (up to 30 cm height) with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement.					
a)	18 mm thick.	5.00	sqm			
7.03	Providing and fixing glass strips in joints of <i>terrazo</i> / cement concrete floors.					
a)	40 mm wide and 4 mm thick.	100.00	Metre			
7.04	Marble stone flooring/skirting with 18mm thick marble stone sample of marble shall be approved by Engineer-in-charge over 20 mm (average) thick base of cement mortar 1:4 (1 cement: 4 coarse sand) laid and jointed with grey cement slurry including rubbing and polishing complete with:					

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
a)	Raj Nagar Plain	338.00	sqm			
b)	Udaipur green marble	681.00	sqm			
7.05	18mm thick Prepolished Granite (Base Rate 125/- Sqft) in Risers, skirting and dado/wall cladding over 12mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointed with grey cement including pointing with white cement mixed with pigment matching the shade of granite stone all complete and as directed.	122.00	sqm			
7.06	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :					
a)	25 mm thick.	184.00	sqm			
7.07	Kota stone slabs 25 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	16.00	sqm			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
7.08	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS : 15622 (thickness to be specified by the manufacturer) of approved make in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thick bed of cement Mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete.	949.00	sqm			
7.09	Providing and laying rectified Glazed Ceramic floor tiles 300x300 mm or more (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in all colours, shades, except White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick Cement Mortar 1:4 (1 Cement : 4 Coarse sand) including pointing the joints with white cement and matching pigments etc., complete.	197.00	sqm			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
7.10	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption's less than 0.08% and conforming to IS : 15622 of approved make in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement: 4 coarse sand) including grouting the joints with white cement and matching pigments etc., complete					
a)	Size of Tile 600x600 mm	1099.00	sqm			
7.11	Providing and fixing 18mm thick gang saw cut mirror polished premoulded and prepolished) machine cut for kitchen platforms, vanity counters, window sills. facias and similar locations of required size of approved shade, colour and texture laid over 20mm thick base cement mortar 1:4 (1 cement : 4 coarse sand) with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edge to give high gloss finish etc. complete at all levels					
a)	Granite of any colour and shade					
i	Area of slab upto 0.50 sqm	5.00	sqm			
ii	Area of slab over 0.50 sqm.	24.00	sqm			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
7.12	Providing edge moulding to 18 mm thick marble stone counters, Vanities etc., including machine polishing to edge to give high gloss finish etc complete as per design approved by Engineer-in-Charge					
a)	Granite work.	149.00	metre			
7.13	Extra for fixing marble /granite stone over and above corresponding basic item, in fascia and drops of width upto 150 mm with epoxy resin based adhesive including cleaning etc. complete.	149.00	metre			
7.14	Extra for providing opening of required size & shape for wash basins/ kitchen sink in kitchen platform, vanity counters and similar location in marble/Granite/stone work including necessary holes for pillar taps etc. including rubbing and polishing of cut edges etc. complete.	5.00	Nos			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
7.15	Chequered terrazo tiles 22 mm thick with graded marble chips of size up to 6 mm in floors jointed with neat cement slurry mixed with pigment to match the shade of the tiles including rubbing and polishing complete on 20 mm thick bed of cement mortar 1:4 (1 cement :4 coarse sand) :					
a)	Medium shade using 50%white cement 50% ordinary cement	16.00	sqm			
7.16	P/L 8mm thick (EN13329) laminated Flooring including skirting (class use of 23/31 AC 3 with 0.2mm thick direct pressure laminated on top) plank size 1290 X 194 mm & groove construction with edge impregnate with seal to secure long lasting joints ,secured together with the help of suitable glue, conforming to EN 13329.	206.00	sqm			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
7.17	Granite stone/ Engineering Stone flooring with 18 mm thick stone, rectangular shape, (minimum size of stone should be 0.45 sqm and one dimension not less than 700 mm) as per drawing or as per the pattern as approved by the client/ architect/ engineer, over 20 mm thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with grey cement slurry mixed with pigment to match the shade of stone including rubbing and polishing complete.					
a)	Granite stone of approved quality (Base rate Rs 125 per Sft)	145.00	Sqm			
	Total					

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
8.00	CEILING & ROOFING					
8.01	Providing and fixing at all height false ceiling including providing and fixing of frame work made of special sections power pressed from M.S. sheet and galvanised in accordance with zinc coating of grade 350 as per IS : 277 and consisting of angle cleats of size 25mm wide x 1.6mm thick with flanges of 22mm and 37mm at 1200mm centre to centre one flange fixed to the ceiling with dash fastener 12.5mm diax40mm long with 6mm dia bolts to the angle hangers of 25x25x0.55mm of required length, and other end of angle hanger being fixed with nut and bolts to G.I. channels 45x15x0.9mm running at the rate of 1200mm centre to centre to which the ceiling section 0.5mm thick button wedge of 80mm with tapered flanges of 26mm each having clips of 10.5mm at 450mm centre to centre shall be fixed in a direction perpendicular to G.I. channel with connecting clips made out of 2.64mm diax230mm long G.I. wire at every junction including fixing the gypsum board with ceiling section and perimeter channels 0.5mm thick 27mm high having flanges of 20mm and					

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
	30mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450mm centre to centre with 25mm long drive-all screws @ 230mm interval including jointing and fixing to a flush finish of tapered and square edges of the board with recommended filler, jointing tapes, finisher and two coats of primer suitable for board as per manufactures specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed all complete as per drawing and specification and direction of the Engineer in Charge but excluding the cost of painting with :					
a)	12.5 mm thick tapered edge gypsum board conforming to IS: 2095- Part I.	500.00	sqm			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
8.02	Providing and fixing 8mm thick clear multi wall polycarbonate sheets of approved quality and shade in desired shape in roofing including the cost of EPDM gaskets , sealing tape , aluminium profile and all necessary accessories complete as per architectural drawings and as directed by Engineer incharge. The item includes designing the complete system and supplying & getting approved from client and / or reputed engineering institute like IIT etc. The detailed shop drawings including supplying structural design calculations based on relevant codal provisions and carrying out water penetration test as per standards followed in India.					
	The whole work is to be done through reputed and approved vendor having experience in polycarbonate work in Commercial/ Govt/ Corporate buildings as per architectural elevation drawings including filling of joints with silicon sealant and also with masonry/ RCC work, at all heights including double heights, straight or curved etc. complete in all respect. (Plan Area shall be measured for the payment) (M.S. Framing to be paid for separately)	20.00	Sqm			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
8.03	Providing and laying water proofing treatment to vertical and horizontal surfaces of depressed portions of W.C., kitchen and the like consisting of :					
i)	v) 1st course of applying cement slurry @ 4.4 Kg/sqm mixed with water proofing compound conforming to IS 2645 in recommended proportions including rounding off junction of vertical and horizontal surface.					
ii)	vi) 2nd course of 20mm cement plaster 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound in recommended proportion including rounding off junction of vertical and horizontal surface.					
iii)	vii) 3rd course of applying blown or residual bitumen applied hot at 1.7 Kg. per sqm of area.					
iv)	viii) 4th course of 400 micron thick PVC sheet. (Overlaps at joints of PVC sheet should be 100 mm wide and pasted to each other with bitumen @ 1.7 Kg/sqm.)	365.00	sqm			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
8.04	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations: a) Applying a slurry coat of neat cement using 2.75 kg/sqm. of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300mm height including cleaning the surface before treatment. b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115mm size with 50% of cement mortar 1:5 (1 cement: 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) admixed with water proofing compound to IS : 2645 and approved by Engineer - in - charge to required slope and treating similarly the					

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
	adjoining walls upto 300 mm height including rounding of junctions of walls and slabs c) After two days of proper curing applying a second coat of cement slurry using 2.75kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge. d) Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement: 4 coarse sand) admixed with water proofing compound conforming to IS: 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3mm deep. e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. All above operations to be done in order and as directed and specified by the Engineer-in-Charge :					
a)	With average thickness of 120mm and minimum thickness at khurra as 65 mm.	815.00	sqm			
	Total					

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
9.00	Finishing					
9.01	12 mm cement plaster of mix:					
a)	1:6 (1 cement: 6 fine sand)	3234.00	sqm			
9.02	15 mm cement plaster on the rough side of single or half brick wall of mix:					
a)	1:6 (1 cement: 6 fine sand)	3953.00	sqm			
9.03	18 mm cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement: 5 coarse sand) finished with a top layer 6mm thick cement plaster 1:6 (1 cement: 6 fine sand).	100.00	sqm			
9.04	Pointing on brick work or brick flooring with cement mortar 1:3 (1 cement : 3 fine sand) :					
a)	Flush / Ruled/ Struck or weathered pointing	2415.00	Sqm			
9.05	6 mm cement plaster of mix:					
a)	1:3 (1 cement: 3 fine sand)	2544.00	sqm			
9.06	Neat cement punning	50.00	sqm			
9.07	Extra for plastering exterior walls of height more than 10 m from ground level for every additional height of 3 m or part thereof.	341.00	sqm			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
9.08	Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth complete	10231.00	Sqm			
9.09	White washing with lime to give an even shade:					
a)	New work (three or more coats)	50.00	sqm			
9.10	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade					
a)	New work (two or more coats) over and including priming coat with cement primer.	4092.40	sqm			
9.11	Finishing walls with Acrylic Smooth exterior paint of required shade:					
a)	New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including base coat of water proofing cement paint applied @ 2.20 kgl10 sqm).	200.00	sqm			
9.12	Applying one coat of cement primer of approved brand and manufacture on wall surface:					
a)	Cement primer.	6138.60	sqm			
9.13	Finishing walls with textured exterior paint of required shade:					

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
a)	New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including base coat of water proofing cement paint applied @ 2.20kg/1 0 sqm.	100.00	sqm			
9.14	Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade					
a)	Two or more coats on new work	6138.60	sqm			
9.15	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade:					
a)	Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture.	500.00	sqm			
9.16	Providing and fixing 24 gauge and 18mm mesh size chicken wiremesh at junction of concrete and brick work and other locations at all heights including cutting to required size and side laps of minimum 75mm and fixing in positions with nails/screws etc. as directed and as required at site.	300.00	sqm			
Total						

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
10.00	Miscellaneous					
10.01	Designing, supplying, fabrication and installation of semi unitised Structural glazing system in the form of fixed panels, using specially designed aluminium extruded sections, mullions and transoms having 25 micron Anodising of approved colour and shade and make with mullions fixed on the RCC beams/columns through adequately designed brackets including providing masking tape on the profiles for safety against external scratches on site complete with approved silicon sealant EPDM gasket etc. to make the structural glazing air tight and water tight as per standards and as per Architect's drawings and specifications. The design to be as per BIS code for required wind pressure IS: 875 part III and use of aluminium section alloy as per IS:8147.					

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
	System design to strictly consider for thermal movements, air infiltration, water penetration, seismic movement and structural movement. Contractor to furnish shop drawings along with sequence of work for approval of Engineer-in-charge. The minimum section shall be 131x66x2mm and per sqmt weight shall be 10kg approx., the item shall be measured and paid for actual surface area of structural glazing/aluminium composite panel supported on the frame. The work shall be carried out by the specialised agency approved by Engineer in Charge.	638.00	SqM			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
10.02	Extra for providing & fixing 24mm made up thickness insulated glass over above corresponding item hermetically sealed with 6mm heat strengthend toughened solar control off line coated high performance temperable glass of approved colour having reflective soft coating and 6mm clear toughned float glass inside with 12mm dry air cavity between two glass panes separated by a hollow aluminium spacer bar with twin lines of micro holes as approved filled with molecular desiccant of approved make and using primary hot meld duly and secondary polysulphide or silicon sealant of approved make all complete over above item. (U value less than 2.85w/sqm k, shading cofficent less than 0.55, solar factor less than 0.25, light transmission minimum 25%)	638.00	SqM			
10.03	Making plinth protection 50 mm thick of cement concrete 1:3:6 (1 cement: 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including finishing the top smooth.	194.00	SqM			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
10.04	Providing and fixing of sinages of varying sizes and shapes using stainless steel sheet of minimum 16G thickness brush finish including engraving/etching of letters of required size filled with colour as desired by engineer,fixing with ss screws on walls	1280.00	sqinch			
10.05	Providing and fixing of sinages of varying sizes made of hollow aluminum sections of 150 mm width.with both hollow ends capped with suitable PVC/aluminium cover plates of required including hanging from ceiling by two adjustable suspenders of appropriate dia made of MS/GI bars ,lettering on vinyle sheet and pasting on it with pictogram complete as per technical specifications and directions of Engineer.	100.00	r/ft			
10.06	Providing and fixing of external sinages of varying sizes and shapes using GI sheet of atleast 22 G / aluminium sheet of suitable gauge complete as per technical specifications and directions of Engineer.	180.00	sqft			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
10.07	Providing and fixing MS support frame for external signages made of structural steel including welding, priming, painting foundation with 1:1.5:3 cement concrete complete as per drawing, technical specifications and directions of engineer.	2160.00	Kg			
10.08	Providing,fabricating and fixing neon glow signages of approved make with 100% handcraft glass tubes in letter shape of required colour of dia 9-12 mm including making the electrical wiring for illumination,transformer,connection complete as per technical specifications and directions of engineer.	500.00	sqft			
10.09	Providing,fabricating and fixing digitally printed translites(Technova) with multicolour design on roland /HP printers mounted on acrylic sheet 3mm further mounted on 22 gauge powder coated GI box with phylips /surya tubes inside including installtion on wall electric fittings etc on walls or otherwise complete .	48.00	sq ft			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
10.10	Providing fabricating installation and fixing of backlit flex signages on Hanwa/star 18 ounce flex signages printed on high resolution printer mounted on MS sheet on framed MS structure further fixed on 24 gauge MS /GI box with phylips/surya fittings inside including transformers etc, electric wiring etc complete.	500.00	sqft			
10.11	Providing, fabricating installation and fixing of glass finish SS letters made of 20 gauge SS 304 sheet of required size and shape with neatly fabricated joints properly welded and grinded with all corners rubbed and polished with arrangement of screws in the letter itself for mounting on the walls including cost of screws and fixing complete as per directions of Engineer.	500.00	sqinch of each letter			
10.12	Providing fabricating and fixing of retroreflective vinyl signages of varying sizes and shapes pasted on aluminium/GI sheet of 18 gauge with provision of fixing on MS structure complete as per technical specifications and directions of Engineer.	6000.00	sqinch			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
10.13	Providing fabricating installation and fixing of night vision sinages visible in complete darkness computer cut vinyle pasted on 3mm acrylic sheet and further fixed on wall/hanging from ceiling with the help of MS/GI rods complete as per technical specifications and directions of engineer.	1000.00	sq inch			
10.14	Providing. fabricating and fixing of ACP aluminum composite plastic signs with 3 mm ACP sheet, using 1" ms pipe frame, with anti rust coating, back with G.I. and 5 sides with ACP sheet, lettering to be done with 5mm acrylic sheet and vinyls if needed backlit with Philips slim lite tube light fittings, acrylic letters to protrude out and be lit, together with a timer for switching on and off at required timings, including transportation and fixing at site as per the direction of the site engineer	600.00	sq.ft.			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
10.15	Providing, fabricating and fixing of frontlit signages with solvent printing on 13 oz Hanwa/LG make flex printing on Vutek/ Sytec/ Edge print etc with UV cure inks with minimum life of 1 year for non fading, stretched on 25mm sq M.S. pipe, with 28 gauge tin sheet on the back for withstanding wind pressure with adequate lights in the front. The front lighting to be Metalite (white light) of 150 watts and Philips make to be fixed with metal arms at least 4ft protruding outside.	500.00	sq.ft.			
10.16	Providing, fabricating and fixing digital posters inside the hospitals on 5mm sun board sheet with 1440 dpi digital printing on Technova/ LG coated vinyl duly laminated and pasted on the sheet and fixed on the walls with help of steel studs or mirror screws as per the direction of the engineer	100.00	sq.ft.			
10.17	Providing the following brand new vehicle at any time for exclusive use of engineer during currency of contract.The number of vehicles and period shall be informed by the engineer as per requirement.The rate are inclusive of service of drivers, fuel, oil,					
a)	Indica or equivalent as required	18000.00	Km			
	Total					

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
11.00	ROAD WORK, DEVELOPEMENT AND SIGNAGE					
11.01	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm. depth, dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the sub grade and disposal of surplus earth lead upto 50 metres.	3000.00	SQM			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
11.02	Construction of dry lean cement concrete sub base over a prepared sub-grade with coarse and fine aggregate conforming to IS:383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per specifications, cement content not to be less than 150 Kg/cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, for all leads & lifts, laid with a mechanical paver, compacting with 8-10 tonne vibratory roller, finishing and curing etc. complete as per direction of Engineer-in- charge.	40.00	Cum			
11.03	Providing and laying C.C. pavement of mix M25 with ready mixed concrete from batching plant. The ready mixed concrete shall be laid and finished with screed board vibrator, vacuum dewatering process and finally finished by floating, brooming with wire brush etc. complete as per specifications and directions of Engineer-in-charge. (The panel shuttering work shall be paid for separately).	300.00	Cum			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
11.04	Providing and laying in position bitumen hot sealing compound for expansion joints etc					
a)	Using grade 'A' sealing compound.	2000.00	Per cm depth per cm width per m length			
11.05	Providing and laying 60mm thick factory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction and of approved size and design/ shape laid in required colour and pattern over and including 50mm thick compacted bed of fine sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge.	1000.00	sqm			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
11.06	Providing and laying at or near ground level factory made kerb stone of M-25 grade cement in position to the required line, level and curvature jointed with cement mortar 1:3 (1 cement: 3 coarse sand) including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm) including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).	40.00	Cum			
11.07	Trenching in ordinary soil upto a depth of 60cm including removal and stacking of serviceable materials and then disposing of by spreading and neatly levelling with in a lead of 50m and making up the trenched area to proper levels by filling with earth or earth mixed with sludge or/and manure before and after flooding trench with water (excluding cost of imported earth, sludge or manure).	1200.00	Cum			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
11.08	Supplying and stacking of well decayed cow dung manure at site including royalty and carriage upto 1 km (Cow dung manure measured in stacks will reduced by 8% for Payment).	400.00	Cum			
11.09	Rough dressing the trenched ground including breaking clods & Uprooting weeds from the trenched area after 10 to 15 days of its flooding with water including disposal of uprooted vegetation.	4000.00	Sqm			
11.10	Spreading of sludge, dump manure or/and good earth in required thickness as per direction of office-in charge (Cost of sludge, dump manure or/ and good earth to be paid separately).	400.00	Cum			
11.11	Fine dressing of the ground	4000.00	Sqm			
11.12	Grassing with selection No.1 grass including watering and maintenance of the lawn for 30 days or more till the grass forms a thick lawn, free from weeds and fit for mowing including supplying good earth, if needed (the good earth shall be paid for separately).					
a)	With grass Turf	4000.00	Sqm.			

Project Name: Construction of International Hostel, National Institute of Health & Family Welfare, Munirka, New Delhi.

BOQ for Civil Work						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
11.13	Digging holes in ordinary soil and refilling the same with the excavated earth mixed with manure or sludge in the ratio of 2:1 by volume (2 parts of stacked volume of earth after reduction by 20% : 1part of stacked volume of manure after reduction by 8%) flooding with water, dressing including removal of rubbish and surplus earth, if any with all leads and lifts (cost of manure, sludge or extra good earth if needed to be paid for separately):					
a)	Holes 1.2 m dia and 1.2 m deep.	25.00	Each			
b)	Holes 60 cm dia, and 60 cm deep.	25.00	Each			
	Sub Total					

ABSTRACT

Name of Work:BOQ of International Hostel,Munirka

S.No.	DESCRIPTION	Amount in figures(in Rs.)
A	PLUMBING WORK	
1.00	SANITARY FIXTURES	
2. 00	SOIL, WASTE AND VENT PIPES	
3.00	WATER SUPPLY	
4.00	SEWERAGE AND DRAINAGE	
5.00	EARTH WORK	
6.00	RAIN WATER PIPING	
7.00	SOLAR WATER HEATING SYSTEM	
8.00	RAIN WATER HARVESTING	
9.00	WATER SUPPLY PUMP PANEL	
	TOTAL	

Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
1.00		SANITARY FIXTURES					
1.01	17.3	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I.brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :					
a)	17.3.2	W.C. pan with ISI marked black solid plastic seat and lid	each	1.00			
1.02	17.7	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require :					
a)	17.7.4	White Vitreous China Flat back wash basin size 550x 400 mm with single 15 mm C.P. brass pillar tap	each	42.00			
1.03	17.10	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS : 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :					
a)	17.10.2	Kitchen sink without drain board					

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
a)	17.10.2.1	610x510 mm bowl depth 200 mm	each	4.00			
1.04	17.32	Providing and fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing :					
a)	17.32.2	Rectangular shape 453x357 mm	each	55.00			
1.05	17.33	Providing and fixing 600x120x5 mm glass shelf with edges round off, supported on anodised aluminium angle frame with C.P. brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc., complete.	each	42.00			
1.06	17.34	Providing and fixing toilet paper holder :					
a)	17.34.2	Vitreous china	each	41.00			
1.07	17.71	Providing and fixing PTMT liquid soap container 109 mm wide, 125 mm high and 112 mm distance from wall of standard shape with bracket of the same materials with snap fittings of approved quality and colour, weighing not less than 105 gms.	each	42.00			
1.08	17.78	Providing and fixing white vitreous china extended wall mounting water closet of size 780x370x690 mm of approved shape including providing & fixing white vitreous china cistern with dual flush fitting, of flushing capacity 3 litre/6 litre (adjustable to 4 litre/8 litres), including seat cover, and cistern fittings, nuts, bolts and gasket etc complete.	each	41.00			

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
1.09	NS	Providing and fixing water Jet Nozzle with hose pipe and half turn CP brass angle valve to be fitted with seat cover of european water closet complete in all respect of approved quality	Each	41.00			
1.10	NS	Providing and fixing soap tray with CP brass lid and brackets fixed to wooden cleats with CP brass screws.(Jaquar model no.1131 or equivalent model of other approved make).	Each	37.00			
1.11	NS	Providing and fixing CP brass towel rail size of 600x20 mm of approved make complete with CP brackets fixed to wooden cleats with CP brass screws(Jaquar model no.1111 or equivalent model of other approved make)	Each	42.00			
1.12	NS	Providing and fixing brass coat hook of approved quality and make complete with material of fixing	Each	82.00			
1.13	NS	Extra for providing and fixing white vitreous china oval shape wash basin in place of normal wash basin with CI/MS brackets painted white, 15 mm CP brass pillar taps, 32 mm CP brass waste of standard pattern, including painting of fittings and brackets cutting and making good the walls wherever required					
a)		Counter top oval shape wash basin size 550x470 mm with centre tap hole, single 15 mm CP brass swan neck type pillar tap	Each	42.00			
		SubTotal(Sanitary Fixtures)					

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
2.00		SOIL, WASTE AND VENT PIPES					
2.01	17. 35	Providing and fixing soil, waste and vent pipes.					
a)	17.35.1	100 mm dia.					
i)	17.35.1.2	Centrifugally cast (spun) iron socket & spigot (S&S) pipe as per IS: 3989	Metre	1,120.38			
2.02	17. 37	Providing and fixing M.S holder-bat clamps of approved design to Sand Cast iron/ cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10 cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc.					
a)	17.37.1	for 100 mm dia. pipe	Each	112.00			
2.03	17. 38	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.					
a)	17.38.1	100 mm					
a i)	17.38.1.2	Sand cast iron S&S as per IS-3989	Each	61.00			
2.04	17. 39	Providing and fixing plain bend of required degree.					
a)	17.39.1	100 mm					
a i)	17.39.1.2	Sand cast iron S&S as per IS:3989	Each	116.00			
2.05	17. 40	Providing and fixing heel rest sanitary bend.					
a)	17.40.1	100 mm dia					

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
a.i)	17.40.1.2	sand cast iron S&S as per IS-3989	Each	28.00			
2.06	17.41	Providing and fixing double equal junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete :					
a)	17.41.1	100x100x100x100 mm					
b)	17.41.1.2	Sand cast iron S&S as per IS - 3989	Each	10.00			
2.07	17. 43	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3mm thick, bolts and nuts complete.					
a)	17.43.1	100x100x100mm					
a.i)	17.43.1.2	sand cast iron S&S as per IS-3989	Each	43.00			
2.08	17. 55	Providing and fixing door piece, insertion rubber washer 3mm thick, bolts and nuts complete					
a)	17.55.1	100 mm					
a.ii)	17.55.1.2	sand cast iron S&S as per IS-3989	Each	95.00			
2.09	17. 56	Providing and fixing terminal guard.					
a)	17.56.1	100 mm	Each	28.00			
a.ii)	17.56.1.2	sand cast iron S&S as per IS-3989					
2.10	17. 57	Providing and fixing collar					
a)	17.57.1	100 mm					
a.ii)	17.57.1.2	Sand cast iron S&S as per IS-3989	Each	84.00			

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
2.11	17. 58	Providing lead caulked joints to sand cast iron /centrifugally cast (spun) iron pipes and fittings of diameter:					
a)	17.58.1	100 mm	Each	595.00			
2.12	NS	Providing Drip seal joint of approved make for the sand cast iron/centrifugally cast iron pipes where the workability of lead joint can be effected due to space constraints.					
a)		100 mm	Each	255.00			
2.13	17. 59	Providing and fixing M.S. stays and clamps for sand cast iron / centrifugally cast (spun) iron pipes of diameter :					
a)	17.59.1	100 mm	Each	28.00			
2.14	17. 60	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors:					
a)	17.60.1	100 mm inlet and 100 mm outlet					
a i)	17.60.1.1	Sand cast iron S&S as per IS-3989	Each	42.00			
2.15	17. 61	Cutting chases in brick masonry walls for following diameter sand cast iron/centrifugally cast (spun) iron pipes and making good the same with cement concrete 1:3:6 (1 cement:3 coarse sand:6 graded stone aggregate 12.5 mm nominal size) including necessary plaster and pointing in cement mortar 1:4 (1 cement: 4 coarse sand):					
a)	17.61.1	100 mm diameter pipe	Metre	50.00			

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
2.16	17.65	Painting sand cast iron / centrifugally cast (spun) iron soil, waste vent pipes and fittings with two coats of synthetic enamel paint off any colour such as chocolate, grey, or buff etc. over a coat of primer (of approved quality) for new work:					
a)	17.65.1	100 mm diameter pipe	Metre	790.00			
2.17	NS	Providing and fixing floor drain points formed out of 65 mm dia GI elbow, including with 75mm dia Stainless Steel grating with frame, embedded in floor, all complete as directed.	Each	37.00			
2.18	NS	Providing and fixing C.P. brass bottle trap for wash basin including CP waste fittings complete 32 mm dia complete in all respect of approved quality.	Each	37.00			
2.19	NS	Providing and fixing C.P. brass bottle trap for sinks & urinal basin including CP waste fittings complete 40 mm dia complete in all respect of approved quality.	Each	4.00			
2.20	NS	Providing and laying cement concrete 1:2:4 (1 cement:2 coarse sand:4 graded stone aggregate 20 mm nominal size) 80 mm thick all-round the SCI/centrifugally S&S pipe diameter.					
a)		100 mm dia	Metre	335.00			
2.21	NS	Providing and fixing dash fastner made of rust proof plated steel for holding the soil/waste supply pipes complete in all respect					

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
a)		Dash fastner for pipe more than 25 mm dia to 150 mm dia pipe of required size but not less than size 10 mm dia and 50 mm long minimum & shall be capable of taking 6 tonnes load and also include the supporting angles 35x35x5 mm/approved steel structures support as per drawing.	Each	200.00			
2.22	NS	Providing and fixing G.I EXTENSION PIECE for 100 mm dia floor trap formed out of main pipe(Type A) with multiple side inlets, suitable for various dia pipes, side connections, including all fixtures and fittings as per site conditions and as per standard details and water tight sealing of joints and area surrounding the grating and as directed.	Each	42.00			
2.23	NS	Providing and fixing cPVC. pipes complete with cPVC fittings including painting, jointing, testing the cost of cutting the chases and making good the same for waste water disposal complete as per direction of engineer incharge.					
a)		32 mm dia nominal bore (Wash basin to floor trap/floor drain)	Metre	45.00			
b)		40 mm dia nominal bore (Sink,Urinal to floor trap)	Metre	10.00			
c)		50 mm dia nominal bore (Floor Drain to Floor Trap)	Metre	45.00			
SUB TOTAL(SOIL, WASTE AND VENT PIPES)							

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
3.00		WATER SUPPLY					
3.01	18.7	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.					
		Internal work – Exposed on wall					
a)	18.7.1	15 mm nominal outer dia pipes	Metre	40.00			
b)	18.7.2	20 mm nominal outer dia pipes	Metre	100.00			
c)	18.7.3	25 mm nominal outer dia pipes	Metre	125.00			
d)	18.7.4	32 mm nominal outer dia pipes	Metre	165.00			
e)	18.7.5	40 mm nominal outer dia pipes	Metre	50.00			
f)	18.7.5	50 mm nominal outer dia pipes	Metre	40.00			
3.02	18.8	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.					
		Concealed work, including cutting chases and making good the walls etc.					
a)	18.8.1	15 mm nominal outer dia pipes	Metre	450.00			

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
b)	18.8.2	20 mm nominal outer dia pipes	Metre	150.00			
c)	18. 8.3	25 mm nominal outer dia pipes	Metre	40.00			
d)	18. 8.4	32 mm nominal outer dia pipes	Metre	10.00			
3.03	18. 9	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings. This includes jointing of pipes and fittings with one step CPVC solvent cement,trenching,refilling and testing of joints complete as per direction of Engineer in Charge.					
		External Work					
a)	18.9.3	25 mm nominal outer dia pipes	Metre	20.00			
b)	18.9.6	50 mm nominal outer dia pipes	Metre	50.00			
c)	18.9.7	62.5 mm nominal inner dia pipes	Metre	50.00			
3.04	18.10	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, including cutting and making good the walls etc.					
		Internal Work- Exposed on walls					
a)	NS	80 mm dia nominal bore	Metre	200.00			
b)	NS	100 mm dia nominal bore	Metre	200.00			
3.05	18. 13	Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixing tee, including cutting and threading the pipe etc. complete :					
a)	18.13.2	50 to 80 mm nominal bore	Each	1.00			
3.06	18. 17	providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end)					

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
a)	18.17.1	25 mm nominal bore	Each	20.00			
b)	18.17.2	32 mm nominal bore	Each	15.00			
c)	18.17.3	40 mm nominal bore	Each	10.00			
d)	18.17.4	50 mm nominal bore	Each	4.00			
e)	18.17.5	65 mm nominal bore	Each	4.00			
f)	18.17.6	80 mm nominal bore	Each	4.00			
3.07	18. 18	Providing and fixing ball valve (brass) of approved quality, High or low pressure with plastic floats complete					
a)	18.18.2	20mm	Each	2.00			
3.08	18.20	Providing and fixing brass ferrule with C.I. mouth cover including boring and tapping the main					
a)	NS	40 mm nominal bore	Each	1.00			
3.09	18. 21	Providing and fixing unplasticised PVC connection pipe with brass unions:					
a)	18.21.2	45 cm length					
a i)	18.21.2.1	15 mm nominal bore	Each	170.00			

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
3.10	18.32	Constructing masonry chamber 30x30x50 cm inside, in brick work in cement mortar 1:4 (1 cement: 4 coarse sand) for stop cock, with C.I. surface box 100x100x75 mm (inside) with hinged cover fixed in cement concrete slab 1:2:4 mix (1 cement: 2 coarse sand:4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement:5 fine sand: 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement :3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design					
a)	18.32.1	With F.P.s bricks	Each	3.00			
3.11	18.33	Constructing masonry chamber 60x60x75 cm, inside in brick work in cement mortar 1:4 (1 cement: 4 coarse sand) for sluice valve, with C.I. surface box 100mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement: 2 coarse sand:4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement:5 fine sand: 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement :3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design					
a)	18.33.1	With F.P.s bricks	each	2.00			
3.12	18.38	Painting CPVC/G.I. pipes and fittings with synthetic enamel white paint with two coats over a ready mixed priming coat, both of approved quality for new work					

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
a)	18.38.1	15 mm nominal outer dia pipes	Metre	40.00			
b)	18.38.2	20 mm nominal outer dia pipes	Metre	100.00			
c)	18.38.3	25 mm nominal outer dia pipes	Metre	125.00			
d)	18.38.4	32 mm nominal outer dia pipes	Metre	165.00			
e)	18.38.5	40 mm nominal outer dia pipes	Metre	50.00			
f)	18.38.6	50 mm nominal outer dia pipes	Metre	40.00			
3.13	18. 40	Painting G.I. /CPVC pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality.					
a)	18.40.3	25 mm diameter pipe	Metre	20.00			
b)	18.40.6	50 mm diameter pipe	Metre	50.00			
c)	18.40.7	65 mm diameter pipe	Metre	50.00			
3.14	18. 41	Providing and filling sand of grading zone V or coarser grade all-round the G.I./CPVC pipes in external work					
a)	18.41.3	25 mm diameter pipe	Metre	20.00			
b)	18.41.6	50 mm diameter pipe	Metre	50.00			
c)	18.41.7	65 mm diameter pipe	Metre	50.00			
3.15	18. 48	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, ISI : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.					
a)		Treated water Tank and Untreated water tank	per litre	15,000.00			
3.16	18. 49	Providing and fixing C.P brass bib cock of approved quality confirming to IS:8931.					

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
a)	18.49.1	15 mm nominal bore	Each	41.00			
3.17	18. 50	Providing and fixing C.P. brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.					
a)	18.50.1	15 mm nominal bore	Each	135.00			
3.18	18. 53	Providing and fixing C.P. brass angle valve for basin mixer and geyser/cisterns points of approved quality conforming to IS:8931.					
a)	18.53.1	15 mm nominal bore	Each	170.00			
3.19	18.52	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to 18:8931.					
a)	18.52.1	15mm nominal bore.	Each	76.00			
3.20	18. 62	Providing and fixing PTMT ball cock of approved quality, colour and make complete with Epoxy coated aluminium rod with L.P./H.P.H.D. plastic ball.					
a)	18.62.4	40 mm nominal bore, 206 mm long weighin not less than 690 gms	Each	4.00			
b)	18.62.5	50 mm nominal bore, 242 mm long weighin not less than 1240 gms	Each	4.00			
3.21	18.76	Cutting holes upto 30x30 cm in walls including making good the same					
a)	18.76.1	with common burnt clay F.P.S.(non modular) bricks	Each	50.00			

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
3.22	18.77	Cutting holes up to 15x15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 cement:2 coarse sand: 4 graded stone aggregate 20 mm nominal size) including finishing complete so as to make it leak proof	Each	10.00			
3.23	NS	Extra for providing wash basin mixer pillar tap in place of normal pillar tap	Each	42.00			
3.24	NS	Extra for providing bath wall mixer with bend pipe on upper side (Jaquar model CON273 or equivalent approved) in place of normal concealed cock 2 nos. and 1 no. long nose tap	Each	37.00			
3.25	NS	Providing & fixing full way lever operated forged brass ball valve of brass body with forged brass hard chrome plated steel ball tested to a pressure not less than 10 Kg / sqcm with threaded / flanged joints complete with nuts, bolts, gaskets, washers etc.					
a)		15 mm diameter	Each	15.00			
b)		20 mm diameter	Each	25.00			
3.26	NS	Providing and fixing mosquito proof coupling of approved Municipal design for scour and vent pipes for RCC overhead tanks complete in all respects					
a)		20 mm diameter	Each	10.00			
b)		40 mm diameter	Each	4.00			

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
3.27	NS	Providing & fixing 9 mm thick thermal insulation tubing of elastomeric flexible material on hot water supply/return pipes having hermetic blistered closed cell structure of expanded synthetic rubber over pipes/ fitting as per manufacturer's specifications etc.complete.					
a		15 mm to 25 mm diameter	Meter	200.00			
b)		32 mm to 50 mm diameter	Meter	80.00			
3.28	NS	Providing and fixing C.P. brass Overhead (Rain Fall) shower (100mm) with arm and wall flange complete including cutting and making good the walls wherever required.	Each	38.00			
3.29	NS	Providing & fixing solid state fully hygienic no touch hand drier of approved make rated for continuous repeat usage with solid state time delay LSF protection, with independent ambient light level & seasonal control temperatures including providing necessary C.I./M.S. brackets painted with two or three coats of enamel paint of approved shade over a coat of primer, wiring cables from drier to plug, plug tops etc. complete including cutting and making good the walls wherever required.	Each	2.00			
3.30	NS	Supplying, fixing, testing and commissioning of storage type water heater (Geyser) etc. with Stainless steel body , copper container , automatic thermostatic control electric element, pressure release valve, M.S. nuts and bolts etc. conforming to IS: 2082					
a	a)	35 Litre Capacity	Each	1.00			
b)	b)	25 Litre Capacity	Each	38.00			

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
3.31	NS	Providing & fixing water storage cooler of approved make and brand with SS body having minimum flow rate of 40 ltrs. Per hour and storage capacity 80 ltrs. Complete in respects.(VOLTAS/ BLUE-STAR/ USHA SHRIRAM)	Each	3.00			
3.32	NS	Providing and fixing approved make & suitable model of R.O. plant 100 ltrs. Per hour flow rate having capacity to treat the raw water having TDS 1200 ppm and not less than 40%. The treated water should have TDS less than 100 ppm and hardness less than 50 ppm. The operating voltage to 230 volt AC +/- 10% alongwith required capacity pump and solenoid valves, dry run protection of pump, automatic tank level control, inbuilt auto flush timer for periodic flushing of membranes, hydro pneumatic tank, over voltage and over current protection with switch mode power supply system antiscaling dosing system complete in all respects including installation and fittings with the following provisions: (IONIEXCHANGE/ KENT/AQUAPROCESS/Pantair)					
		10 micron polypropylene sediment pre filter					
		10 micron bacteriostatic activated carbon block on line micron filter with 5 micron rating					
		3 Nos. of reverse osmosis memberane with 0.0001 micron pore size energy saving poly amide type					
		Antiscaling dosing system and digital display panel					
		UV lamp of minimum capacity 100 LPH and minimum lamp wattage 9W	Each	3.00			

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
3.33		Supplying, assembly, erection, testing and commissioning of level controllers based on level switches and necessary auxillary circuits included in the electric panel „including all accessories required for the performance of the system to the satisfaction of the engineer in charge complete including providing and fixing wiring from control panel to the level switches of required size,all interconnections as required . Note : The required transformers / associated equipment shall be designed keeping in view the acrual distance of various tanks from the control panel, particularly the distance of OH soft water tank from panel. The most suitable route of sensor cable travel between the panel and the tank shall have to be worked out by the contractor according to site conditions and in consultation with engineer in charge. All cabling / switch installation should be done in an easy to maintain manner.					
i)		One way one tank level controller as under.					
		To switch on the tube well pump when the level of water in the UG raw water tank is low and to cut off the pump when the level in the underground raw water tank is high. (Approx. control cable requirement - 200 meters.)	Set	1.00			
		Two way - Two tank level controller as under.					
ii)		For Treated water supply Pumps(Operating between the under ground treated water tank near the plant room and the Terrace treated water tank . (Approx. control cable requirement - 125 meters.)	Set	1.00			

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
3.34	NS	Providing and fixing gun metal foot valve with stainer of approved quality/model complete in all respect.					
	a)	80 mm dia	each	2.00			
	b)	100 mm dia	each	2.00			
3.35	NS	Supplying, installing, testing and commissioning vertical online/horizontal centrifugal pumping set with mechanical seal, C.I. Housing, C.I. volute and SS impeller & SS shaft connected to a TEFC induction motor of suitable HP for 415 volts, 3 phase, 50 cycles A.C. supply with 150 mm dia pressure gauge with gunmetal isolation cock, vibration eliminating pads, base plate wiring upto panel and equipment for water level controller to start and stop the pump automatically at predecided levels of the water in the tank with provision of protection for dry run etc. complete in all respect (The shop drawing or the pumps along with its characteristics curves, model and technical data etc. are to be submitted for approval before purchase of pump).					
		Domestic water pumps (Treated water transfer&Raw water Transfer pump to terrace tank)					
	a)	pump					
		Capacity 80 lpm					
		Head 45M	Each	4.00			

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
3.36	NS	Supply, installing, testing and commissioning vertical fully floodable type submersible drainage pump in close coupled design single stage, suitable for handling minimum 10 mm dia solids for transferring waste water from sump to outside the building with float switch for automatic start and stop arrangement with panel and wiring, chain and pulley, mechanical seal complete in all respect as per instruction of the Engineer in charge . (The shop drawing or the pumps along with its characteristics curves, model and technical data etc. are to be submitted for approval before purchase of pump).					
		Material of Construction (M.O.C): Corrosion Resistant in general : Casing — Cast Iron					
		: Impeller — Ductile cast Iron					
		: Bearings — Anti friction, prelubricated ball bearings, packed with grease for life.					
		Motor: — Dry Motor with built in over load protection					
		Protection - IP68.					
		Insulation Class - F					
		1 No. 3 Phase, DOL starter type - II of 1 HP with thermal overload relay, contactor, Push Buttons, Single Phase Preventer and Switches etc complete as required.					
		Duty of each pump					

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
	a)	100 LPM against 10 M head	each	1.00			
3.37	18.31	Providing and fixing C.I. sluice valves (with cap) complete with bolts, nuts, rubber insertions etc. (the tail pieces if required will be paid separately) :					
	a)	18.31.1 100 mm diameter					
	a i)	18.31.1.2 Class II	each	6.00			
3.38	18.19	Providing and fixing gun metal non- return valve of approved quality (screwed end) :					
	a)	18.19.6 80 mm nominal bore					
	a i)	18.19.6.2 Vertical	each	2.00			
		NS 100 mm nominal bore	each	2.00			
3.39	NS	Providing and fixing CI Strainer valve of approved quality.					
	a)	100 mm dia	each	1.00			
	b)	80 mm dia	each	1.00			

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
3.40	NS	Providing and fixing of OxiLyte (Mixed Oxidant) Generation System , based on ECA Technology, producing non toxic mixed Oxidant Slution at 1000 ppm of Oxidant Concentration or any other approved disinfection method excepted by HSCC. The solution should be at a pH 3+-0.5 suitable for 24x7 operations should produce 30L per hour. The system should be supplied complete with appropriate dosing pumps , valves, piping, fittings, chemical dosing tank etc (shope drawing model and technical data etc. are to be submitted for approval before purchase)complete in all respect.	set	1.00			
		SUB TOTAL(Water Supply)					

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
4.00		SEWARAGE & DRAINAGE					
4.01	19.1	Providing laying and jointing glazed stoneware pipes grade 'A' with stiff mixture of cement mortar in the pro-portion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete.					
a)	19.1.1	100 mm diameter	Metre	40.00			
4.02	19.2	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) all-round S.W. pipes including bed concrete as per standard design:					
a)	19.2.1	100 mm diameter S.W. pipe/RCC NP2	Metre	40.00			
b)	19.2.2	150 mm diameter S.W. pipe/RCC NP2	Metre	200.00			
c)	19.2.3	250 mm diameter S.W. pipe/RCC NP2	Metre	50.00			
4.03	19.3	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) up-to hanch R.C.C pipes including bed concrete as per standard design:(analysed DSR 2012 item)					
a)		150 mm diameter RCC NP2	Metre	100.00			
a)		250 mm diameter RCC NP2	Metre	200.00			
4.04	19.4	Providing and fixing square-mouth S.W. gully trap grade 'A' complete with C.I. grating, brick masonry chamber with water tight C.I. cover with frame of 300x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design:.					

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
a)	19.4.2	150x100mm size P type					
a.i)	19.4.2.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	20.00			
4.05	19. 6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement:2 fine sand) including testing of joints etc. complete					
a)	19.6.2	150 mm dia R.C.C. pipe	Metre	300.00			
b)	19.6.3	250 mm dia R.C.C. pipe	Metre	250.00			
4.06	19. 7	Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand), R.C.C. top slab with 1:2:4 mix (1cement : 2 coarse sand : 4graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 (1cement : 4 coarse sand : 8graded stone aggregate 40 mm nominal size), inside plastering 12mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement all complete as per standard design.					
a)	19.7.1	Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg):					
a i)	19.7.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	10.00			

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
4.07	19. 8	Extra depth for manholes					
a)	19.8.1	Size 90 x 80 cm					
a i)	19.8.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Metre	2.00			
4.08	19. 9	Constructing brick masonry circular type manhole 0.91m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement :4 coarse sand), in side cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement: 3 coarse sand: 6 graded stone aggregate 40mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement all complete as per standard design:					
a)	19.9.1	0.91 m deep with S.F.R.C. cover and frame (heavy duty, HD-20 grade designation) 560mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182kg., fixed in cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size) including centering shuttering all complete. (Excavation, foot rests and 12mm thick cement plaster at the external surface shall be paid for separately) :					
a i)	19.9.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	10.00			
4.09	19. 10	Extra depth for circular type manhole 0.91m dia (at bottom) with beyond 0.91m to 1.67 m					
a)	19.10.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Metre	2.00			

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
4.10	19.11	Constructing brick masonry circular manhole 1.22 m internal dia at bottom and 0.56 m dia at top in cement mortar 1:4 (1 cement: 4 coarse sand) inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement foundation concrete 1:3:6 mix (1 cement :3 coarse sand : 6 graded stone aggregate 40mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement :2 coarse sand : 4 graded stone aggregate 20mm nominalsize) finished with a floating coat of neat cement complete as per standard design.					
a)	19.11.1	1.68 m deep with SFRC cover and frame(heavy duty HD-20 grade designation) 560 mm internal diameter conforming to IS: 12592, total weight of cover and frame to be not less than 182 kg. fixed in cement concrete 1:2:4 (1 cement :2 coarse sand : 4 graded stone aggregate 20mm nominalsize) including centering shuttering all complete. (Excavation, foot rests and 12 mm tick cement plaster at the external surface shall be paid for separately)					
a.i)	19.11.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	5.00			
4.11	19.12	Extra depth for circular type manhole 1.22 m internal dia (at bottom) with beyond 1.68 m to 2.29 m					
a)	19.12.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Metre	1.00			

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
4.12	19.16	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS: 10910 on 12 mm dia steel bar conforming to IS: 1786 having minimum cross section as 23 mm x 25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	Each	100.00			
4.13	19.21	Making connection of drain or sewer line with existing manhole including breaking into and making good the walls, floors with cement concrete 1:2:4 mix (1 cement:2 coarse sand:4 graded stone aggregate 20 mm nominal size) cement plastered on both sides with cement mortar 1:3 (1 cement:3 coarse sand) finished with a floating coat of neat cement and making necessary channels for the drain etc. complete (including obtaining approval from DJB/Municipal corporation)					
a)	19.21.1	For pipes 100 to 250 mm dia	Each	1.00			

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
4.14	19.22	Providing sand cast iron drop connection externally for 60 cm drop from branch sewer line to main sewer manhole including inspection and cleaning eye with chain and lid sand cast Iron drop pipe and bend encased all-round with cement concrete 1 :5:1 0 (1 cement:5 fine sand: 10 graded stone aggregate 40 mm nominal size) with all centering and shuttering required, cutting holes in walls and making good with brick work in cement mortar 1:4 (1 cement: 4 coarse sand) plastered with cement mortar 1:3 (1 cement: 3 coarse sand) on, inside of the manhole wall lead caulked joints between sand cast iron pipes and fittings, stiff cement mortar 1:1 (1 cement: 1 fine sand) joints between sand cast iron tee and S.W. pipe, making required channels complete as per standard design and specifications:					
a)	19.22.2	150 mm dia. sand cast iron drop connection	Each	2.00			
4.15	19.27	Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :					
a)	19.27.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	35.00			

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
4.16	NS	Constructing brick masonry open surface drain including factory made perforated RCC cover with edge protected with MS plate of 3 mm thick with bricks of class designation 75 in cement mortar 1:4 (1 cement : 4 fine sand) including earth excavation, 10cm thick bed concrete 1:5:10 (1 cement: 5 fine sand :10 graded stone aggregate 40mm nominal size) and 25mm thick cement concrete 1:2:4 (1 cement:2 coarse sand:4 graded stone aggregate 12.5 mm nominal size) for filling hunches including 12mm cement plaster 1:4 (1 cement:4 coarse sand) with a floating coat of neat cement inside the drain, its top and exposed side including disposal of surplus earth complete as per standard design.					
		25cm drain 30cm average depth					
a)		With F.P.S bricks	Metre	200.00			
SUB TOTAL(SEWERAGE AND DRAINAGE)							

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
5.00		EARTH WORK					
5.01	2.6	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means in foundation,trenches or drains(not exceeding 1.5m in width or 10 sqm on plan) ,including dressing of sides and ramming of bottoms, lift upto 1.5m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50m					
a)	2.6.1	All kinds of soil	cum	75.00			
5.02	2.10	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5 m including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m:					
a)	2.10.1	All kinds of soil					
a.ii)	2.10.1.2	Pipes, cables etc. exceeding 80 mm dia but not exceeding 300 mm dia	metre	590.00			
5.03	2.25	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m	cum	25.00			
SUB TOTAL(EARTH WORK)							

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
6.00		RAIN WATER PIPING					
6.01	12. 44	Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams.	Each	15.0			
6.02	17.35	Providing and fixing rain water ,soil, waste and vent pipes.					
a)	17.35.1	100 mm dia.					
a i)	17.35.1.2	Centrifugally cast (spun) iron socketed pipe as per IS:3989	Metre	130.0			
c)	NS	150 mm dia pipe as per IS:3989	Metre	90.0			
6.03	17. 37	Providing and fixing M.S holder-bat clamps of approved design to Sand Cast iron/ cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10 cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc.					
a)	17.37.1	for 100 mm dia. pipe	Each	42.0			
c)	NS	for 150 mm dia pipe	Each	20.0			
6.04	17.39	Providing and fixing plain bend of required degree.					
a)		100 mm					
a ii)	17.39.1.2	Sand cast iron S&S as per IS:3989	Each	11.0			
c)	NS	150 mm	Each	4.0			
6.05	17.40	Providing and fixing heel rest sanitary bend.					
a)	17.40.1	100 mm dia					
a.ii)	17.40.1.2	sand cast iron S&S as per IS-3989	Each	11.0			
c)	NS	150 mm dia	Each	4.0			

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
6.06	17.57	Providing and fixing collar					
a)	17.57.1	100 mm					
a.ii)	17.57.1.2	Sand cast iron S&S as per IS-3989	Each	8.0			
c)	NS	150 mm	Each	4.0			
6.07	17.58	Providing lead caulked joints to sand cast iron /centrifugally cast (spun) iron pipes and fittings of diameter:					
a)	17.58.1	100 mm	Each	55.0			
c)	NS	150 mm	Each	30.0			
6.08	17.65	Painting sand cast iron / centrifugally cast (spun) iron soil, waste vent pipes and fittings with paint of any colour such as chocolate, grey, or buff etc. over a coat of primer (of approved quality) for new work:					
a)	17.65.1	100 mm diameter pipe	Metre	130.0			
c)	NS	150 mm diameter pipe	Metre	90.0			
		SUB TOTAL(Rain Water pipe & fitting)					

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
7		SOLAR WATER HEATING SYSTEM & RECIRCULATION OF HOT WATER SYSTEM (1 Nos)					
7.01	NS	Supply, installation, testing and commissioning of solar water heating system, Thermosyphon type, all complete based on Flat plat collector system (Cu-Cu Type only) comprising of but not limited to the following:					
a)		Requisite number of Flat plate collectors of 2 sq. mtr. collector area. Collector absorber plate to be made of copper tubes & copper fins only					
b)		Hot water storage tank made of stainless steel 304- food grade quality with 100 mm Glass wool insulation and cladding with 24 SWG Aluminum sheet. One temperature measuring device and suitable inlet, outlet and drain connections on the storage tank to be provided.					
c)		Heat Exchanger - Cage type Internal Heat Exchanger made of SS pipes shall be provided inside the Solar Tank. Heat exchangers shall have min. heat transfer area of 0.24 sq. mtrs. for every 100 LPD calacity. Suitable make up tank for the Heat Exchanger circuit shall also be provided					
d)		Interconnecting system piping shall consist of B Class insulated GI pipes covered with 50mm thick glasswool & clad with 26 SWG Aluminium Sheet. All Gate/Ball valves shall be of ISI make.					
e)		Electrical control panel, cabling from panel to pumps shall be provided					

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
f)		The solar collector shall be arranged on roof of building in such a way that shadow can be avoided and requisite number of MS support for collector/tanks of minimum 35x35x5 MS angle adequate for 150 Km/Hr wind speed.					
g)		Solar water heating system based on Flat plat collector system technology with output capacity of as mentioned below with hot water at 60 degree centigrade having required Nos. solar collectors . As per complete item as per technical specification of make BHEL/TATA/EMMVEE. The system has to be installed by Manufacturers authorised distributors/approved specialised firms of Solar water heating of approved makeThe shop drawing of the systems shall be provided by the agency as per site condition obtain the proper efficiency The system shall be procured after obtaining the approval of shop drawings from HSCC / Engineer-in-charge. The solar hot water will supply the hot water to all the geyser,in view of this provision the backup electrical heating system at terrace hot water tank will not be provided for non solar days.					
i)		Solar System of Capacity 1500 Litre/day (With minimum 12 nos of Collect) of 2.0 Sqm area	each	1.0			
ii)		Solar System of Capacity 1000 Litre/day (With minimum 8 nos of Collect) of 2.0 Sqm area	each	2.0			

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
7.02	18.7	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.					
Internal work- Exposed on wall							
a)	18.7.1	15 mm nominal outer dia pipes (SDR-11)	metre	10.0			
b)	18.7.2	20 mm nominal outer dia pipes (SDR-11)	metre	30.0			
c)	18.7.3	25 mm nominal outer dia pipes (SDR-11)	metre	80.0			
d)	18.7.4	32 mm nominal outer dia pipes (SDR-11)	metre	65.0			
e)	18.7.5	40 mm nominal outer dia pipes (SDR-11)	metre	20.0			
f)	18.7.6	50 mm nominal outer dia pipes (SDR-11)	metre	10.0			
7.03	18.8	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.					
Concealed work including cutting chases and making good the walls etc.							
a)	18.8.1	15 mm nominal outer dia pipes (SDR-11)	metre	100.0			
b)	18.8.2	20 mm nominal outer dia pipes (SDR-11)	metre	40.0			

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
c)	18. 8.3	25 mm nominal outer dia pipes (SDR-11)	metre	10.0			
7.04	18. 17	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end):					
a)	18.17.1	25 mm nominal bore	each	4.0			
b)	18.17.2	32 mm nominal bore	each	4.0			
7.05	NS	Providing & fixing 9 mm thick thermal insulation tubing of elastomeric flexible material having hermetic blistered closed cell structure of expanded synthetic rubber over pipes/ fitting as per manufacturer's specifications etc.complete.					
a)	a)	15 mm dia to 25 mm dia	each	325.0			
b)	b)	32 mm dia to 50 mm dia	each	105.0			
7.06	NS	Providing and fixing gun metal ball valve of approved quality					
a)		15 mm nominal bore	each	4.0			
b)		20 mm nominal bore	each	4.0			
SUBTOTAL(SOLAR WATER HEATING SYSTEM & RECIRCULATING SYSTEM)							

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
8.00		RAIN WATER HARVESTING(2 NOS.)					
8.01	NS	Designing and Constructing of percolation pit cum perforated well 3000mm. dia upto 4000mm deep, 230 mm thick brick masonry work around upto 1.5 m deep with 75 class brick in cement mortar 1:4, 200 mm foundation concrete in 1:4:8 mix below brick work only, 150 mm thick precast removable RCC top slab with required steel reinforcement in cement concrete 1:2:4 mix, filled with coarse aggregate, SFRC covers, river pebbles of requisite size stone as shown in the drawing including centering and shuttering, as shown complete as per detailed drawings complete.	Each	2.0			
8.02	NS	Drilling as per IS : 2800-1964 (with percussion or combination rig) from ground level in all kind of soils including boulders (excluding rock) diameter of bore 450mm.					
a)		0-50m	Metre	120.0			
8.03	NS	Extra for drilling in Ordinary Rock	Metre	20.0			
8.04	NS	Extra for drilling in Hard Rock	Metre	20.0			
8.05	NS	Providing and lowering of 200 mm dia uPVC blank/ slotted pipe with ribs, special fittings, jointing conforming to IS 12818 - 1992.	Metre	120.0			

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
8.06	NS	Constructing bar screen / settling tank, of sizes 4500x2500 with suitable depth up to 2.0 m in 1 : 4 Cement Mortar (one cement : 4 coarse sand) height as per site requirement, in brick masonry 350mm thick walls upto water level and 230mm thick walls above water level & upto ground level, including all excavation, 20 cm thick bed concrete in 1:4:8 (one cement 4 fine sand 8 stone aggregate 40 mm), cement plaster 1:3 (one cement :3 coarse sand) with a floating coat of neat cement as inside finish , top slab in RCC 1:2:4, including centring, shuttering and steel work, also providing and fixing D.I. manhole cover & frame of size 605mm x 450mm of weight not less than 38 kg (frame + cover) and cost of 100mm dia C.I. vent pipe with C.I. Ventilating Cowl and suitable wire mesh provision for inlet, 115mm baffle walls extending 2/3 the width spaced@500mm c/c including finishing with 1:3 cement plaster 15mm thick with floating coat of neat cement slurry , all complete in every respect as per drawing and as directed to suit site condition.	Each	2.0			
		SUBTOTAL (RAIN WATER HARVESTING)					

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
9.00		WATER SUPPLY PUMP PANEL					
		Supply, installation, testing and commissioning of following M.V. cubicle type totally enclosed, powder coated, wall mounted/ free standing type, dust, damp and vermin proof, indoor type Distribution Board/Panel complete with busbars, M.V. danger notice plate, interconnections with suitable capacity aluminium leads/solid aluminium strips/rods, connection of incoming and outgoing cables with thimbles, and having following incoming and outgoing switchgears complete as required.					
		INCOMER :					
		125 Amp 415 volts, 35 KA (Isc), FP MCCB with e/f protectionthermal magnetic release having variable current settings.					
		R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
		"ON" and "OFF" LED indicating lamp and 2A control SP MCBs					
		Push button for CLOSE and TRIP					
		Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
		1 no. 0 to 500 V Digital voltmeter with selectot switch					
		1 to 0 to 125 Amps Digital ammeter with selector switch with one set of 125/5A C.T. s					
		BUSBARS :					
		160 Amp TPN busbars of aluminium					
		OUTGOINGS :					
i		5 Sets of following (For Domestic Pump)					

Name of Work:BOQ of International Hostel,Munirka							
Sl. No.	DSR-2012 No.	Description of Item	Unit	Qty.	Rate in words(in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
		1 No. 16 Amp. 415/500 volts,25 KA, three pole, Moulded Case Circuit Breaker with variable current setting .					
		Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
		1 No. 3 Phase, DOL starter type - II of 2 HP with thermal overload relay, contactor, Push Buttons, Single Phase Preventer and Switches etc complete as required.					
		Neon indicating Lamps for "ON" , "OFF" & "TRIP" indication with 2A SP control MCBs.					
ii		1 Sets of following (For Drainage Pump)					
		1 No. 16 Amp. 415/500 volts,25 KA, three pole, Moulded Case Circuit Breaker with variable current setting .					
		Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
		Neon indicating Lamps for "ON" , "OFF" & "TRIP" indication with 2A SP control MCBs.					
		WATER SUPPLY PUMP Panel as mentioned above	Set	1.00			
		SubTotal					

PROJECT NAME: International Hostel , Munirka
ABSTRACT OF COST

S.No	DESCRIPTION OF WORK	Amount in figures(in Rs.)
1	FIRE FIGHTING	
	Sub Total(Fire Fighting work)	
	Total	

PROJECT NAME: International Hostel , Munirka

Name of Works:BOQ of Fire Fighting Works

Item No	Ref. No.	Description Of Item	Unit	Qty.	Rate in figures (in Rupees)	Rate in words (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7	8
1.00		FIRE FIGHTING SYSTEM					
1.01	18.72	Providing and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS : 8329 :					
1.01.1	18.72.2	150 mm dia Ductile Iron Double Flanged	Metre	525.0			
1.02	18.68	Providing and laying D.I. specials of class K-12 suitable for push-on jointing as per IS : 9523					
1.02.1	18.68.1	Upto 600 mm dia	quintal	24.0			
1.03	18.70	Providing push-on-joints to Centrifugally (Spun) Cast Iron Pipes or Ductile Iron Pipes including testing of joints and including the cost of rubber gasket :					
1.03.1	18.70.2	150 mm dia pipes	joints	225.0			
1.04	2.10	Excavating trenches of required width for pipes, cables etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 1.5m including getting out the excavated soil, and then returning the soil as required, inlayers not exceeding 20 cm in depth including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed within a lead of 50 m					
1.04.1	2.10.1.2	Pipes, cables etc exceeding 80 mm dia but not exceeding 300 mm dia	Metre	525.0			

Item No	Ref. No.	Description Of Item	Unit	Qty.	Rate in figures (in Rupees)	Rate in words (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7	8
1.05		Providing, fixing jointing and testing of Heavy (class -C) G.I. pipes as per relevant IS :1239/4736 with special accessories like tees, elbow, gasket, flanges, flanged joints, rubber insertion nuts and bolts including earth work excavation and trenching, wrapping pipe with 4mm thick 500mm width tar based polymeric corrosion protection tape or equivalent suitable to GI/ MS pipe line including applying uniform coat of cold pipe primer complete 1 m below the ground level, refilling in layers not exceeding 20 cm in depth consolidated each deposited layer by ramming & watering complete in all respect as per IS : 1022 (Under ground)					
a)	NS	150 mm dia G.I. Pipe with flange joints (5.4 mm wall thickness)	Metre	20.0			
b)	NS	80 mm dia G.I. Pipe with flange joints	Metre	10.0			
1.06		Heavy class G.I. pipes conforming to IS with accessories like tees, elbows, flanged joints, rubber insertion, nuts, bolts or welded joints including fixing the pipe with suitable flat iron strip clamps/brackets, structural members, dash fastener , cutting hole and chases in walls, floor, R.C.C. slab etc. and making good the same, including painting pipes and fittings with a primer coat of steel primer and two coats of red enamel paint etc. complete as required. (All the fitting i.e. tee /elbow, Valve shall be joint the pumps will flanged joints)					
	NS						
a)	NS	200 mm dia (with Flanged joints)	Metre	10.0			
b)	NS	150 mm dia (with Flanged joints)	Metre	35.0			

Item No	Ref. No.	Description Of Item	Unit	Qty.	Rate in figures (in Rupees)	Rate in words (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7	8
c)	NS	100 mm dia (with Flanged joints)	Metre	10.0			
d)	NS	80 mm dia	Metre	10.0			
1.07	NS	Providing and fixing Single headed hydrants flanged inlet with 63 mm female instantaneous outlet of gunmetal complete with male blank caps, chains conforming to IS:5290 type A with stainless steel orifice plate (if required) to keep the pressure not more than 3.5 kg/sq.cm at any point.	Each	8.0			
1.08	NS	Providing 63mm dia 15 m long reinforced rubber lined hose pipe conforming to IS: 636-1992 Part-II with gunmetal male & female coupling wire wound with pipe as required.	Each	8.0			
1.09	NS	Providing and fixing 63mm dia 15 m long canvas hose pipe complete with gunmetal male & female coupling wire wound with the pipe The pipe shall confirm to IS: 4927.	Each	8.0			
1.10	NS	Providing and fixing Gunmetal branch pipe with 20mm dia nozzle conforming to IS:903. suitable for installation connections to hose coupling etc. as required.	Each	8.0			

Item No	Ref. No.	Description Of Item	Unit	Qty.	Rate in figures (in Rupees)	Rate in words (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7	8
1.11		Providing and fixing Four way fire brigade connection housed in steel cabinet of size 900mm x 750mm x 400mm fabricated from 1.5mm thick M.S. sheet having lockable arrangement, openable glazed door with 4mm thick glass, including painting a coat of steel primer and two coats of postal red enamel paint, with necessary supports for the cabinet etc. with 150 mm dia. non return and butterfly valves complete in all respects.					
a)	NS	4 Way - 150mm dia	Each	1.0			
1.12		Providing and fixing Set of "Siamese" quadruplet instantaneous fire brigade connections comprising of two gunmetal instantaneous male inlet coupling 63mm dia with plug and cap, chain bends, tees etc for inlet to the static tank.					
	NS		Each	1.0			
1.13		Providing & Fixing 150 mm dia, 4 way suction coupling for firebrigade withdrawal of water from the fire tank					
	NS		Each	1.0			
1.14		Providing and fixing anodised glazed door shutter and frame of approved sections for Fire hose cabinet with dash fasteners (frame fabricated from 40 x 40 mm and shutter) 2100 mm high x 1200 mm wide x 600mm deep with locking arrangement, 4mm thick glass with beading including all accessories, complete as per drawing and as directed. The letters " HOSE CABINET" to be painted in red colour on the box complete in all respects.					
	NS		Each	4.0			

Item No	Ref. No.	Description Of Item	Unit	Qty.	Rate in figures (in Rupees)	Rate in words (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7	8
1.15	NS	Providing and fixing Weather proof standard stand post type hose cabinet (900mm x 750 mm x 400 mm) out door type made of 1.5mm thick M.S. sheet having central opening glazed door with 4mm thick glass suitable for accommodating hydrants, 2 Nos. canvas hose pipe and branch pipe including necessary locking arrangements, painting one coat of primer and two coats of postal red enamel paint.. The shutters are to be lockable type. The words " hose cabinet" to be painted on the box.	Each	4.0			
1.16		Providing and fixing cast iron body IS: 210 FG 220 and double flange gear simple operation type butterfly valve conforming to IS: 13095 with SS304 disc and shaft NITNLE rubber replaceable seat of the following size complete with bolts, nuts, washers and rubber insertions as per specification.					
a)	NS	150 mm dia	Each	10.0			
b)	NS	80 mm dia	Each	2.0			
1.17	NS	Supplying, testing, installation & commissioning of pressure switches for pumps including necessary wiring upto the control panel.	Each	6.0			

Item No	Ref. No.	Description Of Item	Unit	Qty.	Rate in figures (in Rupees)	Rate in words (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7	8
1.18		Constructing masonry chamber 90x90x100 cm, inside with 75 class designation brick work in cement mortar 1:4 (1 cement: 4 fine sand) for sluice valve, with C.I. surface box 100mm top diameter, 160mm bottom diameter and 180mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design.					
	18.34						
	18.34.1	with F.P.S. bricks	Each	1.0			
1.19		Supplying and Fixing First Aid Hose Reel , wall mounting swinging type complete with drum & bracket of MS construction, spray painted in Post office Red, confirming to IS 884/1995 with upto date amendments, complete with the following as required.					
		36 Meter long 20 mm dia water hose Thermoplastic (Textile reinforced) Type - 2 as per IS : 12585					
		20 mm dia gun metal ball valve & nozzle.					
		Drum and brackets for fixing the equipments on wall.					
	NS	Connection from riser with stop valve (gun metal) & M.S. Pipe	Each	4.0			

Item No	Ref. No.	Description Of Item	Unit	Qty.	Rate in figures (in Rupees)	Rate in words (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7	8
1. 20		Providing and fixing C.I. sluice valves (With cap) of approved quality complete with bolts, nuts, rubber insertions etc. (the tail pieces if required will be paid separately) Class II					
a)	18.31.4.2	200 mm dia	Each	2.0			
b)	18.31.3.2	150 mm dia	Each	4.0			
1.21	NS	Supply, Installation, Testing and Commissioning of 100 mm dia Bourden type, Stainless Steel dial type Pressure Gauge including brass isolation valve and siphon pipe having calibration of 0 - 16 Kg / cm ² .	Each	8.0			
1.22	NS	Supplying and Fixing of Fire Man's axe with heavy insulated rubber as per standard conforming to IS 926	Each	4.0			
1.23	NS	Supplying and Fixing vane type waterflow switch with contacts suitable for installation on 50 mm to 150 mm dia pipeline for a service pressure upto 20 Kg/sq.cm.	Each	4.0			
1.24	NS	Fabricating, Supplying, Installation, Testing and Commissioning Air Vessel of continuous welded construction with flanged discharge header on the top of each riser fabricated out of 10 mm thick dished ends and 8 mm thick MS sheet, Air Release Valve complete with suitable drain arrangement with 25 mm dia gun metal wheel valve complete with all accessories etc. as required of the following sizes					
a)	NS	1.2 Metre high and 250 mm dia	Each	1.0			

Item No	Ref. No.	Description Of Item	Unit	Qty.	Rate in figures (in Rupees)	Rate in words (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7	8
1.25	NS	Supply, Installation, Testing and Commissioning External Yard Hydrant Stand Post comprising of GI pipe 80 mm dia (heavy duty C class) from existing ringmain to about 1 meter above ground level and Single Headed Yard Hydrant Valve with 80 mm dia flanged inlet, instantaneous gunmetal coupling of 63 mm dia with cast iron wheel ISI marked, conforming to IS : 5290 (Type A), with ABS cap and chain etc.complete with all accessories as required.	Each	4.0			
1.26	18.48	Providing and placing on terrace polyethylene water storage tank ISI : 12701 MARKED indicating the BIS license No with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.	Ltrs	25000.0			
1.27	NS	Supply, erection, testing & commissioning of exit glow sign board of size 200mm x 350 mm wall mounting signage consisting of photo luminescent coating on acrylic cover	Each	8.0			

Item No	Ref. No.	Description Of Item	Unit	Qty.	Rate in figures (in Rupees)	Rate in words (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7	8
1.28		Providing and fixing fire extinguisher of carbon dioxide type consisting of brand new high pressure steel cylinder bearing IS: 7285 mark and having the approval of controller of explosives Nagpur, wheel type valve bearing IS:3224/15683 mark internal discharge tube, 1 meter long high pressure discharge hose, non conducting horn, suspension bracket, fully charged bearing IS: making fixed to wall as directed.					
a)	NS	4.5kg capacity cylinder	Each	4.0			
1.29	NS	Providing and fixing 9 liters capacity fire extinguisher water type gas pressure conforming to IS marking, fixed to wall.	Each	4.0			
1.30		Providing and fixing ABC type fire extinguishers complete in all respects.					
a)	NS	Capacity 4.0 Kg.	Each	4.0			
1.31		Fabricating, Supplying, Installation, Testing and Commissioning Air Vessel of continuous welded construction with flanged discharge header in pump house fabricated out of 10 mm thick dished ends and 8 mm thick MS sheet, Air Release Valve, complete with drain arrangement with 25 mm dia gun metal wheel valve complete with all accessories etc. as required of the following sizes					
a)	NS	2 Metre high and 450 mm dia suitable to operate Jockey Pump, Main Fire Pump & Diesel Engine Driven Fire Pump	Each	1.0			

Item No	Ref. No.	Description Of Item	Unit	Qty.	Rate in figures (in Rupees)	Rate in words (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7	8
1.32		Providing and fixing C.I. non-return valve complete with gunmetal seat, bolts, nuts washer & rubber insertions as required conforming to IS:5312.					
a)	NS	150 mm dia	Each	6.0			
b)	NS	80 mm dia	Each	4.0			
1.33		Supplying, installing, testing and commissioning of electric driven fire pump suitable for automatic operation consisting of the following (as per CPWD specification Part V-1985 for Fire Fighting and its amendments) (For Hydrant system & Sprinkler system).					
a)		Fire pump with stainless steel impeller, CI casing, SS shaft & mechanical seal shall be horizontal split casing centrifugal suction type multistage having following capacity and head so as to ensure a minimum pressure of 3.0 kg per square cm. at the highest and farthest out let at the specified flow complete with necessary strainer / foot valve suction side and pressure gauge on the delivery side including by pass arrangement for periodical testing of the working of the pumping set as required. The pump shall be provided with mechanical seals.					
b)		Squirrel cage type TEFC motor suitable for operation on 415V, 10%, 3 phases 50 Hz. system of suitable HP for the above pump with synchronous speed of 1500 RPM and flexible coupling. The pump motor should conform to IS: 325-1978.					

Item No	Ref. No.	Description Of Item	Unit	Qty.	Rate in figures (in Rupees)	Rate in words (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7	8
c)		Common bed plate fabricated from mild steel channel or cast iron type.					
d)		Suitable cement concrete pump foundation & vibration damping arrangement with cushy foot mounting as required.					
l)	NS	Capacity 1620 LPM and Head55 Metres	Each	1.0			
1.34		Supplying, installing, testing and commissioning of diesel engine driven fire pump suitable for automatic operation consisting of the following (as per CPWD specifications PartV 1985.) (For Hydrant system & Sprinkler system).					
a)		Horizontal centrifugal type multi-stage, fire pump with stainless steel impeller CI casing, SS shaft & mechanical seal complete of following capacity and Head so as to ensure a minimum pressure of 3.0 kg per sq.cm. at the highest & farthest outlet at the specified flow, complete with necessary strainer pressure gauge on the delivery side etc. including by pass arrangement for periodical testing of the working of the pump set as required. The pump shall be provided with mechanical seals.					

Item No	Ref. No.	Description Of Item	Unit	Qty.	Rate in figures (in Rupees)	Rate in words (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7	8
b)		Water cooled cold starting type multi cylinder 4 stroke diesel engine, developing suitable BHP at 1500 RPM for the above pump set with automatic starting mechanism, cooling system shall be with radial cool engine, maintenance free batteries, battery charge unit, flexible coupling with the pump, common bed plate for mounting diesel engine fuel day tank fuel piping and pump and vibration damping arrangement by cushy foot mounting as required complete in all respects.					
c)		The engine shall be capable to drive the pump at 150% rated discharge at 65% head and shall be suitable for 10% overload capacity for one hour in any period of 12 hrs. continuous run.					
d)		Common bed plate fabricated from mild steel channel or cast iron type.					
e)		Isolation Valve					
f)		Suitable cement concrete pump foundation & vibration damping arrangement with cushy foot mounting as required.					
l)	NS	Capacity 1620 LPM and Head 55 Metres	Each	1.0			
1.35		Supplying, installation, testing and periodic commissioning of electric motor driven automatic pressurization pump set consisting of the following (as per specification) (For Hydrant system & Sprinkler system).					

Item No	Ref. No.	Description Of Item	Unit	Qty.	Rate in figures (in Rupees)	Rate in words (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7	8
a)		Centrifugal pump of 180 LPM capacity capable of building up pressure lost in any leakage in the system against atotal head (mentioned as under) complete with C.I. casing stainless steel impellor ; mechanical seal & S.S. shaft necessary strainer, pressure gauge on delivery side etc. including by-pass arrangement for testing of the working of the pumping set as required .					
b)		Squirrel cage A.C. induction motor suitable for operation on 415 V, 10% 3 phase 50 Hz. A.C. supply and of minimum 7.5 HP,1500 RPM, for the above pump with flexible coupling as per specification and conforming to IS: 325/ 1978 and shall be TEFC type only.					
c)		Common bed plate fabricated from mild steel channel or cast iron type.					
d)		Suitable cement concrete pump foundation with vibration damping arrangement with cushy foot or similar mounting as per required.					
l)	NS	Head - 55 Metres	Each	1.0			
1.36		Providing & fixing puddle flanged including 40 cm long GI pipe piece welded / threaded with MS plates 450x450x6mm thick with both end screwed / flanged					
a)	NS	For 80 mm dia pipe	Each	2.0			
b)	NS	for 150 mm dia pipe	Each	4.0			
c)	NS	for 200 mm dia pipe	Each	2.0			

Item No	Ref. No.	Description Of Item	Unit	Qty.	Rate in figures (in Rupees)	Rate in words (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7	8
1.37		Supplying, installing, testing and commissioning of electric motor driven type automatic pressurisation, pump set suitable for automatic operation of terrace down comer and consisting of the following (as per CPWD specifications Part V-1985) for fire fighting and its amendmendts).					
a		Fire pump with stainless steel impeller CI casing, SS shaft shall be horizontal end suction centrifugally type having a capacity of 450 LPM against a total head of 25m so as to ensure a minimum pressure of 3.0 kg/sqm at the highest and farthest out at the specified flow complete with necessary strainer with foot valve in suction side and pressure gauge on the delivery side including bypass arrangement for periodic testing of the working of the pumping set as required. The pump shall be provided with mechanical seals.(Including taking necessary approval of complete fire fighting scheme from local fire authority before and after start of work) {Agency also has to submit characterstic curve of the pumps, model & other technical data for approval before placing the order}					
b		Squirrel cage AC induction motor suitable fot operation of 415 V ,+/-10%, 3 phase 50 HZ, AC supply and of minimum 7.5 HP,1500 RPM for the above pump with flexible coupling as per spwcification and conforming to IS 325-1978 and shall be TEFC type only					
c		Common base plate fabricated from mild steel channel ot castiron type					

Item No	Ref. No.	Description Of Item	Unit	Qty.	Rate in figures (in Rupees)	Rate in words (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7	8
d		1 No. 3 Phase, DOL starter type - II of 5 HP with thermal overload relay, contactor, Push Buttons and Switches etc complete as required.					
e	NS	Suitable cement concrete pump foundation with vibration damping arrangement with cushy foot mounting as required and having provision of suitable weather protection cover.	set	2.0			
2.00		Fire Fighting Panel(Electrical)					
		FIRE PANEL					
		Supply, installation, testing and commissioning of following M.V. cubicle type totally enclosed, powder coated, free standing type, dust, damp and vermin proof, indoor type Distribution Board/Panel complete with busbars, M.V. danger notice plate, interconnections with suitable capacity aluminium leads/solid aluminium strips/rods, connection of incoming and outgoing cables with thimbles and having following incoming and outgoing switchgears complete as required.					
		INCOMER :					
		250 Amp 415 volts, 35 KA (Isc), FP MCCB with thermal magnetic release having variable current settings.					
		R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
		"ON" and "OFF" LED indicating lamp and 2A control SP MCBs					
		Push button for CLOSE and TRIP					
		Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					

Item No	Ref. No.	Description Of Item	Unit	Qty.	Rate in figures (in Rupees)	Rate in words (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7	8
		1 no. 0 to 500 V Digital voltmeter with selector switch					
		1 to 0 to 250 Amps Digital ammeter with selector switch with one set of 250/5A C.T. s					
		BUSBARS :					
		320 Amp TPN busbars of aluminium					
		OUTGOINGS :					
		2 Sets of following					
		1 No. 125 Amp. 415/500 volts,35 KA, three Pole, Moulded Case Circuit Breaker with variable current setting .					
		Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
		1 No. 3 Phase, fully automatic star-delta starter, type II of 45 HP with thermal overload relay, contactor, Timer, Push Buttons and Auto-manual selector switch etc complete as required.					
		Single Phase preventer					
		1 to 0 to 120 Amps Digital ammeter with selector switch with one set of 120/5A CT,s.					
		1 Set of phase indicating lamp with 2A SP control MCBs					
		Neon indicating Lamps for "ON" , "OFF" & "TRIP" indication with 2A SP control MCBs.					
		2 Sets of following					
		1 No. 32 Amp. 415/500 volts,25 KA, three Pole, Moulded Case Circuit Breaker with variable current setting .					

Item No	Ref. No.	Description Of Item	Unit	Qty.	Rate in figures (in Rupees)	Rate in words (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7	8
		Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
		1 No. 3 Phase, DOL starter type - II of 5 HP with thermal overload relay, contactor, Push Buttons and Switches etc complete as required.					
		Single Phase preventer					
		1 Set of phase indicating lamp with 2A SP control MCBs					
		Neon indicating Lamps for "ON" , "OFF" & "TRIP" indication with 2A SP control MCBs.					
		2 Sets of following					
		1 No. 32 Amp. 415/500 volts,25 KA, three Pole, Moulded Case Circuit Breaker with variable current setting .					
		Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
		Single Phase preventer					
		1 Set of phase indicating lamp with 2A SP control MCBs					
		Neon indicating Lamps for "ON" , "OFF" & "TRIP" indication with 2A SP control MCBs.					
		1 Set of following (in a separate cubicle)					

Item No	Ref. No.	Description Of Item	Unit	Qty.	Rate in figures (in Rupees)	Rate in words (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7	8
		One no. Diesel engine auto starting kit with all necessary relay, controls, wiring etc to start 45 HP diesel engine when electrical driven fire pump fail to start including one no rectifier circuit, battery charger, batteries, DC Voltmeter, DC Ammeter etc. complete as required.					
		Fire Panel as mentioned above	Set	1.0			
		Sub Total					

**BILL OF QUANTITY
FOR
ELECTRICAL WORKS
OF
INTERNATIONAL HOSTEL
FOR
NIHFW.**

BILL OF QUANTITY FOR ELECTRICAL WORKS OF INTERNATIONAL HOSTEL FOR NIHFW .

S.No.	Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	4	5	6	7
1.00	SUB HEAD 1 : DG SET & ACCESSORIES					
	SOUND PROOF DG SETS OF 200 KVA.					
1.01	DG SET OF 200 KVA.					
	Supply, installation, testing and commissioning of sound proof (silent type) Diesel Generating set having 200 KVA Prime Power Ratings , 415 volt at 1500 RPM, 0.8 power factor suitable for 50 Hz, 3 phase system , suitable bhp, 0.85 load factor, radiator type water cooled type diesel engine-alternator set mounted on common base frame, return fuel cooler, battery & battery charger, Anti Vibration mounting pads, Engine alternator safeties, electronic governor including all accessories & their wiring as per technical specification. This includes the following:					
	- Supplying and fixing of suitable sizes High class MS pipe for DG exhaust complete with bends, elbow, flanges etc including silencer and catalytic convertor exhaust pipe for exhaust of DG sets including pollution control board norms and as required.					
	- Supply and fixing of 50mm thick compressed mineral wool insulation (Rock wool) for D.G. exhaust pipe with 22 gauge aluminium sheet cladding etc. as required for the under mentioned dia pipe.					
	- Supply, installation, testing and commissioning of suitable size fuel pipe for connecting diesel engine to individual day service tank including supply and fixing of required valves & filters etc. as required.					
	- Fabrication of supports for exhaust pipe, fuel pipe or for any other purpose out of suitable M.S. structural steel including supplying and applying of enamel paint of approved shade after one coat of steel primer of reputed company.					

S.No.	Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	4	5	6	7
-	Supplying and fixing of suitable capacity cable adapter box for alternator.					
-	Providing and fixing oil tank of 990 litres capacity complete with suitable M.S. fabricated MS stand oil level indicator gauge tank and stand duly painted, complete with float switches etc. as required.					
-	Factory assembled Sound proof Canopy as per pollution control board requirement to achieve noise level desired during night condition, with base frame, doors, inspection window, fresh air supply fans, light fixtures for illumination with switch, wiring for light fixtures and power sockets, etc.					
-	Any other item required for completion of system above (D.G. set)					
A.	DG AMF PANEL WITH AUTO CHANGEOVER SWITCH.					
	Supply, installation, testing and commissioning of DG , cubicle type, totally enclosed, free standing type, dust, damp and vermin proof Panel made up of CRCA sheet, complete with aluminium busbars, M.V. danger notice plate, interconnections with suitable capacity aluminum leads/solid aluminum strips/rods, powder coated and having incoming and outgoing switchgears as mentioned below and complete as required.					
B.	Auto changeover arrangement through auto changeover switch of 500 A rating along with the following AMF components.					
C.	PROTECTION AND AMF COMPONENTS for above mentioned DG set.					
-	Auto/manual/test/off selector switch					

S.No.	Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	4	5	6	7
	- 2 Nos over voltage relay, 2 nos. reverse power relay and 2 nos. under voltage relay.					
	- 3 sets of current transformers 15 P 10 accuracy for protection and 15 VA class - I for metering					
	- Energy analyzer unit to indicate current voltage frequency power factor and KWH					
	- Indicating lamps for load on mains and load on set.					
	- Fuse for instruments.					
	- Battery charger, complete with transformer/rectifier, DC voltmeter and ammeter, selector switch for trickle, off and boost the current adjustment.					
	- Main supply failure monitor.					
	- Supply failure timer					
	- Restoration timer.					
	- Control unit with three impulse automatic engine start / stop and failure to start lockout.					
	- Impulse counter with locking and reset facility.					
	- On/Off/ Control circuit switch with indicator.					
	- Audio/ Video annunciation for :					
	a) High stator temperature.					
	b) Low lubricating oil pressure					
	c) Engine over speed					
	d) Engine fails to start					
	e) Full load/ maximum load warning.					
	D. ENCLOSURE :					
	Fabrication, PVC Sleeving, Control/Power Wiring and necessary electrical/ mechanical interlocking etc any other item required for proper functioning of the system complete as required.					
	DG SET WITH AMF Panel and Auto changeover switch as mentioned above	Set	1			
	TOTAL SUBHEAD 1: DG SETS					

S.No.	Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	4	5	6	7
	SUB HEAD 2 :MV PANELS					
2.00	Supply, installation, testing and commissioning of following M.V. cubicle type totally enclosed, wall mounted type, powder coated, dust, damp and vermin proof, indoor type Distribution Board/Panel complete with busbars, M.V. danger notice plate, interconnections with suitable capacity aluminium leads/solid aluminium strips/rods, connection of incoming and outgoing cables with thimbles, and having following incoming and outgoing switchgears complete as required.					
2.01	MV PANEL GROUND FLOOR IN ELEC. ROOM :					
	a) INCOMER:					
	630 Amp 415 volts, 35 KA (Ics) FP MCCB with variable current settings and having microprocessor based O/L, S/C & E/F protection release.					
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	1 No. 0 to 500 V Digital voltmeter with selector switch.					
	1 No. 0 to 630 Amp Digital ammeter with selector switch with one set of 630/5A C.Ts.					
	b) BUSBARS:					
	800 Amp FP Aluminium busbars					
	c) OUTGOING:					
	i 10 Nos.MCCB as per following specifications:					
	63 Amp 415 volts, 25 KA (Isc), TP MCCB with thermal magnetic release having variable current settings .					

S.No.	Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	4	5	6	7
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.					
	Indicating lamps with 2A protection MCBs to indicate OPEN, CLOSE, TRIP for MCCB					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
	Digital energy metre with CT					
ii	5 no. 25 Amps , 415 volts, 9 KA ,Four Pole, Miniature Circuit Breaker, with ON/ OFF indication.					
iii	10 no. 40 Amps , 415 volts, 9 KA ,Four Pole, Miniature Circuit Breaker, with ON/ OFF indication.					
iv	9 no. 63 Amps , 415 volts, 9 KA ,Four Pole, Miniature Circuit Breaker, with ON/ OFF indication.					
v	8 no. 100 Amps , 415 volts, 9 KA ,Four Pole, Miniature Circuit Breaker, with ON/ OFF indication.					
	MV PANEL GROUND FLOOR IN ELEC. ROOM : as mentioned above	Set	1			
	TOTAL SUB HEAD 2 : MV PANEL					
	SUB HEAD-3: MCB DISTRIBUTION BOARDS.					
3.00	MCB DISTRIBUTION BOARD					

S.No.		Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1		2	3	4	5	6	7
3.01		Supplying & fixing following way, three pole and neutral, sheet steel, MCB distribution board, 415 volts, on recess/surface complete with loose wire box, terminal blocks, tinned copper busbar, neutral link, earth bar, din bar, detachable gland plate, interconnections, phosphatized and powder painted including earthing etc. Before procurement of DB the contractor has to take approval of DB schedule/drawing of each DB from the Engineer in charge, HSCC, as per technical specifications and as required. (but without MCB & RCCB),					
	i	4 way (8+12), Double door	Each	7			
	ii	6 way (8+18), Double door	Each	17			
	iii	8 way (8+24), Double door	Each	1			
3.02		Supplying & fixing 6 Amps to 32 Amps rating, 240 volts, 'B' series, miniature circuit breaker suitable for lighting & other loads of following poles in the existing MCB DB complete with connections, testing & commissioning etc. as per technical specifications & as required.					
	i	Single pole	Each	311			
	ii	Triple pole & neutral (FP)	Each	4			
3.03		Supplying & fixing following rating, four pole, 415 volts, Miniature Circuit Breaker (MCB), in the existing MCB DB complete with connections, testing & commissioning etc. as per technical specifications and as required.					
	i	40 Amps	Each	6			
	ii	63 Amps	Each	8			
	iii	100 Amps	Each	7			

S.No.		Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1		2	3	4	5	6	7
3.04		Supplying & fixing following rating, four pole, 415 volts, Residual Current Circuit Breaker (RCCB) having a sensitivity current upto 300 mA in the existing MCB DB complete with connections, testing & commissioning etc. as per technical specifications and as required.					
	i	40 Amps	Each	9			
	ii	63 Amps	Each	8			
	ii	100 Amps	Each	8			
3.05		Supplying and fixing Single pole Blanking plate in the existing MCB DB complete as required.	Each	104			
		TOTAL SUB HEAD-3: MCB DISTRIBUTION BOARDS.					
		SUB HEAD 4: WIRING					
4.00		WIRING					
4.01	i	Wiring for light point/fanpoint/ exhaust fan point/call bell point with 1.5 sq.mm. PVC insulated, fire retardant low smoke (FRLS) copper conductor cable, single core/ multi strand, in steel conduit (Including supplying & recess laying of MS conduit and accessories) including the following and complete as required.					
	ii	Supplying and Fixing Modular type switches (modular Bell push in case of call bell points) in suitable size modular metal boxes, base plate & modular cover plates, space for fixing electronic fan regulator in case of fan point wiring & space for fixing 5A socket on the board etc.					
	iii	Supplying and fixing Hexagonal fan Boxes with 3 mm thick hylem sheet covers in case of Fan Points					
	iv	Supplying & Fixing Ceiling Rose in case of Exhaust Fan Points etc.					

S.No.		Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1		2	3	4	5	6	7
		Note :					
		i) Unless otherwise specified all the conduiting work to be done in recess					
		Point wiring as mentioned above	Point	500			
4.02	i	Wiring for twin control light points with 1.5 sq.mm. PVC insulated, FRLS copper conductor cable in MS conduit (including supplying and recess laying of MS conduit) including the following and complete as required.					
	ii	Supplying and Fixing Modular type two numbers 2 Way switches in suitable size modular metal boxes, base plate & modular cover plates etc.					
		Note :					
		i) Unless otherwise specified all the conduiting work to be done in recess					
		Wiring for twin control light points as mentioned above	Point	35			
4.03		Wiring for 5A light plugs with 1.5 sq.mm. PVC insulated, FRLS copper conductor cable including one number 1.5 sq.mm. PVC insulated, copper conductor cable for earthing in surface/recessed ISI marked MS conduit (including supply and recess laying of ISI marked MS conduit) as per technical specifications and as required.	Point	85			
4.04		Wiring for 5A (Two sockets & one switch) with 1.5 sq.mm. PVC insulated, FRLS copper conductor cable including one number 1.5 sq.mm. PVC insulated, copper conductor cable for earthing in surface/recessed MS conduit (including supply and recess laying of conduit) as per technical specifications and as required.	Point	36			

S.No.	Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	4	5	6	7
4.05	Wiring for computer points (Three sockets & one switch) with 2.5 sq.mm. PVC insulated, FRLS copper conductor cable including one number 2.5 sq.mm. PVC insulated, copper conductor cable for earthing in surface/recessed MS conduit (including supply and recess laying of conduit) as per technical specifications and as required.	Point	40			
4.06	Wiring for 16 amp power plug with 2X4 sqmm PVC insulated, FRLS copper conductor, single core/multi strand cable in surface/recessed MS conduit (including supply and recess laying of MS conduit with all accessories) along with 4 sqmm PVC insulated, copper conductor, single core/multi strand cable for loop earthing etc per technical specifications & as required.					
	Directly from MCB-Distribution Board to the Socket Outlets	Point	90			
4.07	Wiring for 20 Amp power plug with 2X4 sq.mm. PVC insulated, FRLS copper conductor multi strand cable in surface/recessed in MS conduit (including supply and recess laying of MS conduit with all accessories) along with 1X4 sqmm PVC insulated FRLS copper conductor for loop earthing, as per technical specifications & as required.	Point	37			
4.08	Wiring for 32 amp power plug with 2X6 sq.mm. PVC insulated FRLS copper conductor, multi strand cable in surface/recessed in MS conduit (including supply and recess laying of MS conduit with all accessories) along with 1X6 sqmm PVC insulated FRLS copper conductor for loop earthing, as per technical specifications & as required.	Point	5			

S.No.		Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1		2	3	4	5	6	7
4.09		Wiring for circuit wiring with following size of PVC insulated FRLS copper conductor single core/multi strand cable in recessed steel conduit (including supply & laying of recessed conduit) as required.					
	i	2X2.5 Sqmm with 1 No. 2.5 sqmm PVC insulated FRLS copper conductor for earthing.	Metre	1003			
	ii	4X4 Sqmm with 2 No. 4 sqmm PVC insulated FRLS copper conductor for earthing	Metre	95			
	iii	4X10 Sqmm with 2 No. 10 sqmm PVC insulated FRLS copper conductor for earthing	Metre	215			
	iv	4X16 Sqmm with 2 No. 16 sqmm PVC insulated FRLS copper conductor for earthing	Metre	110			
	v	4X25 Sqmm with 2 nos 25 sq mm PVC insulated FRLS copper conductor for earthing.	Metre	90			
4.10		Supplying and fixing suitable Module metal box on surface or in recess including providing and fixing 3 pin 5/6 amps. modular socket outlet with shutters and 5/6 amps. modular type switch, base plate, modular cover plate, connections etc. and all civil works 'complete as required.	Each	535			
4.11		Supplying and fixing suitable module modular metal box on surface or in recess including providing and fixing 6 pin 15/16 A modular socket outlet with shutters and 15/16 A modular switch, base plate, modular cover plate, connections, etc. and all civil works complete as required.	Each	90			
4.12		Supply, Installation, Testing & Commissioning 63 Amps, TPN MCCB in a sheet steel enclosure with extended rotary operating mechanism complete with all accessories as required.	Each	5			

S.No.	Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	4	5	6	7
4.13	Supplying and fixing suitable Module metal box on surface or in recess including providing and fixing three nos 3 pin 5/6 amps. modular socket outlet with shutters and one no. 10 amps. modular type switch, base plate, modular cover plate, connections etc. and all civil works 'complete as required. (For computer Points)	Each	40			
4.14	Supplying and fixing suitable Module metal box on surface or in recess including providing and fixing two nos 3 pin 5/6 amps. modular socket outlet with shutters and one no. 5 amps. modular type switch, base plate, modular cover plate, connections etc. and all civil works 'complete as required. (For TV Points)	Each	36			
4.15	Supply and fixing following 20 Amps, 240 volts, 2P+E, AC box with plugs and 20 SP MCB in a sheet steel cover on surface or recess complete with all accessories including connections, testing and commissioning etc. as required.	Each	37			
4.16	Supply and fixing following 32 Amps, 240 volts, 2P+E, AC box with plug and 32 SP MCB in a sheet steel cover on surface or recess complete with all accessories including connections, testing and commissioning etc. as required.	Each	5			
4.17	Supplying, providing & fixing cordless musical bell, batteries etc of approved make complete as required.	Each	2			
	TOTAL SUBHEAD: 4- WIRING					
	SUB HEAD: 5 - LIGHT FIXTURE AND FANS					

S.No.	Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	4	5	6	7
5.00	LIGHT FIXTURES AND FANS					
5.01	Supply of following light fixture with high efficiency electronic/ dimmable ballast, starter, tubes/lamps, capacitor, reflector, diffuser, MS body/housing holder etc. complete with all fixing accessories as required.					
i	1X28 watt box type flourescent light fixture (Philips TMS 122M 1XTL5 28 W EBT or approved equivalent) (136b/136bw)	Each	110			
ii	2X36 watt surface mounted type flourescent light fixture with opal acrylic cover (Philips TCS019 2XTL-D36W EBE or approved equivalent) (236cac)	Each	10			
iii	1XTL5 28 watt surface mounted Line Light fixture in 4ft version with diffuser & mirror optics respectively (Philips TPX311 1X28W TL5 EB-O SAT or approved equivalent) (136line light)	Each	70			
iv	1XTL5 28 watt recessed mounted Line Light fixture in 4ft version with diffuser & mirror optics respectively (Philips TPX311 1X28W TL5 EB-O SAT or approved equivalent) (136line light)	Each	10			
v	2X TL5 28 watt recess mounted mirror optics flourscent light fixture (Philips TBS 869 2XTL528 W EBP D8 or approved equivalent). (236 RMO1)	Each	40			
vi	2X TL5 28 watt surface mounted mirror optics flourscent light fixture (Philips TPS814 2XTL5-28W EBP D8 or approved equivalent). (236 SMO1)	Each	10			

S.No.		Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1		2	3	4	5	6	7
5.02		Supply of following compact fluorescent light fixture with electronic ballast, starter, capacitor, yellow light lamps, reflector, diffuser, MS body/housing holder etc. complete with all fixing accessories as required.					
	i	1x9 watt Bulk Head light fixture (Philips FXC 101 1XPL-S/2P9 W AC GR or approved equivalent)	Each	5			
	ii	2 X 11 watt surface mounted mirror optics (Philips FCS 518 2XPLS/2P 11 W I 240 V or approved equivalent)	Each	35			
	iii	2X18 watt Mirror top light with frosted glass (Decon 05CA 01 or approved equivalent)	Each	45			
	iv	Surface mounted Batten holder (Plastic) with 13 watt CFL	Each	5			
	v	1X70 W surfaced mounted down light fixture with CDMT lamp, glossy reflector & electronic gear (Philips MCS250/1XCDM-TD 70W HF or approved equivalent)DL1	Each	6			
	vi	1X13 W surface mounted downlight fixture with CFL lamp & frosted glass (Decon 03 TY 01 or approved equivalent) DL2	Each	45			
	vii	2X18 W wall bracket with frosted glass (Decon 05TQ double wave or approved equivalent)wb1	Each	5			
	viii	1X18 W wall bracket of curved glass mosaic (leaf model) with frosted glass (Decon 05YZM or approved equivalent)wb2	Each	5			

S.No.		Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1		2	3	4	5	6	7
	ix	Night lamp fixture opaque with 4M box and Tresa Cover (Anchor Roma 34385 or approved equivalent)NLWM	Each	40			
	x	1x11 W bedside fixture with 11 W CFL (Decon 05 GF or approved equivalent)	Each	120			
5.03		Supply of following ceiling fans (Crompton Greaves High Breeze or approved equivalent) complete with double ball bearing, motor, blades, downrod, canopies, capacitor, modular type electronic fan regulator, suitable for operation on 230 volts, 50 Hz., 1 phase, AC supply complete as required					
	i	900 mm sweep	Each	5			
	ii	1200 mm sweep	Each	70			
5.04		Supply of 900 RPM, 300 mm (Crompton Greaves Trans Air or approved equivalent) exhaust fan suitable for single phase 230 volts, 50 Hz., AC supply complete with motor, louvers/shutters etc. complete as required.	Each	50			
5.05		Supply of 450 mm sweep, crompton greaves model high flow 18" wall mounted fan complete with double ball bearing, motor, blades, capacitor etc suitable for single phase 230 volts, 50 Hz., AC supply, complete as required.	Each	2			

S.No.	Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	4	5	6	7
5.06	Installation, testing and commissioning of prewired, fluorescent fittings of all types, complete with all accessories and tube etc. directly on ceiling/wall, including connections with 1.5 sq.mm. PVC insulated, FRLS copper conductor, single core/ multi strand cable etc. as required.	Each	250			
5.07	Installation, testing and commissioning of prewired, compact fluorescent lamp fixture (CFL fixtures) of all types, complete with all accessories and lamp etc. directly on ceiling/wall, including connections with 1.5 sq.mm. PVC insulated, FRLS copper conductor, single core/ multi strand cable etc. as required.	Each	186			
5.08	Installation, testing and commissioning of ceiling fan and modular type electronic fan regulator (Electronic regulator to be fixed in switch board) including wiring the down rod and connection with 1.5 sqmm FR PVC insulated, copper conductor single core/multi strand cable including providing & fixing phenolic laminated sheet cover on the fan box, etc. as required.	Each	75			
5.09	Installation, testing and commissioning of exhaust fan up to 450 mm sweep in the opening, including making the hole to suit the size of the above fan including , fixing of louvers/ shutters with frame making good the damages etc. as required.	Each	50			
5.10	Installation, testing and commissioning of wall mounted fan up to 450 mm sweep including supply and fixing wall bracket arrangement complete as required.	Each	2			
	TOTAL SUBHEAD 5 : LIGHT FIXTURE & FANS					

S.No.		Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1		2	3	4	5	6	7
		SUB HEAD 6 : TELEPHONE SYSTEM.					
6.00		TELEPHONE SYSTEM					
6.01		Wiring for telephone point with Supply & laying two pair 0.5 Sq. mm solid, annealed copper conductor insulated with high density polythlene. The insulated cores twisted to form pairs, helically wrapped with polyster tape, over all insulation of FR PVC, unarmoured telephone cable in MS conduit (including supply & recessed laying of M.S. conduit), including providing & fixing of two module modular metal box on recess with following pair cord outlet, connections etc. complete as required. This also includes conduiting, wiring from floor Tag blocks to individual telephone outlets.					
	i	1 pair cord outlet (Jack Type)	Point	6			
	ii	2 pair cord outlet (Jack Type)	point	45			
6.02		Supplying, Installation, testing and commissioning of following sizes of telephone distribution board in M.S. hinged type lockable box duly painted complete with Krone type tag block etc. including terminations of cable as required.					
	i	100 Pair	Each	1			
	ii	20 Pair	Each	2			
6.03		Supplying and drawing of following pairs .5 mm dia annealed bare copper conductor Polythene insulated, core twisted into pairs armoured telephone cable on surface/tray with saddels etc. complete as required.					
	i	20 Pair	Metre	55			

S.No.		Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1		2	3	4	5	6	7
6.04		Supplying and drawing of following pairs .5 mm dia annealed bare copper conductor Polythene insulated, core twisted into pairs armoured jelly filled telephone cable in the existing trench/ hume pipe/ GI pipe etc with saddels etc. complete as required.					
	i	100 Pair	Metre	100			
		TOTAL : SUB HEAD 6:TELEPHONE SYSTEM					
		SUB HEAD 7:CONDUITING FOR COMPUTER SYSTEM .					
7.00		CONDUITING FOR COMPUTER SYSTEM .					
7.01		Supply and fixing of following sizes of rigid PVC conduit alongwith the accessories in recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required					
	i	20 mm dia	Metre	800			
	ii	25 mm dia	Metre	200			
7.02		Supplying and fixing two module modular plate (suitable for RJ-45 computer socket) with GI box complete as required.	Each	40			
		TOTAL SUB HEAD: 7 CONDUITING FOR COMPUTER SYSTEM					
8.00		CONDUITING FOR TV OUTLETS					
8.01		Supply and fixing of following sizes of MS conduit alongwith the accessories in surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required					
	i	20 mm dia	Metre	50			

S.No.		Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1		2	3	4	5	6	7
	ii	25 mm dia	Metre	30			
8.02		Supplying and fixing 2 module modular metal box in recess with modular cover plate including fixing 1 no. coaxial TV outlet connection and all accessories complete as required	Each	51			
8.03		Supply and drawing Coaxial TV Cable RG - 6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/ recessed steel/ PVC conduit as required.	Metre	40			
		TOTAL SUB HEAD 8: CONDUITING FOR TV OUTLETS					
		SUB HEAD 9 : FIRE DETECTION AND ALARM					
9.00		FIRE DETECTION AND ALARM SYSTEM					
9.01		Supply and drawing of following sizes of PVC insulated FRLS copper conductor cable in surface/recessed MS conduit (including Supplying and fixing of MS Conduit) complete as required.					
	i	2X1.5 sqmm	Metre	2076			
9.02		Supply, installation, testing and commissioning of the following addressable type fire detection and alarm accessories as per technical specification & complete with connections etc. as required.					
	i	Optical type Smoke Detector	Each	100			
	ii	Heat Detector	Each	3			
	iii	Manual Break call point.	Each	10			
	iv	Fire Alarm Hooter cum speaker of suitable range to cover the complete floor, in enclosure.	Each	10			
	v	Response indicator	Each	50			

S.No.	Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	4	5	6	7
9.03	Supply, Installation, testing and commissioning of 2 loop microprocessor based addressable type networkable Fire Detection & Alarm Panel complete with inbuilt power supply, battery charger with SMF batteries for minimum 24 hours back up. The panel shall have a communication module and HI 485 network card. The panel should have rectifier, loop card, minimum 80 character LCD unit to indicate fire/ fault signals with address including external/ internal printer to print the details complete as per technical specifications and requirement of Local Fire Authority and as required.	Set	1			
9.04	Supply testing and commissioning of isolator module as per specifications.	Set	9			
9.05	Supply, Installation, testing and commissioning of addressable control modules.	Each	1			
9.06	Supply, Installation, testing and commissioning of addressable monitor modules.	Each	1			
9.07	Supply, Installation, testing and commissioning of flow switch	Each	1			
9.08	Supplying, drawing, connecting, testing & commissioning of 4 core, 1.5 sq. mm ,1100 volts FRLS copper conductor with PVC armoured cable with steel brading for mechanical protection and over all shielded with aluminium myler tape complete as required.	Metre	100			

S.No.	Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	4	5	6	7
	TOTAL SUB HEAD 9 : FIRE DETECTION AND ALARM					
	SUB HEAD 10 : LIFTS					
10.01	Design, manufacture, supply, installation, testing and commissioning of following 10 passenger (680 kg) lift , serving different floors in the lift shaft including. The lift should be as per detailed specification/ drawing enclosed as required and as under:					
	- Travel: As per architectural drawing.					
	- Controller: A.C. variable voltage & variable frequency					
	- Automatic rescue device complete with dry maintenance free batteries as required.					
	- Operation: Microprocessor based single automatic push button/ simplex selective collective/duplex collective selective with / without attendant.					
	- 415 V, 3 phase, 50 Hz, 4 wire system					
	- Type of doors: a) Car : Power operated, centre opening for passenger lift horizontal sliding stainless steel scratch proof. (b) Landing doors: Stainless steel scratch proof. Lift landing doors shall have a fire resistance of one hour.					
	- Car Enclosure : Scratch proof stainless steel					
	- A hand rail guide not less than 600 mm long at 900 mm above floor level .					
	- Mirror of suitable size to be fixed inside the lift car.					
	- Voice announcement system in the car to announce the position of the elevator in the hoistway as the car passes or stops at a floor served by the elevator.					
	- Telephone with minimum two connections one at operator's room and other at guard/ security room and the emergency signal with re-chargeable batteries as source of supply be made in the lift car.					

S.No.		Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1		2	3	4	5	6	7
	-	Toe guard, PA speaker, IR curtain on full height, two phase fireman's drive control/ switch and potential free contacts etc to be provided.					
	i	Floors : G+2 , (3 stops & 3 openings), Speed : 1 MPS.					
		Passenger Lift as mentioned above	Each	1			
10.02		Extra for one Additional floor in the above mention item 10.01 (Lift)	Each	1			
		TOTAL SUB HEAD 10: LIFTS					
		SUB HEAD 12: LT CABLES					
11.00		LT CABLES					
11.01		Supply of following sizes of 1.1 kV grade multicore aluminium conductor XLPE Cable as per IS :7098 Part-1 & ISI Marked .					
	i	3.5 Core 25 Sqmm.	Metre	250			
	ii	3.5 Core 185 Sqmm.	Metre	300			
	iii	2 Core 10 Sq mm	Metre	50			
	iv	4 Core 4 Sq mm	Metre	20			
	v	4 Core 10 Sq mm	Metre	50			
	vi	4 Core 16 Sq mm	Metre	60			
11.02		Laying of one number PVC insulated and PVC sheathed power cable 1.1kV grade direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc. as required					
	i	Upto 35 sq. mm	Metre	100			
	ii	Above 95 sq. mm and upto 185 sq. mm	Metre	200			

S.No.		Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1		2	3	4	5	6	7
11.03		Laying of one number XLPE power cable of 1.1 KV grade of following size in the existing RCC/ HUME/ METAL pipe as required.					
	i	Upto 35 sq. mm	Metre	20			
	ii	Above 95 sq. mm and upto 185 sq. mm	Metre	15			
11.04		Laying and fixing of one number XLPE power cable of 1.1 KV grade of following size on cable tray as required.					
	i	Upto 35 sq. mm	Metre	30			
	ii	Above 95 sq. mm and upto 185 sq. mm	Metre	20			
11.05		Supplying and making end termination with suitable size Copper lugs including double compression glands of following sizes of 1.1. kv grade multicore aluminium conductor PVC insulated and PVC sheathed					
	i	3.5 Core 25 Sqmm.	Each	16			
	ii	3.5 Core 185 Sqmm.	Each	4			
	iii	2 Core 10 Sq mm	Each	10			
	iv	4 Core 4 Sq mm	Each	6			
	v	4 Core 10 Sq mm	Each	4			
	vi	4 Core 16 Sq mm	Each	12			
11.06		Fabricating and installing following size of perforated M.S. cable trays including horizontal and vertical bends, reducers, tees, cross members and other accessories as required and duly suspended from the ceiling with M.S. suspenders and including painting etc. as required :-					
	i	150 mm. width x 50 mm. depth x 1.6 mm. thickness	Metre	15			
	ii	300 mm. width x 62.5 mm. depth x 2.0 mm. thickness	Metre	20			
	iii	450 mm. width x 62.6 mm. depth x 2.0 mm. thickness	Metre	20			
	iv	600 mm. width x 62.6 mm. depth x 2.0 mm. thickness	Metre	30			
		TOTAL SUB HEAD 11 : LT CABLES					

S.No.	Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	4	5	6	7
	SUB HEAD 12: EARTHING SAFETY EQUIPMENT AND MISC. ITEMS					
12.00	EARTHING, SAFETY EQUIPMENTS AND MISC. ITEMS					
12.01	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	Set	6			
12.02	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	Set				
13.03	Supplying and laying 25 mm X 5 mm G.I strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with G.I. nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of G.I. nut bolt & spring washer spaced at 50mm)	Metre	20			
12.04	Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I. pipe from earth electrode including connection with G.I. nut, bolt, spring, washer excavation and re-filling etc. as required.	Metre	25			
12.05	Providing and fixing 25 mm X 5 mm copper strip in 40 mm dia G.I. pipe from earth electrode including connection with brass nut, bolt, spring, washer excavation and re-filling etc. as required.	Metre	10			

S.No.	Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	4	5	6	7
12.06	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	Metre	20			
12.07	Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required.	Metre	10			
12.08	Supplying and laying 25 mm X 5 mm copper strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of brass nut bolt & spring washer spaced at 50mm)	Metre	15			
12.09	Providing and laying of following sizes non pressure NP2 class (light duty) RCC pipe with collar joint with stiff mixture of cement (1 cement : 2 fine sand) including testing the joints etc. as required.					
	i 150mm dia	Metre	30			
	ii 300mm dia	Metre	20			
12.10	Providing and fixing M.V. danger notice plate of 200mmX150mm made of mild steel, atleast 2mm thick and vitreous enamelled white on both sides and with inscription in signal red colour on front side as required.	Each	4			
12.11	Supplying and laying of 1.1kV grade 1 metre wide anti skid chequered type rubber mat.	Metre	20			
12.12	Design, manufacture, supply and installation of Fire Buckets 13 litre capacity 4 Nos. duly filled with sand and GI pipe support stand for these buckets including painting etc. complete as required.	Set	1			

S.No.	Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	4	5	6	7
12.13	Supply and fixing shock treatment chart in English, Hindi and local language mounted on 5mm thick Plywood and 3mm thick plain glass front complete as required.	Set	2			
12.14	Supplying and fixing Foam type 9 ltrs capacity fire extinguishers as approved by ISI complete as required.	Set	2			
12.15	Supplying and fixing CO2 type 9 Kg capacity fire extinguishers as approved by ISI complete as required.	Set	2			
12.16	Supplying and fixing CO2 type 4.5 Kg capacity fire extinguishers as approved by ISI complete as required.	Set	2			
12.17	Supplying, storing, handling and fixing in position First Aid Medical Box complete as per technical specifications as required.	Each	1			
12.18	Supply and testing of 11kV ISI marked hand gloves	Each	1			
12.19	Providing & fixing rigid PVC pipe complete with fittings, clamps including trenching & refilling/ wall cutting & plastering, etc. (for cable entry) with all minor civil & mech. Works complete as required. 50 mm dia nominal bore	Metre	10			
	TOTAL SUB HEAD 12: EARTHING, SAFETY EQUIPMENT AND MISC. ITEMS					
	SUB HEAD 13: OUT DOOR LIGHTING					
13.00	OUT DOOR LIGHTING					

S.No.	Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	4	5	6	7
13.01	Supply, erection, testing and commissioning of external swaged steel tubular pole with following specifications & items :					
i	9.0 Mtrs. high swaged steel tubular pole (Single arm of suitable length each around 1.5 Metre), the construction of the pole shall be as per IS 410 SP-33 with base plate 450mmX450mmX6mm complete as per requirement with two coats of spray paints (shade as approved)					
ii	1X150 watts street light fixture with 150watts high pressure sodium vapour (HPSV) lamp complete with control gear, acrylic cover cover etc. similar to Philips SRP 051/ 150 W or approved equivalent including its wiring with 2X4 sq.mm. PVC insulated, FRLS copper conductor and 1.5 sqmm PVC insulated, FRLS copper earth wire from control box complete as required.					
iii	Suitable size 32 A DP MS Control box with 2 no. incoming and outgoing terminals and 2 nos. tap-out terminal with 6A DP MCB complete as required - 1 Set					
iv	Suitable number(s) 40mm dia Class-B GI Pipe(s) from above control box to upto 0.5 metre below ground level for power cable entry					
v	<i>Providing foundation including excavation, shuttering, alingment of poles, casting etc. including lean concrete at the bottom as per CPWD/ BIS specifications.</i>					
vi	The above installations shall be completed as CPWD specifications and as required					
A.	Steet Tubular Poles(9M) Single Arm as mention above	Set	5			
B.	Steet Tubular Poles (9M) same as above but for Double Arm as mention above	Set	5			

S.No.	Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	4	5	6	7
13.02	Supply, installation, testing and commissioning of external post top lantern with following accessories and complete as required :					
	i) 4m high (3.3m above ground) 50mm dia GI pole as approved, adopting socket at top for fixture mentioned below, base plate 300 x 300 x 6mm and provision for mounting junction box etc. - 1 set.					
	ii) 1 x 70 W Post top lantern with 70W HPSV lamp (Philips SPC 101 x SON 70 W E or equivalent) and its wiring with 2 x 2.5 sq.mm PVC insulated copper wire and 1.5 sqmm PVC insulated copper earth wire from control box					
	iii) Suitable size 20A DP MS Control box with 2 no. incoming and outgoing terminals and 2 nos. tap-out terminal with 1 nos. 5A HRC fuses complete 1 set.					
	iv) Suitable number(s) 40mm dia Class-B GI Pipe(s) from above control box to upto 0.5 metre below ground level for power cable entry					
	v) Providing 400x400x1000mm deep 1:3:6 ratio cement concrete including excavation shuttering alignment of poles casting etc. including 100mm thick lean concrete shall be provided at the bottom					
	Supply, installation, testing and commissioning of external post top lantern as mentioned above	Set	2			
13.03	Supply, installation, testing and commissioning of bollard lamps 1X18 watts CFL (Philips HCS360 1XPL-C/2P 18W GR Sonara bollard in gree color or equivalent) control box - 1 set.	Each	10			
13.04	Supply, installation, testing and commissioning of bollard lamps 1X18 watts CFL (Philips HCS 370 1XPL-L 18W GR Lumos bollard in green color or equivalent) control box - 1 set.	Each	5			

S.No.	Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	4	5	6	7
13.05	Road Lighting Panel Supply, installation, testing and commissioning of following outdoor type with canopy, IP-54 protected M.V. cubicle type totally enclosed, free standing type, dust, damp and vermin proof, MV Panel, busbars, M.V. danger notice plate, interconnections with suitable capacity aluminium leads/solid aluminium strips/rods, connection of incoming and outgoing cables with thimbles, stove enamelled painted and having following incoming and outgoing switchgears complete as required.					
	INCOMER:					
	1 No. 63 Amp 415 volts, TPN Switch Disconnecter Fuse Unit with HRC Fuses					
	1 Set of phase indicating lamp with HRC fuses					
	1 Set of photo sensor & 100A TP contactor with neutral link (for street lights control) .					
	BUSBARS:					
	100 Amp TPN Aluminium busbars					
	OUTGOING:					
	10 Nos. 32 Amp 415 volts, DP MCB					
	Feeder Pillar as mention above	Set	1			
13.06	Spiral earthing made out of 6 SWG GI wire , 50mm Dia, 115 turns closely wound ,1.5 mtr below ground, earth pit of 350 Dia., 1.5 mtr depth including providing charcoal and salt for earthing at alternate layers of 300 mm depth (total 3 layers),connections etc. complete as required.	Set	10			
	TOTAL SUB HEAD 13: OUTDOOR LIGHTING					
	SUBHEAD : 14 DIGITAL DOOR					

S.No.	Description.	Unit.	Quantity	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	4	5	6	7
14.01	Supply, installation, testing & commissioning of automation system for sliding door. Make : Geze, STL, CAME.	Set	1			
GRAND TOTAL FOR ALL ELECTRICAL WORKS						

SUMMARY OF COST ESTIMATE FOR ELECTRICAL WORKS .

S.No.	DESCRIPTION	Amount Figure (In Rs.)	In	Amount in Words (Rs.)
1	SUB HEAD 1 : DG SET & ACCESSORIES			
2	SUB HEAD 2 :MV PANELS			
3	SUB HEAD-3: MCB DISTRIBUTION BOARDS.			
4	SUB HEAD 4: WIRING			
5	SUB HEAD: 5 - LIGHT FIXTURE AND FANS			
6	SUB HEAD 6 : TELEPHONE SYSTEM.			
7	SUB HEAD 7:CONDUITING FOR COMPUTER SYSTEM .			
8	SUB HEAD 8: CONDUITING FOR TV OUTLETS			
9	SUB HEAD 9 : FIRE DETECTION AND ALARM			
10	SUB HEAD 10 : LIFTS			
11	SUB HEAD 12: LT CABLES			
12	SUB HEAD 12: EARTHING SAFETY EQUIPMENT AND MISC. ITEMS			
13	SUB HEAD 13: OUT DOOR LIGHTING			
14	SUBHEAD : 14 DIGITAL DOOR			
	GRAND TOTAL FOR ALL ELECTRICAL WORKS			

<u>INTERNATIONAL HOSTEL, MUNIRKA</u>		
<u>SUMMARY SHEET FOR HVAC WORKS</u>		
SECTION	DESCRIPTION OF WORKS	AMOUNT (Rs.)
A	EQUIPMENTS	
B	AIR DISTRIBUTION	
	GRAND TOTAL	

BILL OF QUANTITIES (BOQ) OF HVAC WORKS AT INTERNATIONAL HOSTEL, MUNIRKA - DELHI

ITEM NO 1	DESCRIPTION OF ITEM 2	TOTAL Quantity 3	UNIT 4	RATE IN FIGURES (in RS) 5	RATE IN WORDS (in RS) 6	AMOUNT (Rs.) 7
The prices are to be quoted in the below mentioned form and shall include the supply, installation, testing & commissioning at site of all the equipments, ancillary materials as specified and all such items what so ever which may be required to fulfill the intent and purpose as laid down in the specifications and or the drawings.						
The tenderer shall quote rates in figures and in words under column 5&6 and extend amount to column 7						
<u>Sub Head -A, Equipments</u>						
1.0	SPLIT AIR CONDITIONERS					
	Supply , installation , testing and commisioning of HI wall split air conditioner comprising of the following.					
	a) Outdoor condensing Units					
	b) Indoor Evaporative Units					
	c) Interconnecting Refrigerant and drain piping with insulation wherever required, refrigerant and oil. The unit shall include refrigerant piping, power cabling and drain piping.					
	c) Safety and operational controls					
	e) Hiwall splits shall be suitable for single phase power supply and complete with voltage stablizer.					
	f) Mounting arrangement and structural supports for outdoor unit are included.					
	g) The units should have atleast 3 star rating from BEE.					
1.1	Capacity : 1.5 TR	2	Nos.			
1.2	Capacity : 2 TR	28	Nos.			
2.0	Supply , installation , testing and commisioning of air cooled split air conditioner with scroll compressors suitable for 3 Phase 50 Hz AC supply comprising of the following.					
	a) Outdoor condensing Units					
	b) Indoor Evaporative Units with fine filters.					
	wherever required, refrigerant and oil. The unit shall include refrigerant piping, power cabling and drain piping as required.					

ITEM NO 1	DESCRIPTION OF ITEM 2	TOTAL Quantity 3	UNIT 4	RATE IN FIGURES (in RS) 5	RATE IN WORDS (in RS) 6	AMOUNT (Rs.) 7
	d) Safety and operational controls					
	e) The unit shall have advanced microcomputer controller with run time equalization, auto restart after power failure, fuzzy logic, self fault diagnostics . The controller shall have LED display, LED indicators and touch key pad. The controller shall have faults and alarm display and it shall be mounted in fire retardant box.					
2.1	Capacity : 5.5 TR	4	Nos.	146148		
3.0	Axial Flow Fans					
	Supplying, installing, testing and commissioning of tube axial fans for exhaust air as shown in drawings and as per specifications. Each fan shall be direct driven .Fan motor shall be suitable for 3 phase ,415+/-10%V,50Hz AC.					
3.1	Duty: Kitchen Ventilation (smoke spill fan,259 deg,2hr) Air Quantity :2000 CFM, Static Pressure :25 mm wg	1	Nos.			
	<u>Sub Head -B, Air Distribution</u>					
4.0	GSS DUCTING					
	Supply, installation, testing and balancing of G.S.S ducting of following thickness including necessary supports, hangers, nut bolts, gaskets, splitter dampers, vanes canvas connections etc. complete as per specifications & drawings:					
4.1	1.0 mm (20 G) GSS	10	Sqm			
4.2	0.80 mm (22 G) GSS	20	Sqm			
4.3	0.63 mm (24 G) GSS	100	Sqm			

ITEM NO 1	DESCRIPTION OF ITEM 2	TOTAL Quantity 3	UNIT 4	RATE IN FIGURES (in RS) 5	RATE IN WORDS (in RS) 6	AMOUNT (Rs.) 7
5.0	VOLUME CONTROL DAMPERS					
	Supply, installation and testing of volume control dampers of GI sheet, box type to be provided in ducts complete with suitable links, levers and quadrants for manual control of air volume and air balancing as per specifications and drawings.	2	Sqm			
6.0	CEILING DIFFUSERS					
6.1	Supply, Installation, testing and balancing of square/circular supply air diffusers of powder coated aluminium construction with attached volume control dampers as per specs. and drawings.	3	Sqm.			
6.2	Supply, installation, testing and balancing of square/circular return air diffusers of powder coated aluminium construction without volume control dampers as per specifications and drawings	3	Sqm.			
7.0	DUCT INSULATION					
	Supply and fixing resin bonded fibre glass insulation on supply/return air ducts covered with polythene and finished as specified.					
7.1	25 mm thick insulation (For duct in AC area)	140	Sqm.			
8.0	DUCT LINING					
8.1	Supply and fixing resin bonded fibre glass hard board acoustic insulation in supply air ducting covered with tissue paper and perforated aluminium sheet as specified	15	Sqm.			
	TOTAL FOR HVAC WORKS					