HINDUSTAN PREFAB LIMITED
JANGPURA, NEW DELHI : 14

NAME OF WORK: Designing, fabrication, installation/providing in position Pre-Engineered LGS (Light Gauge Steel) Composite Structure for addition of one floor over existing ESIC Hospital Building including other Civil works and allied Plumbing, Sanitary, Fire Fighting & Electrical works at Varanasi (U.P.)

S.NO	DESCRIPTION OF WORKS	AMOUNT (DSR ITEMS)	AMOUNT (NS ITEMS)	TOTAL (DSR+NS ITEMS)
1	**Cost of Civil works**			
2	**Cost of Public Health works**			
3	**Cost of Fire Fighting works**			
4	**Cost of Electrical works**			
	TOTAL			

Note :-

1 **Item Rates quoted by the Tenderer shall be inclusive of all Taxes including service tax, Carriage of materials by Mechanical transport including loading, unloading complete upto site for the leads. Nothing will be paid over and above the quoted price.**

CIVIL WORKS

SR. NO	REF. TO DSR	DESCRIPTION OF ITEM	QTY	UNIT	RATE	AMOUNT
1	4.2	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, sunken floor etc., up to floor five level, excluding the cost of centering, shuttering and finishing :				
	4.2.3	1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size).				
		Under vitrified Tiles as per 11.41.2	**150.00**	**Cum**		
2	5.3	Reinforced cement concrete work in beams, suspended floors, roofs having slope up to 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases above plinth level up to floor five level, excluding the cost of centering, shuttering, finishing and reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size).	**5.00**	**Cum**		
3	5.9	Centering and shuttering including strutting, propping etc. and removal of form for all heights :				
	5.9.5	Lintels, beams, plinth beams, girders, bressumers and cantilevers	**40.00**	**Sqm**		
		RCC as per items no. 5.3 @8.00m2/m3				
4	5.22A	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.				
	5.22A.6	Thermo-Mechanically Treated bars of grade Fe-500 D or more.	**625.00**	**kg**		
5	8.2	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.				
	8.2.2	Granite of any colour and shade				
5.1	8.2.2.1	Area of slab upto 0.50 sqm	**5.00**	**Sqm**		
5.2	8.2.2.2	Area of slab over 0.50 sqm	**20.00**	**Sqm**		
6	8.3	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.				
	8.3.2	Granite work	**70.00**	**Metre**		
7	8.5	Extra for providing opening of required size & shape for wash basin/ kitchen sink in kitchen platform, vanity counter and similar location in marble/ Granite/ stone work, including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete.	**25.00**	**Each**		
8	9.83	Providing and fixing aluminium die cast body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 35 kg and door width upto 700 mm), with necessary accessories and screws etc. complete.	**30.00**	**Each**		

9	9.84	Providing and fixing aluminium extruded section body tubular type universal hydraulic door closer (having brand logo with IS : 3564, embossed on the body, door weight upto 36 kg to 80 kg and door width from 701 mm to 1000 mm), with double speed adjustment with necessary accessories and screws etc. complete.	**110.00**	**Each**		
10	9.96	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 :				
	9.96.1	300x16 mm	**25.00**	**Each**		
11	9.97	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 :				
11.1	9.97.2	250x10 mm	**220.00**	**Each**		
11.2	9.97.4	150x10 mm	**120.00**	**Each**		
12	9.100.	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 :				
	9.100.1	125 mm	**200.00**	**Each**		
13	9.101	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.				
	9.101.2	Twin rubber stopper	**150.00**	**Each**		
14	11.41	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joints with white cement and matching pigments etc., complete.				
	11.41.2	Size of Tile 600x600 mm	**2820.00**	**Sqm**		
15	11.47	Providing and laying Vitrified tiles in different sizes (thickness to be specified by the manufacturer), with water absorption less than 0.08% and conforming to IS: 15622, of approved brand & manufacturer, in all colours and shade, in skirting, riser of steps, laid with cement based high polymer modified quick set tile adhesive (water based) conforming to IS: 15477, in average 6 mm thickness, including grouting of joints (Payment for grouting of joints to be made separately).				
	11.47.2	Size of Tile 600x600 mm	**850.00**	**Sqm**		
16	12.41	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.				
	12.41.2	110 mm diameter	**160.00**	**Metre**		
17	12.42	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.				
	12.42.1	Coupler				
	12.42.1.2	110 mm	**50.00**	**Each**		
18	12.42.5	Bend 87.5°				
	12.42.5.2	110 mm bend	**90.00**	**Each**		
19	12.43	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.				
	12.43.2	110 mm	**180.00**	**Each**		

20	12.45	Providing and fixing false ceiling at all height including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at				
		1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the spacing of 1200 mm centre to centre, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm centre to centre, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I. wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound, jointing tapes, finishing with jointing				
	12.45.4	Fully Perforated Gypsum Plaster Board of size 1200 x 2400x12.5 mm having approx. 15 % perforated area with perforation size and pattern as approved by the Engineerin- charge and as per manufacturer's specification, with all 4 side tapered and backed by acoustical tissue with NRC value not less than 0.60				
		25% of Floor area as per item no. 11.41.2	**710.00**	**Sqm**		
21	12.46	Providing and fixing to the inlet mouth of rain water pipe PTMT (an Engineering Thermoplastic) grating square (Slit) 150 mm square with a height of 8 mm and weighing not less than 100 gms.	**50.00**	**Each**		
22	12.50	Providing and fixing precoated galvanised iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in-charge) 0.50 mm (+ 0.05 %) total coated thickness with zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation and should be supplied in single length upto 12 metre or as desired by Engineerin- charge. The sheet shall be fixed using self drilling /self tapping screws of size (5.5x 55 mm) with EPDM seal, complete upto any pitch in horizontal/ vertical or curved surfaces, excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.	**2800.00**	**Sqm**		
23	12.51	Providing and fixing precoated galvanised steel sheet roofing accessories 0.50 mm (+ 0.05 %) total coated thickness, Zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns using self drilling/ self tapping screws complete :				
23.1	12.51.1	Ridges plain (500 - 600mm)	**210.00**	**Metre**		
23.2	**12.51.2**	Flashings/ Aprons.(Upto 600 mm)	**700.00**	**Metre**		
23.3	**12.51.6**	Gutter .(600 mm over all girth)	**700.00**	**Metre**		
24	12.54	Providing and fixing GI Clip in Metal Ceiling System of 600x600 mm module which includes providing and fixing 'C' wall angle of size 20x30x20 mm made of 0.5 mm thick pre painted steel along the perimeter of the room with help of nylon sleeves and wooden screws at 300 mm center to centre, suspending the main C carrier of size 10x38x10 mm made of G.I steel 0.7 mm thick from the soffit with help of soffit cleat 37x27x25x1.6 mm, rawl plugs of size 38x12 mm and C carrier suspension clip and main carrier bracket at 1000 mm c/c. Inverted triangle shaped Spring Tee having height of 24 mm and width of 34 mm made of GI steel 0.45 mm thick is then fixed to the main C carrier and in direction perpendicular to it at 600 mm centers with help of suspension brackets. Wherever the main C carrier and spring T have to join, C carrier and spring T connectors have to be used. All sections to be galvanized @ 120 gms/sqm (both side inclusive), fixing with clip in tiles into spring T with :				
	12.54.2	GI Metal Ceiling Clip in plain Beveled edge global white color tiles of size 600x600 and 0.5 mm thick with 25 mm height, made of G I sheet having galvanizing of 100 gms/ sqm (both sides inclusive) and 20% perforation area with 1.8 mm dia holes and having NRC of 0.5, electro statically polyester powder coated of thickness 60 microns (minimum), including factory painted after bending and perforation.	**2120.00**	**Sqm**		
25	13.45	Finishing walls with textured exterior paint of required shade :				

	13.45.1	New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm	**1950.00**	**Sqm**		
26	13.80	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.				
		Inside	**6700.00**	**Sqm**		
27	13.83	Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound) content less than 50 grams/ litre of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.				
	13.83.2	Two coats	**7400.00**	**Sqm**		
28	13.84	Painting with synthetic enamel paint, having VOC (Volatile Organic Compound) content less than 150 grams/ litre, of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.				
	13.84.2	Two coats	**5010.00**	**Sqm**		
29	13.85	Applying priming coats with primer of approved brand and manufacture, having low VOC (Volatile Organic Compound) content.				
	13.85.1	With ready mixed pink or grey primer on wood work (hard and soft wood) having VOC content less than 50 grams/ litre	**6680.00**	**Sqm**		
30	13.85.2	With ready mixed red oxide zinc chromatic on steel / iron works having VOC content less than 250 grams/ litre	**5010.00**	**Sqm**		
31	15.7	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.				
	15.7.4	In cement mortar	**140.00**	**Cum**		
32	15.8	Removing mortar from bricks and cleaning bricks including stacking within a lead of 50 m (stacks of cleaned bricks shall be measured):				
	15.8.3	From brick work in cement mortar	**70.00**	**1000 Nos**		
33	21	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) :				
	21.1.1	For fixed portion				
	21.1.1.2	Powder coated aluminium (minimum thickness of powder coating 50 micron)	**3800.00**	**Kg**		
34	21.1.2.	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)				
	21.1.2.2	Powder coated aluminium (minimum thickness of powder coating 50 micron)	**3200.00**	**Kg**		
35	21.2	Providing and fixing 12 mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of Engineer-in-charge.				
	21.2.2	Pre-laminated particle board with decorative lamination on both sides	**200.00**	**Sqm**		

36	21.3	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):				
36.1	21.3.2	With float glass panes of 5.50 mm thickness	**210.00**	**Sqm**		
36.2	21.3.3	With float glass panes of 8 mm thickness	**70.00**	**Sqm**		
37	21.8	Filling the gap in between aluminium frame & adjacent RCC/ Brick/ Stone work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete.				
	21.8.1	Upto 5mm depth and 5 mm width	**1200.00**	**Metre**		
38	21.13	Providing and fixing 100mm brass locks (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete.	**120.00**	**Each**		
39	21.15	Providing and fixing aluminium casement windows fastener of required length for aluminium windows with necessary screws etc. complete.				
	21.15.2	Powder coated minimum thickness 50 micron aluminium	**100.00**	**Each**		
40	21.16	Providing and fixing aluminium round shape handle of outer dia 100 mm with SS screws etc. complete as per direction of Engineer-incharge				
	21.16.2	Powder coated minimum thickness 50 micron aluminium	**280.00**	**Each**		
41	26.7	Providing and fixing 50 mm thick extruded polystyrene rigid insulation board of required size between cavity wall, complying with ISO 4898:2008 & ASTM C 578-08b - type VI, having thermal conductivity of 0.0289 W/m K as per ASTM C 578 (measured as per IS 3346), compressive strength of > 350 kPa listed as per ASTM D 1621, density of 34-36 kg/cum as per ASTM D 1622, water absorption < 1% by volume as per ASTM D 2842, oxygen index of 24.1 to 28.1 listed as per ASTM D 2863, cell size 0.4 mm of dia (max) as per ASTM D 3576. Fire retardant property as per DIN 4102, Part 1 of class B2 and as per ASTM E84 class A, fixed with suitable water based adhesive and fastener, complete in all respect as per the directions of Engineer-in-Charge.	**1950.00**	**Sqm**		
42	26.8	Providing and fixing 50 mm thick extruded polystyrene rigid insulation board of required size underdeck on ceiling surface, complying with ISO 4898:2008 & ASTM C 578-08b - type VI, having thermal conductivity of 0.0289 W/m K as per ASTM C 578 (measured as per IS 3346), compressive strength of > 350 kPa listed as per ASTM D 1621, density of 34-36 kg/m³ as per ASTM D 1622, water absorption < 1% by volume as per ASTM D 2842, oxygen index of 24.1 to 28.1 listed as per ASTM D 2863, cell size 0.4 mm of dia (max) as per ASTM D 3576. Fire retardent property as per DIN 4102, Part 1 of class B2 and as per ASTM E84 class A, fixed with suitable water based adhesive and fastener, complete in all respect as per the directions of Engineer-in-Charge.	**2800.00**	**Sqm**		
43	26.41	Designing, providing, installing and fixing factory finished custom designed cold form Light Gauge Steel Framed super structure comprising of steel wall panel, trusses, purlins etc manufactured out of minimum 0.75 mm thick steel sheet as per design requirements. The steel sheet shall be galvanized (AZ-150 gms Aluminium Zinc Alloy coated steel having minimum yield strength 300- 550 Mpa) conforming to AISI specifications and IBC 2009 for cold formed steel framing and construction and also as per IS: 875- 1987, ISO 800-1984 and IS: 801- 1975. The wind load shall be as per provisions of IS 875 (part -III). LGSFS frame shall be designed as per IS: 801 using commercially available software such as Frame CAD Pro-11.7/ STAAD PRO-V8i/ArchitekV2.5.16/ Revit architecture- 2011 or equivalent. Proper usage of Connection Accessories like Heavy Duty Tension Ties, Light Duty Hold-ons, Twist Straps (to connect truss with wall frames), Strong Tie, Tie Rod, H-Brackets, Boxing Sections, L-Shaped Angles for better structural stability.				
		The framing section shall be cold form C-type having minimum web depth 89 mm x 39mm flange x 11mm lip in required length as per structural design requirement duly punched with dimple/slot at required locations as per approved drawings. The slots will be along centre line of webs and shall be spaced minimum 250mm away from both ends of the member. The frame can be supplied in panelized or knock down condition in specific dimensions and				

		fastened with screws extending through the steel beyond by minimum of three exposed threads. All self drilling tapping screws for joining the members shall have a Type II coating in accordance with ASTM B633(13) or equivalent corrosion protection of gauge 10 & 12, TPI 16 & of length 20mm. The frames shall be fixed to RCC slab or Tie beam over Neoprene rubber using self expanding carbon steel anchor bolt of dia as per approved drawings. design subject to minimum 12mm diameter and 121mm length conforming to AISI 304 and 316 at 500mm c/c with minimum embedment of 100mm in RCC (RCC to be paid separately) and located not more than 300mm from corners or termination of bottom tracks complete in all respects. The item also includes the submission of stability reports duly examined and issued by any NIT/IIT.The rate includes the concept design, detailed design, fabrication of sections, transportation, installation and all required fixing arrangement at site as described above.	**155000.00**	**Kg**		
44	26.42	Providing and fixing of external wall system on Light gauge steel frame work with . Outer face having 6mm thick heavy duty fiber cement board fixed on 9mm thick heavy duty fiber cement board confirming to IS 14862:2000, category IV type A (High pressure steam cured) as per standard sizes fixed with self-drilling / taping screws / fasteners @ 60cm c/c of approved make. A grove of 2 mm to 3mm shall be maintained and groves shall be sealed with silicon based sealant. The board shall be fixed in a staggered pattern.Screws shall be of counter sunk rib head of 1.60mm to 4 mm thick of 8 to 10 gauge of length varying from 25 to 45 mm and internal face 12.5mm thick gypsum plaster board fixed on 8mm thick fiber cement board confirming to IS 14862:2000 of category III type B (High pressure steam cured) as per standard sizes fixed with self-drilling / taping screws / fasteners @ 60cm c/c of approved make, proper taping and jointing to be done using fiber mesh tape and epoxy and acrylic based jointing compound for seamless finish.(cost of frame work to be paid for separately).	**1950.00**	**Sqm**		
45	26.43	Providing and fixing internal wall panels on Light gauge steel frame work with 12.5mm thick gypsum plaster board conforming IS 2095:2011 fixed on 8mm thick fiber cement board conforming to IS 14862:2000 of category III type B (High pressure steam cured) as per standard sizes fixed with self-drilling / taping screws / fasteners @ 60cm c/c of approved make, Screws shall be of counter sunk rib head of 1.60mm to 4 mm thick of 8 to 10 gauge of length varying from 25 to 45 mm. Proper taping and jointing to be done using fiber mesh tape and epoxy and acrylic based jointing compound for seamless finish.(cost of frame work to be paid for separately)	**4750.00**	**Sqm**		
46	26.44	Providing and fixing in all exterior face panels breathable vapour barrier underneath the cement fiber board as per National Building Code 2009 complete as per direction of Engineer-in-charge.	**1950.00**	**Sqm**		
47	NS	Dismantaling of brickbat-coba manually / by mechanical means including disposable of material and cleaning the surface of RCC slab as directed by the Engineer-in-charge.	**2500.00**	**Sqm**		
					TOTAL	

SANITARY & PLUMBING WORKS

S.NO	DESCRIPTION OF WORKS	AMOUNT (DSR ITEMS)	AMOUNT (NS ITEMS)	TOTAL (DSR+NS ITEMS)
1	SANITARY INSTALLATION			
2	INTERNALWATER SUPPLY SYSTEM			
	TOTAL			
	TOTAL AMOUNT OF SCHEDULE & NON SCHEDULE ITEMS			

		Bill OF QUANTITIES OF SANITARY AND PLUMBING WORKS					
S.No.	**Ref DSR - 2016 Item no**	**Description of item**	**UNIT**	**QTY**	**RATE**	**Amount (Schedule Items) Rs**	**Amount(Non Schedule Items) Rs**
		SANITARY INSTALLATION					
1	17.2	Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required :					
	17.2.1	WC pan ISI marked white solid plastic seat and lid	Each	25			
2	17.31	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	Each	21			
3	17.80	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & post flushing with water (250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge.	Nos.	10			
4	8.10	Providing and fixing stone slab with table rubbed, edges rounded and polished, of size 75x50 cm deep and 1.8 cm thick, fixed in urinal partitions by cutting a chase of appropriate width with chase cutter and embedding the stone in the chase with epoxy grout or with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6 mm nominal size) as per direction of Engineer-in-charge and finished smooth.					
	8.10.2	Granite Stone of approved shade	Sqm	6			
5	17.7	Providing and fixing counter top/under counter Oval shape wash basin withh 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:					
	17.7.3	White Vitreous China Wash basin size 550 x 400 mm withh a single 15 mm C.P. brass pillar tap	Nos.	22			
6	17.7a	Providing and fixing wash basin with C.I. brackets, 15 mm dia C.P. Single hole basin mixer, of approved quality and make, including painting of fitting and brackets, cutting and making good the wall wherever required:32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever required:					
		White Vitreous China Wash basin size 550 x 400 mm withh a pair of 15 mm C.P. brass pillar tap	Nos.	8			
7	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 :					
	17.10.1.3	510x1040 mm bowl depth 200 mm (For Pantry)	Nos.	2			
8	17.11	Providing and fixing white vitreous china laboratory sink with C.I. brackets, C.P. brass chain with rubber plug, 40 mm C.P brass waste and 40mm C.P. brass trap with necessary C.P. brass unions complete, including painting of fittings and brackets, cutting and making good the wall wherever required :					
	17.11.1	Size 450x300x150 mm (Lab sink)	Nos.	1			
9	17.16a	Providing and fixing 8mm dia C.P./S.S. Jet with flexible tube upto 1meter long with S.S. Triangular plate to european type W.C. Of approved quality and make as approved by engineer in charge.	Nos.	25			
10	17.72	Providing and fixing PTMT towel ring trapezoidal shape 215 mm long, 200 mm wide with minimum distances of 37 mm from wall face with concealed fittings arrangement of approved quality and colour, weighing not less than 88 gms.	Nos.	21			
11	17.34	Providing and fixing toilet paper holder :					
	17.34.1	C.P. brass	Nos.	25			

12	18.49	Providing and fixing C.P. brass bib cock of approved quality conforming to IS:8931 :					
	18.49.1	a)15 mm nomial bore	Nos.	10			
13	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.					
	18.50.1	15 mm nominal bore	Nos.	2			
14	18.53	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931					
	18.53.1	a) 15 mm nominal bore	Nos.	69			
15	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	Nos.	21			
16	17.22A	Providing and fixing CP Brass 32mm size bottle trap of approved quality & make and as per the direction of engineer in charge.	Nos.	32			
17	MR-1	Providing and Fixing 600 mm long Hand rail (Grab bar) for Handicap Toilets with Stainless Steel Screws on wooden cleats complete as per instructions of the engineer-in-charge (As per approved make or equivalent) .	Nos.	2			
18	17.28	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.					
	17.28.2	Flexible pipe					
	17.28.2.1	32 mm dia	Nos.	5			
	17.28.2.2	40 mm dia	Nos.	5			
19	18.21	Providing and fixing uplasticised PVC connection pipe with brass unions :					
	18.21.2.1	15 mm nominal bore	Nos.	64			
20	MR-2	Providing and fixing 125mm chromium plated grating with ring and S.S anti cockroach basket and two S.S screws of approved design with grating screwed down to the ring with s/s screws and embedding and setting ring into the floor with cement mortar .(As per approved make or equivalent)	Nos.	2			
21	12.22	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	Nos.	18			
22	17.35	Providing and fixing soil, waste and vent pipes:					
	17.35.2.2	75 mm dia. Centrifugally cast (spun) iron socket & spigot (S&S) pipes per IS: 3989	Metre	60			
	17.35.1.2	100 mm dia. Centrifugally cast (spun) iron socket & spigot (S&S) pipes per IS: 3989	Metre	425			
23	17.65	Painting sand cast iron/ centrifugally cast (spun) iron soil, waste vent pipes and fittings with two coats of synthetic enamel paint of any colour such as chocolate grey, or buff etc. over a coat of primer (of approved quality) for new work :					
	17.65.2	75 mm dia.	Metre	60			
	17.65.1	100 mm dia.	Metre	425			
24	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 20 mm nominal size), including cost of cutting holes and making good the walls etc. :					
	17.37.1	For 100 mm dia pipe	Nos.	40			
	17.37.2	For 75 mm dia pipe	Nos.	10			
25	17.38	Providing and fixing bend of required degree withh access door, insertion rubber washer 3 mm thick, bolts and nuts complete.					
	17.38.1.2	100 mm dia sand cast iron S&S as per 3989.	Nos.	20			
26	17.39	Providing and fixing plain bend of required degree.					
	17.39.1.2	100 mm dia sand cast iron S&S as per 3989.	Nos.	20			
27	17.43	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3mm thick, bolts and nuts complete.					
	17.43.1.2	100x100x100 mm sand cast iron S&S as per IS 3989	Nos.	50			
	17.43.2.2	75x75x75 mm sand cast iron S&S as per IS 3989	Nos.	10			
28	17.55	Providing and fixing door piece, insertion rubber washer 3mm thick, bolts & nuts complete :					
	17.55.1.2	100 mm dia sand cast iron S&S as per 3989.	Nos.	20			
29	17.57	Providing and Fixing collar: -					
	17.57.1.1	100 mm dia sand cast iron S&S as per 3989.	Nos.	50			
	17.57.2.2	75 mm dia sand cast iron S&S as per 3989.	Nos.	10			
30	17.60	Providing and Fixing floor 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.					
	17.60.1.1	100 mm inlet and 100 mm outlet Sand cast iron S&S as per IS: 3989	Nos.	220			
31	18.10	Providing and Fixing G.I. Class "B" pipe complete with G.I. Fittings and angle suports, clamps, including cutting and making good the walls etc.					
	18.10.4	a) 32 mm dia	Metre	50			
	18.10.5	b) 40 mm dia	Metre	30			
	18.10.6	c) 50 mm dia	Metre	25			

32	18.40	Painting of G.I. Pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality.					
	18.40.4	a) 32 mm dia	Metre	50			
	18.40.5	b) 40 mm dia	Metre	30			
	18.40.6	c) 50 mm dia	Metre	25			
33	MR-3	Providing and Fixing G.I. Reducing elbow of 100 x 50 mm in cement concrete 1:2:4 at all levels for floor drains (exlcuding cost of grating) for connection to floor traps in sunken portions, complete as per drawings and as per approval of the engineer-in-charge.(GI Pipe for connecting elbow with floor trap shall be measured seperatly)	Nos.	15			
34	MR-4	Providing and fixing G.I. Inlet fitting with maximum 3 inlets 32,40 & 50 mm size fabricated from 100 mm dia G.I.pipes and welded G.I. sockets as per site locations, fixed to C.I. Trap and set with proper sealing compound as per drawing complete as per approval of the engineer-in-charge.	Nos.	50			
35	18.58	Providing and fixing PTMT grating of approved quality and colour.					
	18.58.1	Circular type					
	18.58.1.2	125 mm nominal dia with 25 mm waste hole	Nos.	65			
36	MR-5	Providing and fixing cast brass Floor Clean Out plug withh suitable insert keys for opening, male threaded joint withh G.I. socket drip seal to soil pipe / waste pipe of C.I. pipe as required complete as per drawing, approved sample and direction by Engineer-in-charge:					
		100 mm dia	Nos.	20			
37	12.41	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.					
	12.41.1	75 mm diameter	Metre	10			
	12.41.2	110 mm diameter	Metre	60			
38	12.42	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion.					
	12.42.2	**Single Push fit coupler**					
	12.42.2.1	75 mm diameter	Nos.	5			
	12.42.2.2	110 mm diameter	Nos.	5			
	12.42.3	**Single Tee with door**					
	12.42.3.1	75x75x75 mm dia	Nos.	5			
	12.42.3.2	110x110x110 mm dia	Nos.	5			
	12.42.5	**Bend 87.5 Deg**					
	12.42.5.1	75 mm dia	Nos.	5			
	12.42.5.2	110 mm dia	Nos.	5			
	12.42.6	**Shoe (Plain)**					
	12.42.6.2	110 mm dia	Nos.	5			
39	MR-6	Providing and fixing ***160 mm dia UPVC rain water pipes of 6 kg./cm^2*** conforming to IS: 4985 including all fittings with or without access door or without access i.e bends, junctions, cowls, offsets, etc., and jointing with solvent cement and excavation, refilling and disposal of surplus earth, including cutting holes in walls and floors, excavation, refilling and disposal of surplus earth wherever required and making good the same, complete as directed by the Engineer-in-Charge.	Metre	150			
40	12.43	Providing and Fixing on wall face unplasticised - PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50 x 50 x 50 mm hard wood plugs, screwed with M.S. screws of required length including cutting brick work and fixing in cement mortar 1:4 (1 Cement: 4 Coarse sand) and making good the walls etc. complete					
	12.43.1	75 mm dia	Nos.	5			
	12.43.2	110 mm dia	Nos.	20			
41	12.44	Providing and Fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less then 440 grams.	Nos.	20			
42	MR-7	Supply installation, testing and commissioning of recessed bi level drinking water fountain, with double bubbler. Drinking water fountain with 8GPH cooling capacity, stainless steel body ,approx size 1003mmX Depth 400 mmX hight 1035mm, flexible bubbler guard operated between 50 to 120 PSI, chilling unit suitable for R134a refrigerant, adjustable thermo state, supply complete with all accessories.	Nos.	2			
		TOTAL SANITARY INSTALLATION					
		INTERNAL WATER SUPPLY SYSTEM					
43	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 including fixing the pipe with suports, 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.					
	18.8.1	15 mm dia	Metre	500			
	18.8.2	20 mm dia	Metre	150			
	18.8.3	25 mm dia	Metre	80			
	18.8.4	32 mm dia	Metre	25			
	Derived	40 mm dia	Metre	15			
	Derived	50 mm dia	Metre	10			

44	18.10	Providing and fixing G.I. pipes complete withh G.I. fittings and clamps, i/c cutting and making good the walls etc.					
		Internal work - Exposed on wall and terrace					
	18.10.1	15 mm dia	Metre	25			
	18.10.2	20mm dia	Metre	40			
	18.10.3	25mm dia	Metre	75			
	18.10.4	32mm dia	Metre	50			
	18.10.5	40mm dia	Metre	150			
	18.10.6	50mm dia	Metre	100			
	Derived	65mm dia	Metre	70			
	Derived	80mm dia	Metre	10			
45	18.46	Providing and fixing G.I. Union heavy class in G.I. Pipe including cutting and threading the pipe and making long screws etc. complete (new work)					
	18.46.1	15 mm dia	Metre	5			
	18.46.2	20mm dia nominal bore	Nos.	10			
	18.46.3	25mm dia nominal bore	Nos.	10			
	18.46.4	32mm dia nominal bore	Nos.	10			
	18.46.5	40mm dia nominal bore	Nos.	5			
	18.46.6	50 mm dia nominal bore	Nos.	10			
	18.46.7	65 mm dia nominal bore	Nos.	5			
	18.46.8	80 mm dia nominal bore	Nos.	1			
46	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 :					
	18.13.1	25 to 40 mm nominal bore	Nos.	8			
	18.13.2	50 to 80 mm nominal bore	Nos.	4			
47	MR-8	Providing and fixing 750 mm long hot dipped G.I. Puddle flanges for water tanks as per I.S. 1239 (Class C) with 6mm thick M.S. Plate of suitable size and welded alround the pipe fixed in walls, beams and top slab of R.C.C tanks, complete with all details in all respects and as per drawing.					
	8.1	40 mm dia	Nos.	4			
	8.2	50mm dia	Nos.	4			
	8.3	65mm dia	Nos.	4			
	8.4	80mm dia	Nos.	8			
	8.5	100mm dia	Nos.	12			
	8.6	150mm dia	Nos.	10			
48	MR-9	Providing and fixing insect-proof coupling to vent pipes of underground tank/overhead tank with threaded or flanged joints, including M.S. flanges, nuts, bolts, 3mm thick rubber insertions complete.					
		80 mm dia	Nos.	10			
		100 mm dia	Nos.	20			
49	MR-10	Providing and fixing C.I double flanged equilibrium float valve with M.S. lever high pressure, copper ball and flanges including nuts, bolts, 3mm thick rubber insertions complete. in all respect as per direction of the Engineer-in-Charge.					
		40 mm dia nominal bore	Nos.	1			
		50 mm dia nominal bore	Nos.	1			
50	MR-11	Supplying, Installation, Testing and Commissioning of vertical / horizontal storage type hot water heater fixed to wall with anchor bolts & nuts all complete work, (for kitchen & Toilets), cap-25ltr	Nos.	8			
51	18.16	Providing and fixing brass stop cock of approved quality					
	18.16.1	15 mm dia nominal bore	Nos.	10			
	18.16.2	20 mm dia nominal bore	Nos.	20			
52	18.17	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :					
	18.17.1	25 mm dia nominal bore	Nos.	8			
	18.17.2	32 mm dia nominal bore	Nos.	5			
	18.17.3	40 mm dia nominal bore	Nos.	5			
	18.17.4	50 mm dia nominal bore	Nos.	5			
	18.17.5	65 mm dia nominal bore	Nos.	2			
	18.17.6	80 mm dia nominal bore	Nos.	1			
53	18.18	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :					
	18.18.2	20 mm nominal bore		1			
	18.18.3	25 mm nominal bore		1			
54	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.	per litre	5000			
		TOTAL WATER SUPPLY SYSTEM					

FIRE FIGHTING WORKS

S.NO	DESCRIPTION OF WORKS	AMOUNT (DSR ITEMS)	AMOUNT (NS ITEMS)	TOTAL (DSR+NS ITEMS)
1	**SUB HEAD - I - (HYDRANTS SYSTEM)**			
2	**SUB HEAD - II - (PIPING, VALVES AND ACCESSORIES)**			
2	**SUB HEAD - III - (FIRE EXTINGUISHERS)**			
4	**Sub-Head -IV : FIRE DETECTION & ALARM SYSTEM**			
	TOTAL			

S. No.	Ref. No. DSR-12/16	Description Of Items	Unit	Qty	Rate	AMOUNT (DSR ITEMS)	AMOUNT (NS ITEMS)
		SUB HEAD - I - (HYDRANTS SYSTEM)					
1	MR-1	Supplying and fixing Single Headed Internal Hydrant Valve oblique pattern with instantaneous Stainless Steel coupling of 63 mm dia with cast iron wheel ISI marked, conforming to IS : 5290 (Type A), with 80 mm dia flanged inlet, with ABS cap and chain complete with all accessories etc. as required.	Each	5			
2	MR-2	Supply, Installation, Testing and Commissioning 63 mm dia. 15 Mtr. Long RRL hose pipe with 63 mm dia. male and female stainless steel couplings duly binded with GI wire rivets etc. ISI marked, IS 636 (type-A) as required.	Each	10			
4	MR-3	Supplying and fixing Stainless Steel **branch pipe** with 20mm dia nozzle conforming to IS:903. suitable for instantaneous connections to hose pipe coupling etc. as required.	Each	5			
5	MR-4	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. ball valve & nozzle.					
		Drum and brackets for fixing the equipments on wall.					
	4.1	Connection from riser with 40 mm dia (Gun metal) stop valve & M.S. Pipe.	Each	5			
	4.2	Providing & fixing angle iron (40mm x 40mm x 5mm) door frame and MS sheet (2mm thick) cum glass shutter of size 2.1 mtr x 1.2 mtr (N.S) with 25mm x 25mm x 3 mm angle frame all around & stiffened in between i/c hinges, handle, locking arrangement, painting with approved synthetic enamel paint i/c sign writing on glass at internal hydrant including providing & Fixing MS sheet 2mm thick on remaining portion above door to close opening i/c painting etc as required.	Each	5			
		TOTAL CARRIED TO SUMMARY					
		SUB HEAD - II - (PIPING, VALVES AND ACCESSORIES)					
		SLTC of M.S. pipe on surface					
6	MR-7	Supplying, laying, fixing, testing and commissioning of following sizes (NB) of class 'C' M.S. pipes confirming to IS 1239 and 3589 including cutting, threading, welding etc. and providing all fittings e.g. elbows, reducers, clamps, hangers, flanges, gaskets, nuts, bolts and washers etc. including painting of pipes and fittings with red paint over a coat of ready mixed primer, both of approved quality and shade including cutting holes and chases in brick or RCC walls/slabs and making good the same etc. complete in all respect as required. (The Welding shall not be done for piping less than 50 mm dia.) (heavy duty pipe)					
	7.1	150 mm dia	Meter	200			
	7.2	80 mm dia	Meter	30			
	7.2	25 mm dia	Meter	10			
7	MR-8	Supplying of Butterfly valves of PN 1.6rating of following sizes with EPDM rubber lining seat and CF-8 stainless steel disc duly ISI marked and stainless steel stem with lever/gear operation and cast iron body in powder coated finish for fire fighting application complete in all respects confirming to IS: 13095 as required.					
	8.1	150 mm dia	Each	4			
8	MR-9	Providing, Installation, Testing and Commissioning of double flanged cast iron Dual Plat Check Valve, PN 1.6 of following sizes confirming to IS : 5312 complete with EPDM rubber lining seat and stainless steel disc, rubber gasket, GI bolts, nuts, washers etc. as required.					
		150 mm dia	Each	1			

9.0	MR-10	Providing and Fixing Copper Alloy Air release valve, having threaded connection including the cost of 25 mm dia Gunmetal Gate valve with required fittings as per standard design.	Each	3			
10.0	MR-11	Providing and fixing resilient rubber neoprene lined single arch vibration eliminators suitable for raw water upto 45 deg. C. temperature working pressure 7 kg/ sq.cm and test pressure 14 kg/sq.cm.					
		150 mm dia	Each	1			
11	ELECTRICAL DSR 2016 16.8	Supply, Installation, Testing and Commissioning of 100 mm dia Borden type, Stainless Steel dial type **Pressure Gauge** including brass isolation valve and siphon pipe having calibration of 0-16 Kg / cm^2.	Each	5			
12	MR-12	Supplying and fixing of Fire Man's axe with heavy insulated rubber as per standard conforming to IS 926.	Each	5			
		TOTAL CARRIED TO SUMMARY					
		SUB HEAD - III - (FIRE EXTINGUISHERS)					
13	MR-13	Providing and fixing mechanical foam type (ISI marked) fire extinguishers consisting of welded M.S. cylindrical body squeeze lever discharge valve 30 cm long high pressure discharge hose, discharge nozzle, suspension bracket as per ISI marked finished externally with red enamel paint and fixed to wall with brackets complete with internal charger.					
		Capacity 9 lit.	Each	10			
14	MR-14	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 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 conforming IS : 15683:2006					
		4.5kg capacity cylinder	Each	10			
		22.5 kg (Trolly Mounted)	Each	2			
15	MR-15	Providing and fixing ISI marked portable fire extinguishers of the following type.					
		Dry Chemical Powder ABC type of 6 Kg as per IS:15683	Each	10			
		TOTAL CARRIED TO SUMMARY					

Sub-Head -IV : FIRE DETECTION & ALARM SYSTEM

Sr. No.	DSR 2016 Item no	Description	Unit	Qty.	Rate	Amount(Schedule Items) Rs	Amount(Non Schedule Items) Rs
16.0	1	Supply, installation, testing and commissioning of following as per specifications :					
	19.1	Microprocessor based intelligent and electronically addressable, modular, expandable networkable, 6 loops (Expandable) (each loop consist of preferably a maximum of 125 detectors & 125 devices) fire alarm control panel with minimum 160 character LCD display, multiple access levels, event history file in non-volatile memory (EEPROM). The panel shall be provided along with integrated voice command centre with suitable rating for 16 nos speaker zones as indicated by the number of speakers with modules as required. The panel shall support programmable relay for controlling lifts, staircase pressurizations fans, lift shaft & lift lobby pressurization fans, toilets exhaust fans, ventilation fans at fire pump room, monitoring of fire sprinkler and fire hydrant pump controlled by powerful Boolean logic equation and integration with Background system. The panel shall have minimum five independent hazard release circuit built-in the panel. The panel shall have 240 volts AC power supply, automatic battery charger, 24 volts, sealed lead acid maintenance free batteries sufficient for 24 hours normal working and then be capable of operating the system for 60 minutes during emergency condition. The	No	1			
		Panel shall have programmable switch plates for controlling horn strobe zones/AHU shut off etc. from panel itself. Panel shall have inbuilt autodialer with minimum 6 line output. Panel shall have its own master fire fighting telephone/audio control/command centre.					
		Notes :					
		Each loop of fire alarm panel shall have 15% spare addressable units.					
		The No. of loops may be changed based on the loop capacity of the panel.					
		Other requirements are given in the specifications.					
17.0	19.2	Active & Networkable Repeater panel with 160 character LCD display complete system function keys for programming and control like system reset, Alarm Acknowledge, Alarm Silence, Trouble Acknowledge etc. as per specification. The Network Repeater Panel shall include long life LEDs to display power, Fire Alarm, Pre Alarm, Security Alarm, System Trouble, Supervisory, Signal Silenced, Disable Points, Other (non-fire) Events and CPU Failure. The Network Repeater Panel shall alow editing of labels for all points within the network; control on/off of outputs; enable/disable of all network points; alter detector sensitivity; clear detector verification counters for any analog addressable detector within the network; clear any history log within the network; change the Time/Date settings; initiate a Walk Test.	No	1			
18.0	19.3	Fault isolator module for isolating shorted, dewired and loose circuits between two successive fault with automatic resetting arrangement.	Nos.	12			
19.0	19.4	Addressable control modules for magnetic fire door holders, hooters cum strobes etc.	Nos.	10			
20.0	19.5	Addressable relay modules for shutting down AHU's, Elevator recall, pressurization fan, Smoke Extraction fans, Treated fresh Air, fire damper etc.	Nos.	2			
21.0	19.6	Addressable monitoring module to connect NO/NC contacts such as pressure switch, flow switches, fire pump contacts (provided by Fire fighting contractor). However testing and commissioning shall be included in the fire detection and alarm system contractor scope.	Nos.	5			
22.0	19.7	Addressable monitoring module to connect NO/NC contacts such as for panic bar.	Nos.	4			

23.0	19.8	Intelligent and electronically addressable photoelectric smoke detector with microprocessor in head and including mounting base with LED etc. complete as per specification	Nos.	215			
24.0	19.9	Intelligent and electronically addressable multisensor detector with microprocessor in head and including mounting base with LED etc. complete as per specification	Nos.	4			
25.0	19.10	Intelligent and electronically addressable duct smoke detector (high velocity) with housing, sampling tubes, LED and bypass switch for testing complete as per specification.	No.	2			
26.0	19.11	Intelligent and electronically addressable fixed temperature thermistor type heat detector with mounting base, LED, fixed temperature setting as per specification.	Nos.	4			
27.0	19.12	Addressable manual call point as per specification	Nos.	6			
28.0	19.13	Supply,installation,Testing and commissioning of the approved makes Round speaker ceiling/wall mounting arrangement(0-2 watts) with multiple tapping complete with metal fire dome and all mounting accessories as per specifications.	Nos.	90			
29.0	19.14	Supply,installation,Testing and commissioning of the approved makes wall mounted speaker (10 watts) complete with all mounting accessories as per specifications.	Nos.	4			
30.0	19.15	Electronic hooter with signaling strobe light with 110 cd intensity as per specification.	Nos.	6			
31.0	19.16	Fire Fighters Telephone Jack with inbuilt control module as required.	Nos.	5			
32.0	19.17	Supply, laying, testing and commissioning of Electro Magnetic Lock (600lbs) with LEDs and power Supply battery backup as per specifications.	Nos.	4			
33.0	19.18	Fire fighters Handset consisiting of four units.	Sets	2			
34.0	19.19	Supply, installation, connection, testing & commissioning of response indicator unit.	Nos.	100			
	2	**CONDUITS AND CABLES**					
35.0	1.17	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required.					
	1.17.2	2 x 1.5 sq. mm	Metre	2500			
	1.17.4	4 x 1.5 sq. mm	Metre	100			
	1.17.13	4 x 2.5 sq. mm	Metre	100			
36.0	1.20	Supplying and fixing of following sizes of steel conduit along with 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.					
	1.20.2	25 mm	Metre	3500			
37.0	NS-19.20	Supply, laying and connecting of 2 core,PVC insulated twisted copper conductor cable of 48/0.2 mm dia for channel music in existing conduit as per specification.	Metre	1000			
	NS-19.21	**GRAPHIC CONTROL STATION (OPTIONAL)**					
38.0		Supplying, Installing, Testing & Commissioning of the Graphic **Central Control Stations** consisting of the following as per specification					
	19.21.1	Intel i5 processor Machine with 4 GB RAM and as per specification with cordless mouse and cordless keyboard as per specification or as compatible to fire graphics software	No.	1			
	19.21.2	21" color monitor flat screen LCD display as per specifications.	No.	1			
	19.21.3	Laser Jet Printer (A3 size) as per Specification	No.	1			
	19.21.4	Supply, installation, testing and commissioning of grapahical software for Fire Detection and Alarm System to be connected to the main fire alarm panel. The software shall be capable of the following function including licence as per specification.					
		- Uploading and downloading of information to FACP					
		- Graphics including autocad drawings.					
		- Detectors information and change of detectors setting.					
		- Software as described above.	Set	1			
		Total of Sub-Head - V carried to summary sheet					

SUMMARY OF COST OF INTERNAL ELECTRICAL WORKS

S.NO	NAME OF SUB-HEAD	AMOUNT	
		DSR 2016 items	Non Scheduled items
1	SUB HEAD-1: W I R I N G & SUBMAIN		
2	SUB HEAD -II : DISTRIBUTION BOARD		
3	SUB HEAD- III : CABLE TRAY		
4	SUB HEAD - IV : LIGHTING FIXTURE & FAN		
5	SUB HEAD - V : UPS WORK		
6	SUB HEAD - VI: SERVER, DATA & VOICE NETWORKING (IT WORK)		
7	Sub-Head -VII : CLOSE CIRCUIT TELEVISION SYSTEM		
8	Sub-Head - VIII- DISTRIBUTION BOARDS		
9	SUB HEAD- IX : EARTHING		
10	SUB HEAD-XVII : CABLE & END TERMINATIONS		
11	Sub-Head - XX : NURSE CALL SYSTEM		
	TOTAL OF INTERNAL ELECTRICAL WORK		
	GRAND TOTAL OF INTERNAL ELECTRICAL WORK		

ELECTRICAL WORKS

Sr. No.	DSR 2016 Item no	Description	Unit	Qty.	Rate	Amount (Schedule Items) Rs	Amount (Non Schedule Items) Rs
		INTERNAL ELECTRICAL WORK					
1.0	1	**SUB HEAD-1: W I R I N G & SUBMAIN**					
2.0	1.10	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class **PVC conduit, with modular switch**, modular plate, suitable GI box and earthing the point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable etc as required.					
2.1	1.10.3	Group C	Point	690			
3.0	1.11	Wiring for twin control light point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, 2 way modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable etc. as required.	Metre	10			
4.0	1.12	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit alongwith 1 No 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	1920			
5.0	1.13	Wiring for light/ power plug with 4X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit alongwith 2 Nos 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	50			
6.0	1.14	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required.					
6.1	1.14.2	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	1500			
6.2	1.14.4	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	100			
6.3	1.14.9	4 X 6 sq. mm + 2 X 6 sq. mm earth wire	Metre	50			
6.4	1.14.10	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Metre	100			
6.5	1.14.11	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Metre	80			
7.0	1.24	Supplying and fixing following **modular switch/ socket** on the existing modular plate & switch box including connections but excluding modular plate etc. as required.					
7.1	1.24.8	Bell push	Each	5			
8.0	1.25	Supplying and fixing stepped type **electronic fan regulator** on the **existing modular plate switch box** including connections but excluding modular plate etc. as required.	Each	110			
9.0	1.26	Supplying and fixing **modular blanking plate** on the existing modular plate & switch box excluding modular plate as required.	Each	50			
10.0	1.31	Supplying and fixing suitable size **GI box with modular plate and cover** in front on surface or in recess, including providing and fixing **3 pin 5/6 amps modular socket outlet and 5/6 amps modular switch**, connection etc. as required. (For light plugs to be used in non residential buildings).	Each	180			
11.0	1.32	Supplying and fixing suitable size **GI box with modular plate** and cover in front on surface or in recess, including providing and fixing **6 pin 5/6 & 15/16 amps modular socket outlet and 15/16 amps modular switch**, connection etc. as required.	Each	130			
12.0	1.33	Supplying and fixing 3 pin, 5 amp ceiling rose on the existing junction box/ wooden block including connection etc as required.	Each	10			
13.0	1.38	Supplying and fixing call bell/ buzzer suitable for single phase, 230 volts, complete as required.	Each	5			
14.0	1.45	Installation, testing and commissioning of ceiling fan, including wiring the down rods of standard length (upto 30 cm) with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable, including providing and fixing phenolic laminated sheet cover on the fan box etc. as required.	Each	110			
15.0	1.50	Installation of exhaust fan in the existing opening, including making good the damage, connection, testing, commissioning etc. as required.					
15.1	1.50.1	Upto 450 mm sweep	Each	10			

16.0	1.51	Extra for fixing the louvers/ shutters complete with frame for a exhaust fan of all sizes.	Each	10			
		Total of Sub-Head - I carried to summary sheet					
17.0	2	**SUB HEAD -II : DISTRIBUTION BOARD**					
18.0	NS-1	Supplying and fixing following way prewired SP&N MCB distribution board of steel sheet for 240 volts on surface/ recess complete with loose wire box, terminal connectors for all incoming and outgoing circuits, duly prewired with suitable size FR PVC insulated copper conductor up to terminal blocks, tinned copper bus bar, neutral link, earth bar, din bar, detachable gland plate, interconnections, powder painted including earthing etc. as required. (But without MCB/ RCCB/ Isolator).**All distribution board should be with the space provision for ELCB.**					
18.1	NS 1.1	2 + 4 way/ 6 way , Double door	Each	1			
18.2	NS 1.2	2 + 8 way/ 10 way , Double door	Each	6			
18.3	NS 1.3	2 + 12 way / 14 way , Double door	Each	1			
19.0	NS-2	Supplying and fixing following way prewired TP&N MCB distribution board of steel sheet for 415 volts on surface/ recess complete with loose wire box, terminal connectors for all incoming and outgoing circuits, duly prewired with suitable size FR PVC insulated copper conductor up to terminal blocks, tinned copper bus bar, neutral link, earth bar, din bar, detachable gland plate, interconnections, powder painted including earthing etc. as required.(But without MCB/ RCCB/ Isolator) **All distribution board should be with the space provision for ELCB.**					
19.1	NS-2.1	4 way (4+12), Double door	Each	1			
19.2	NS-2.2	6 way (4 + 18), Double door	Each	2			
19.3	NS-2.3	8 way (4 + 24), Double door	Each	6			
19.4	NS-2.4	12 way (4 + 36), Double door	Each	5			
20.0	NS-3	Supplying and fixing following way prewired vertical type TP&N MCB distribution board of steel sheet for 415 volts on surface/ recess complete with loose wire box of sheet steel, dust protected, duly powder painted, inclusive of 200 amps tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCB's, terminal connectors for all incoming and outgoing circuits, duly prewired with adequate size of FRLS PVC insulated copper conductor upto the terminal connector/ neutral link, earthing etc as required (But without MCB/ RCCB/ Isolator). (Note : Prewired vertical type MCB TPDB is normally used where 3 phase outlets are required.)					
20.1	NS-3.1	6 way Double door	Each	2			
20.2	NS-3.2	8 way Double door	Each	1			
20.3	NS-3.3	12 way Double door	Each	2			
21.0	2.10	Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
21.1	2.10.1	Single pole	Each	438			
22.0	2.11	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	50			
23.0	2.12	Supplying and fixing following rating, double pole, 240 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
23.1	2.12.1	40 amps	Each	20			
24.0	2.13	Supplying and fixing following rating, four pole, 415 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
24.1	2.13.1	40 amps	Each	25			
24.2	2.13.2	63 amps	Each	12			
25.0	2.14	Supplying and fixing following rating, double pole, (single phase and neutral), 240 volts, residual current circuit breaker (RCCB), having a sensitivity current upto 300 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
25.1	2.14.1	25 amps	Each	18			
25.2	2.14.2	40 amps	Each	20			
25.3	2.14.3	63 amps	Each	18			
26.0	2.17	Supplying and fixing TP sheet steel enclosure on surface/ recess along with 16/25/32amps 415 volts "C" curve TP MCB complete with connections, testing and commissioning etc. as required.	Each	10			
27.0	2.18	Supplying and fixing 20 amps, 240 volts, SPN industrial type, socket outlet, with 2 pole and earth, metal enclosed plug top alongwith 20 amps "C" curve, SP, MCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	Each	10			
28.0	2.19	Supplying and fixing 20 amps, 415 volts, TPN industrial type, socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 20 amps "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	Each	10			
29.0	2.20	Supplying and fixing 30 amps, 415 volts, TPN industrial type, socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 30 amps "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	Each	8			
30.0	2.21	Providing and fixing M.V. danger notice plate of 200 mm X 150 mm, made of mild steel, at least 2 mm thick, and vitreous enameled white on both sides, and with inscription in single red colour on front side as required.	Each	10			
31.0	2.22	Providing and fixing H.T. danger notice plate of 250 mm X 200 mm, made of mild steel, at least 2 mm thick, and vitreous enameled white on both sides, and with inscription in single red colour on front side as required.	Each	2			
		Total of Sub-Head - II carried to summary sheet					
32.0	3	**SUB HEAD- III : CABLE TRAY**					
33.0	4.1	Supplying and installing following size of perforated pre-painted M.S. cable trays with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.					
33.1	4.1.1	100 mm width X 50 mm depth X 1.6 mm thickness	Metre	100			
33.2	4.1.2	150 mm width X 50 mm depth X 1.6 mm thickness	Metre	100			
33.3	4.1.4	300 mm width X 50 mm depth X 1.6 mm thickness	Metre	50			
33.4	4.1.6	450 mm width X 50 mm depth X 2.0 mm thickness	Metre	25			
33.5	4.1.7	600 mm width X 50 mm depth X 2.0 mm thickness	Metre	50			
34.0	4.2	Supplying and installing following size of perforated pre-painted M.S. cable trays bends with perforation not more than 17.5%, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.					

34.1	4.2.1	100 mm width X 50 mm depth X 1.6 mm thickness	Each	2			
34.2	4.2.2	150 mm width X 50 mm depth X 1.6 mm thickness	Each	4			
34.3	4.2.4	300 mm width X 50 mm depth X 1.6 mm thickness	Each	4			
34.4	4.2.6	450 mm width X 50 mm depth X 2.0 mm thickness	Each	2			
34.5	4.2.7	600 mm width X 50 mm depth X 2.0 mm thickness	Each	4			
35.0	4.3	Supplying and installing following size of perforated pre-painted M.S. cable trays reducers with perforation not more than 17.5%, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.					
35.1	4.3.1	100 mm width X 50 mm depth X 1.6 mm thickness	Each	2			
35.2	4.3.2	150 mm width X 50 mm depth X 1.6 mm thickness	Each	4			
35.3	4.3.4	300 mm width X 50 mm depth X 1.6 mm thickness	Each	4			
35.4	4.3.6	450 mm width X 50 mm depth X 2.0 mm thickness	Each	2			
35.5	4.3.7	600 mm width X 50 mm depth X 2.0 mm thickness	Each	4			
36.0	4.4	Supplying and installing following size of perforated pre-painted M.S. cable trays Tee's with perforation not more than 17.5%, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.					
36.1	4.4.1	100 mm width X 50 mm depth X 1.6 mm thickness	Each	2			
36.2	4.4.2	150 mm width X 50 mm depth X 1.6 mm thickness	Each	4			
36.3	4.4.4	300 mm width X 50 mm depth X 1.6 mm thickness	Each	4			
36.4	4.4.6	450 mm width X 50 mm depth X 2.0 mm thickness	Each	2			
36.5	4.4.7	600 mm width X 50 mm depth X 2.0 mm thickness	Each	4			
37.0	4.5	Supplying and installing following size of perforated pre-painted M.S. cable trays cross members with perforation not more than 17.5%, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.					
37.1	4.5.1	100 mm width X 50 mm depth X 1.6 mm thickness	Each	2			
37.2	4.5.2	150 mm width X 50 mm depth X 1.6 mm thickness	Each	4			
37.3	4.5.4	300 mm width X 50 mm depth X 1.6 mm thickness	Each	4			
37.4	4.5.6	450 mm width X 50 mm depth X 2.0 mm thickness	Each	2			
37.5	4.5.7	600 mm width X 50 mm depth X 2.0 mm thickness	Each	4			
		Total of Sub-Head - III carried to summary sheet					
38.0		**SUB HEAD - IV : LIGHTING FIXTURE & FAN**					
39.0	1.41	Installation, testing and commissioning of pre-wired, fluorescent fitting / compact fluorescent fitting of all types, complete with all accessories and tube etc. directly on ceiling/ wall, including connection with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable and earthing etc. as required.	Each	470			
40.0	1.45	Installation, testing and commissioning of ceiling fan, including wiring the down rods of standard length (upto 30 cm) with 1.5 sq. mm FR PVC insulated, copper conductor, single core cable, including providing and fixing phenolic laminated sheet cover on the fan box etc. as required.	Each	110			
	NS-4	Supply of Light fixture as given below(Refer Technical Specification)					
41.0	NS-4.1	Supply of 40W recess type square LED down light	Each	142			
42.0	NS-4.2	Supply of 18W recess mounted circular LED Down lighter.	Each	22			
43.0	NS-4.3	Supply of 12W recess mounted circular LED Down lighter.	Each	5			
44.0	NS-4.4	Supply of 18W surface mounted circular LED light.	Each	10			
45.0	NS-4.5	Supply of 12W recess mounted square LED lighte.	Each	223			
46.0	NS-4.6	Supply of 40W recess mounted Slim panel LED light.	Each	22			
47.0	NS-4.7	Supply of 20W wall mounted LED Batten light.	Each	6			
48.0	NS-4.8	Supply of 9W PL Bulk head light.	Each	10			
49.0	NS-4.9	Supply of 1x11W 'S' type CFL Mirror Light.	Each	18			
50.0	NS-4.10	Supply of 4.8 watt/mtr LED Strip Light.	Metre	10			
51.0	NS-4.11	Supply of LED exit signage of Box size in mm 325x425x365.	Each	12			
52.0	NS-4.12	Supply of LED aviation light luminaire.	Each	2			
53.0	NS-4.13	Supply of **Ceiling Fan of 1200mm** sweep complete erected in position with all accessories.	Each	110			
54.0	NS-4.14	Supplying of **Exhaust Fan Light duty 230V A.C 50 cycles 250 mm** 1400 RPM complete erected in position with all accessories.	Each	10			
		Total of Sub-Head - IV carried to summary sheet					
		SUB HEAD - V : UPS WORK					
55.0	NS -5	Supply,Installation,Testing & Commissioning of micro processor controlled True On line double conversion, **Stand Alone mode** 3 Phase input and 1 phase 240V output UPS & each UPS consisting of followings :	Set	1			
		1 No. 100% Rectifier + Inverter, Integrated in UPS module					
		Battery Circuit breaker					
		Galvanic Isolation transformer at the inverter output of UPS Module					
		Inbuilt Static switch for bypass and inverter in UPS module					
		Manual Maintenace bypass					
		Sealed Maintenance free batteries for 30 minutes backup time with UPS & inerconnectors, Rack and accessories and UPS to battery DC cable upto 10 meters.					
		Ratings of the UPS as follows :-					
		2x10 kVA parallel redundant UPS operating in parallel redundant configuration(for Emergency Lighting,Work Stations, Fire Alarm, Server and CCTV,OTS).					
		TOTAL					
56.0		**SUB HEAD - VI: SERVER, DATA & VOICE NETWORKING**					

56.1	1.18	Supplying and drawing following pair 0.5 sq mm FR PVC insulated annealed copper conductor, unarmored telephone cable in the existing surface/ recessed steel/ PVC conduit as required.					
56.2	1.18.2	2 Pair	Metre	1500			
57.0	1.19	Supplying and drawing co-axial TV cable RG-6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/ recessed steel/ PVC conduit as required**.**	Metre	500			
58.0	1.21	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.					
58.1	1.21.2	25 mm	Metre	4000			
59.0	1.24	Supplying and fixing following **modular switch/ socket** on the existing modular plate & switch box including connections but excluding modular plate etc. as required.					
59.1	1.24.6	Telephone socket outlet	Each	55			
59.2	1.24.7	TV antenna socket outlet	Each	5			
60.0	1.27	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc as required.					
60.1	1.27.1	1 or 2 Module (75mmX75mm)	Each	120			
61.0	1.53	Supplying and drawing of UTP 4 pair CAT 6 LAN Cable in the existing surface/ recessed steel/ PVC conduit as required.					
61.1	1.53.1	1 run of cable	Metre	1500			
62.0	NS -6	Supplying, fixing, connecting & testing of **Telephone Tag Block** krone type in a suitable size 1.6 mm thick dust and vermin proof Sheet steel enclosure duly painted by synthetic enamel over anti corrosive primer, lockable and hinged cover with provision for cable through glands complete in all respects.					
62.1	NS-6.1	10 pair Krone	Each	10			
63.0	NS -7	Supplying, laying, testing and commissioning of following size anealed tinned copper conductor PVC insulated and sheathed **armoured copper telephone cables** with suitable clamps, saddles and including making terminal joints complete as required.					
63.1	NS-7.1	10 pair	Mtrs	200			
64.0	NS-8	**EQUIPMENT**					
65.0	NS-8.1	Supply, installation, testing & commissioning of Cats 6 information outlets (Tolless) that should confirm or exceed component specifications TIA/EIA-568-C standards for physical & electrical Specifications, should be fully unshielded type. Measurement of components & links, validated by independent 3P Third Party Testing & ETL, have highlighted its triple performance. All products are RoHS copliance. All products are UL approved. ISO 11801 ED 2.0, amendemet 2, EN 50173-2.	No	55			
66.0	NS-8.2	Supply, installation, testing & commissioning of Cat 6, 24 port loaded rack mountable UTP Patch Panel Tolless. Panel supplied with quick mounting. All enclosures or cabinets general assembly panels ensure automatic grounding of each connector fitted with rear cable guide to hold cables during maintenance. Fitted with 4 units of 6 LCS2 RJ45 connectors cat 5e with fast connection thanks to integrated crimping, with 568 A/B labelling. Supplied with colour labels numbered from 1 to 24 conform to standards ISO/IEC 11801, Ed.2.0, EN 50173-2 and EIA/TIA 568-C, 19"panel - 1U. Measurement of components & links, validated by independent 3P Third Party Testing & ETL, have highlighted its triple performance. All products are RoHS copliance. All products are UL approved.	No	3			
67.0	NS-8.3	Supply, installation, testing & commissioning of CAT6 UTP PATCH CORD 1M - Rack End. 1 Mtr Cat 6 patch cord with 23 AWG suitable for Gigabit connection, UTP, it should be suitable to maintain the bending radius as per relevant code, tender specification and direction of Engineer-in-charge. Blue RAL 5015. Measurement of components & links, validated by independent 3P Third Party Testing & ETL, have highlighted its triple performance. All products are RoHS copliance. All products are UL approved. ISO 11801 ED 2.0, amendemet 2, EN 50173-2.	No	55			
68.0	NS-8.4	Supply, installation, testing & commissioning of CAT6 UTP PATCH CORD 2M - User End. 2 Mtr Cat 6 patch cord with 23 AWG suitable for Gigabit connection, UTP, it should be suitable to maintain the bending radius as per relevant code, tender specification and direction of Engineer-in-charge. Blue RAL 5015. Measurement of components & links, validated by independent 3P Third Party Testing & ETL, have highlighted its triple performance. All products are RoHS copliance. All products are UL approved. ISO 11801 ED 2.0, amendemet 2, EN 50173-2.	No	55			
69.0	NS-8.5	Supply, installation, testing & commissioning of 4 pair cat 6A, minimum 24 AWG, 100 ohms 500 Mhz STP cable that should confirm or exceed component specifications TIA/EIA-568-C standards for physical & electrical Specifications. LSZH sleeve : halogen - free, Yellow RAL 1018, Colour code EIA/TIA, Conform to standrads ISO/IEC 11801 ED 2.0, Amendment 2, EN 50173-2 and EIA/TIA 568 B2.10 Performance 500MHz. Measurement of components & links, validated by independent 3P Third Party Testing & ETL, have highlighted its triple performance. All products are RoHS copliance. All products are UL approved.	Mtrs.	50			
70.0	NS-8.6	Supply, installation, testing & commissioning of Cat 6A, 24 port Unloaded rack mountable STP Patch Panel Tolless.	No	2			
71.0	NS-8.7	Supply, installation, testing & commissioning of CAT 6A, Unit of 6 RJ45 connectors with fast connection thanks to integrated crimping, with 568 A/B labelling. Supplied with colour labels numbered from 1 to 6 conform to standards ISO/IEC 11801, Ed.2.0, EN 50173-2 and EIA/TIA 568-C.	No	1			
72.0	NS-8.8	Supply, installation, testing & commissioning of Blanking Plate for Patch Panel	No	3			
73.0	NS-8.9	1 Mtr Cat 6A patch cord with 24 AWG suitable for 10 Gigabit connection, STP, it should be suitable to maintain the bending radius as per relevant code, tender specification and direction of Engineer-in-charge. Yellow RAL 1018. Measurement of components & links, validated by independent 3P Third Party Testing & ETL, have highlighted its triple performance. All products are RoHS copliance. All products are UL approved. ISO 11801 ED 2.0, amendemet 2, EN 50173-2.	No	1			
74.0	NS-8.10	**Supply, installation, testin, commissioning of Racks & other components as follow:-**					
75.0	NS-8.10.1	15U 600x500 wall mount single section with front glass door, lockable, with 2 fans mounted on top, 1U cable manager x 3, PDU x1 & hardware pkt. x 3.	No	1			
76.0	NS-8.10.2	9U 600x500 wall mount single section with front glass door, lockable, with 2 fans mounted on top, 1U cable manager x 2, PDU x1 & hardware pkt. x 2.	No	1			
77.0							
78.0	NS -9	Supply, installation, testing & Commissioning of Audio Visual Connector (Make-Legrand, Model no. 6730 59, 2 module)	Nos.	2			
79.0	NS-10	Supply, installation, testing & Commissioning of 8(2X4) modules brushed brass/copper colour pop-up boxes.(Make-Legrand, model No.-0540 18)(All switch socket, DATA outlet, telephone etc are considered separately)	Nos.	2			
80.0	NS -11	Supply, installation, testing & Commissioning of 1 module Female BNC 75 jack(Make-Legrand, Model No.- 5722 76) for pop up box.	Nos.	2			
81.0	NS-12	Supply, installation, testing & Commissioning of 2 Module Female HD15(VGA)(Make-Legrand, Model No.- 5722 82) for pop up box.	Nos.	2			
82.0	NS -13	Supply, installation, testing & Commissioning of 2 ModuleHDMI socket (Make- Legrand, Model No.- 5722 81) for pop up box.	Nos.	2			

83.0	NS-14	**EPABX**					
84.0	NS-14.1	Supply Installation, Testing and Commissioning of Server Based EPABX Fully Computerized IP System, SIP Compliant. Multi slot 19: U Rack Mountable 2U Rack Expandable upto 700 Ports Presently Configuration as Below CO Line 10 Nos. PRI(30 Channel) 2 Nos. Digital Extension Circuits 4 Nos. Analog Extension Circuits 55 Nos. 64 SIP VOIP Trunk 1 Nos. ntegrated Viocemail System 1 Nos.	Nos.	1			
85.0	NS-14.2	Supply Installation, Testing and Commissioning of 4 Level IVR software with 6 different languages and 4 time schedule with Supply Installation, Testing and Commissioning of PC**(As per OEM).**	Nos.	1			
86.0	NS-14.3	Supply Installation, Testing and Commissioning of Digital Phone (32Key).	Nos.	1			
87.0	NS-14.4	Supply Installation, Testing and Commissioning of Digital Phone (12Key).	Nos.	4			
88.0	NS-14.5	Supply Installation, Testing and Commissioning of Cordless Phone with base dilling minimum 80-100 meters range.	Nos.	1			
89.0	NS-14.6	Supply Installation, Testing and Commissioning of Analog Speaker Phone with backlight and 4 memorable Key.	Nos.	55			
		Total of Sub-Head - VI carried to summary sheet					
90.0		**Sub-Head -VII : Close Circuit Television System**					
	NS-15	**CAMERA AND ACCESSORIES**					
		Supply, installation, testing and commissioning of following cameras including all accessories as per specification.					
91.0	NS-15.1	Supply, installation, testing and commissioning of ceiling mounted indoor colour dome type camera 1/3" or 1/4" CCD 3.8 -10 mm Varifocal lens, auto iris, 580 TVL , Sensitivity 0.05 lux (color) and 0.005 lux (IR cut filter, B/W), Signal-to-Noise Ratio >50 dB ,True Day/ Night, Privacy zone ,OSD Menu for Easy Operation, Varifocal Manual zoom and focus adjustment, Connectors, Lens, Camera Mounts, including all Ancillary Equipment & accessories complete as per specifications. The AC power supply to CCTV as required shall be in electrical vendor scope. (All indoor areas)	No.	10			
92.0	NS-15.2	Supply, installation, testing and commissioning of ceiling mounted indoor colour dome type camera type1/3" or 1/4" CCD 3.8 -10 mm fixed type, varifocal ,auto iris, 580TVL, Sensitivity 0.05 lux (color) and 0.005 lux (IR cut filter, B/W), Signal-to-Noise Ratio >50 dB ,True Day/ Night, Privacy zone, OSD Menu for Easy Operation, Varifocal Manual zoom and focus adjustment, Connectors, Lens, Camera Mounts with a built in microphone which allows conversation to be recorded. The camera shall be mounted on the wall behind the reception desks at a maximum height of 2.4 mtr. to be able to identify all guests including all Ancillary Equipment & accessories complete as per specifications. The AC power to CCTV as required supply shall be in electrical vendor scope. (Reception, Waiting and main lobby)	No.	2			
93.0	NS-15.3	Supply, installation, testing and commissioning of Surge protector for Video Balun Pairs. (Reputed)	No.	1			
94.0	NS-15.4	Supply, installation, testing and commissioning of 12VDC Power Supply for 41 nos. CCTV Cameras.	No.	1			
	B	**HEADEND EQUIPMENT**					
95.0	NS-15.5	Supply, installation, testing and commissioning of Real time triplex Digital Video Recorder for CCTV System as per specification and consisting of 16 camera inputs and 2 no. monitor output, 2 TB Hard disk storage and inbuilt DVD R/W drive.	No.	1			
96.0	NS-15.6	Supply, Installation and commissioning of 21" Color Monitor including all accessories as per specifications.	No.	1			
97.0	NS-15.7	Supply, installation, testing and commissioning of 42 u/9" width, 650 mm depth, rack assembly made of alluminium channels for the DVR and associated equipment.	No.	1			
98.0	**C**	**CABLING AND CONDUITING**					
99.0	1.17	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required.					
99.1	1.17.2	2 x 1.5 sq. mm	Metre	650			
100.0	1.20	Supplying and fixing of following sizes of steel conduit along with 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.					
100.1	1.20.2	25 mm	Metre	50			
101.0	1.21	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required					
101.1	1.21.2	25 mm	Metre	600			
102.0	NS-15.8	Supply & laying of 75 Ohms (RG 59/U) copper conductor copper screen Co-axial cable in existing conduit as per specification.	Metre	600			
		Total of Sub-Head - VII carried to summary sheet					
103.0	**NS-16**	**Sub-Head - VIII- DISTRIBUTION BOARDS**					
104.0	**B**	**FRONT OPERATED PANEL**					
		Design, manufacture, supplying fixing in position of the following front operated cubicle type,compartmentalised with front access, dead back, 2mm thick steel enclosed free standing, dust and vermin proof, switchboard with IP42 protection with hinged and lockable doors complete with interconnections, tinned copper crimping lugs, bonding to earth and painting, suitable for use at 415 volts, 3 phase 4 wire 50 Hertz system, and suitable for a fault level of 25 KA symmetrical at 415 volts.					
	i	All switchboards shall be modular type and have provision for entry of cables from the top /bottom as required.					
	ii	The cost shall include providing and fixing of 100 x 50 x 6 mm channels for switchboard support.					

	iii	All live accessible parts shall be shrouded and all equipment shall be finger touch proof. The Busbars insulation shall be with heat shrinkable sleeves. SMC/DMC shrouds and busbar supports shall be used.					
	iv	All MCCB shall have phase barriers, rotary handles and extension terminal as required .					
	v	All unbalanced kWH meter shall have communication module for BMS connectivity					
105.0	**NS-16.1**	**MDB- G1 (First Floor)**					
	A	**INCOMER**					
		1 No. 160 amps 4P MCCB(25 KA) with thermal Magnetic release (PRMB-3) with Class-C transient voltage surge suppression device suitable for 3 phases as per specifications.					
	B	**METERING & INDICATION**					
	i)	1 set of R,Y,B phase indicating lamps					
	ii)	1 No. (0-500V) Voltmeter with Built-in VSS with 3 nos. 2A SP MCB					
	iii)	1 No. (0-160A) Ammeter with ASS with 3 nos. 160/5A CT's					
	iv)	1 No. Digital Electronic KWH meter(Dual Source).					
	C	**BUS-BAR**					
	i)	1 Set of 200A TPN Aluminium Bus Bar with colour coded PVC Sleeves					
	D	**OUTGOINGS**					
	i)	2 No. 63A TP+NL MCCB (25 KA)					
	ii)	3 Nos. 63A TPN MCB (10 KA)					
	iii)	3 Nos. 40A TPN MCB (10 KA)					
		MDB- G1 (First Floor) as described above	Set	1			
106.0	**NS-16.2**	**MDB- G2 (Second Floor)**					
	A	**INCOMER**					
		1 No. 200 amps 4P MCCB(25 KA) with thermal Magnetic release (PRMB-3) with Class-C transient voltage surge suppression device suitable for 3 phases as per specifications.					
	B	**METERING & INDICATION**					
	i)	1 set of R,Y,B phase indicating lamps					
	ii)	1 No. (0-500V) Voltmeter with Built-in VSS with 3 nos. 2A SP MCB					
	iii)	1 No. (0-300A) Ammeter with ASS with 3 nos. 300/5A CT's					
	iv)	1 No. Digital Electronic KWH meter(Dual Source).					
	C	**BUS-BAR**					
	i)	1 Set of 400A TPN Aluminium Bus Bar with colour coded PVC Sleeves					
	D	**OUTGOINGS**					
	i)	2 No. 63A TP+NL MCCB (25 KA)					
	ii)	4 Nos. 63A TPN MCB (10 KA)					
	iii)	4 Nos. 40A TPN MCB (10 KA)					
		MDB- G2 (Second Floor) as described above	Set	1			
107.0	**NS-16.3**	**MDB- U1 (UPS OUTPUT PANEL)**					
	A	**INCOMER**					
		2 Nos. 63 amps 4P MCCB(25 KA) with thermal Magnetic release (PRMB-3) with Class-C transient voltage surge suppression device suitable for 3 phases as per specifications.					
		2 Nos. 63 amps 4PContactor for E/M interlocking.					
	B	**METERING & INDICATION for each Incomer**					
	i)	1 set of R,Y,B phase indicating lamps					
	ii)	1 No. (0-500V) Voltmeter with Built-in VSS with 3 nos. 2A SP MCB					
	iii)	1 No. (0-63A) Ammeter with ASS with 3 nos. 60/5A CT's					
	iv)	1 No. Digital Electronic KWH meter(Dual Source).					
	C	**BUS-BAR**					
	i)	1 Set of 100A 4P Copper Bus Bar with colour coded PVC Sleeves					
	D	**BUS-COUPLER**					
	i)	1 No. 63 amps 4P MCCB(25 KA) with thermal Magnetic release (PRMB-3) with Class-C transient voltage surge suppression device suitable for 3 phases as per specifications.					
	ii)	1 No. 63 amps 4PContactor for E/M interlocking.					
	D	**OUTGOINGS**					
	i)	4 Nos. 40A DP MCB (10 KA)					
	ii)	4 Nos. 63A DP MCB (10 KA)					
		MDB- U1 (UPS Panel) as described above	Set	1			
		Total of Sub-Head - VIII carried to summary sheet					
108.0	4	**SUB HEAD- IX : EARTHING**					
109.0	5.4	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	4			
110.0	5.6	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	2			
111.0	5.7	Supplying and laying 6 SWG G.I. wire at 0.50 metre below ground level for conductor earth electrode, including connection/ termination with GI thimble etc. as required.	Metre	50			
112.0							
113.0	5.10	Providing and fixing 25 mm X 5 mm copper strip in 40 mm dia G.I. pipe FRLSom earth electrode including connection with brass nut, bolt, spring, washer excavation and re-filling etc. as required.	Metre	50			
114.0	5.11	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	100			
115.0	5.12	Providing and laying earth connection from earth electrode with 6 SWG dia G.I. Wire in 15 mm dia G.I. pipe from earth electrode including connection with G.I. thimble excavation and re-filling as required.	Metre	50			
116.0	5.14	Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required.	Metre	20			
117.0	5.16	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing as required.	Metre	50			
		Total of Sub-Head - IX carried to summary sheet					
118.0	5	**SUB HEAD-X : CABLE & END TERMINATIONS**					
119.0	7.8	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on cable tray as required.					
119.1	7.8.1	Upto 35 sq. mm (clamped with 1mm thick saddle)	Metre	165			
119.2	7.8.2	Above 35 sq. mm and upto 95 sq. mm (clamped with 25x3mm MS flat clamp)	Metre	130			

120.0	9.1	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.					
120.1	9.1.1	2 X 6 sq. mm (19mm)	Each	2			
120.2	9.1.7	3 X 10 sq. mm (22mm)	Each	2			
120.3	9.1.22	3½ X 50 sq. mm (35mm)	Each	2			
120.4	9.1.23	3½ X 70 sq. mm (38mm)	Each	2			
120.5	9.1.32	4 X 10 sq. mm (25mm)	Each	2			
120.6	9.1.33	4 X 16 sq. mm (28mm)	Each	4			
120.7	9.1.34	4 X 25 sq. mm (28mm)	Each	2			
121.0	NS-17	**Supply of MV cable**					
		Supply, following sizes of PVC sheathed PVC/XLPE insulated Aluminium conductor/copper conductor power/ multicore control armoured cable of 1.1 KV grade.					
121.1	NS-17.1	3 C - 70 sq mm Aluminium	Metre	50			
121.2	NS-17.2	3 ½ C - 50 sq mm Aluminium	Metre	80			
121.3	NS-17.3	3 ½ C- 35 sq mm Aluminium	Metre	10			
121.4	NS-17.4	4C- 25 sq mm Aluminium	Metre	20			
121.5	NS-17.5	4C- 16 sq mm Aluminium	Metre	50			
121.6	NS-17.6	4C- 10 sq mm Aluminium	Metre	10			
121.7	NS-17.7	3C- 10 sq mm Aluminium	Metre	25			
121.8	NS-17.8	2C- 6 sq mm Aluminium	Metre	50			
		Total of Sub-Head - X carried to summary sheet					
		Sub-Head - XI : NURSE CALL SYSTEM					
122.0	NS-18	**Nurses Call System**					
	NS-18.1	Supply, installation, testing & Commissioning of Microprocessor controller Nurses station with terminal monitor with in built power supply , with charger enclosed in a powder coated cabinet . Having with Reset, alarm/ buzzer, Call acknowledge with battery back up, battery charger complete system as per technical specifications and as per required of following suitable configuration. make - omnitech complete as required.					
123.0	i)	16 way	No.	3			
124.0	ii	32 way	No.	1			
125.0	iii	40 way	No.	1			
126.0	NS-18.2	Supply, installation, testing & Commissioning of Bed Call Push Button with LED indication and Flexiable Cord with button , Call Reset , Call Indication, station for each Bed complete as required.	No.	60			
127.0	NS-18.3	Supply, installation, testing & Commissioning of Toilet Call Push Button with LED indication and flexiable cord with button , Call Reset , Call Indication, station for each Bed complete as required.		8			
128.0	1.53	Supplying and drawing of UTP 4 pair CAT 6 LAN Cable in the existing surface/ recessed steel/ PVC conduit as required.					
128.1	1.53.1	1 run of cable	Metre	500			
129.0	1.21	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.					
129.1	1.21.2	25 mm	Metre	500			
		Total of Sub-Head - XI carried to summary sheet					