

**GOVT RAJAJI HOSPITAL , MADURAI**

**NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.**

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## GOVT RAJAJI HOSPITAL , MADURAI

## NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI,TAMIL NADU

## CIVIL - BOQ

## HOSPITAL

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
	<b>2</b>	<b>EARTH WORK</b>				
1	2.31	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1 m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area cleared.	100 Sqm	20000.00		
2	2.33	Felling trees of the girth (measured at a height of 1 m above ground level) including cutting of trunks and branches, removing the roo				
2.1	2.33.1	Beyond 30 cm girth upto and including 60 cm girth	each	30.00		
2.2	2.33.2	Beyond 60 cm girth upto and including 120 cm girth	each	20.00		
2.3	2.33.3	Beyond 120 cm girth upto and including 240 cm girth	each	10.00		
3	2.6	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 upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed.				
	2.6.1	<b>All kinds of soil</b>	Cum	13300.00		
4	2.6+2.26.1	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 upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed.				
		<b>Extra for every additional lift of 1.5 m or part thereof in excavation /banking excavated or stacked materials. All kinds of soil</b>	Cum	13300.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
		<b>FILLING IN SUBSTRUCTURE</b>				
5	2.25	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 etc complete, and form uniform level for flooring concrete .	Cum	19800.00		
6	1.1.2 (8)	Conveying from site and disposing off the excess earth as per the direction of engineer in charge.	Cum	6900.00		
		<b>CONCRETE WORK</b>				
7	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All works up to plinth level.				
	4.1.3	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size)				
		Plinth Protection/Flagging Concrete - Allround Building (average depth)	Cum	100.00		
8	4.1.5	1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size). (Below Flooring & Below Plint Beam)	Cum	1050.00		
		<b>SUNKEN FILLING</b>				
9	MR	Providing and laying cinder concrete in cement 1:15 ( 1 cement : 15 cinder of 12.5mm nominal gauge) on terraced roof or sunken slabs, laid to slope compacting, including cost of materials, labour, curing complete as per specifications.	Cum	350.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
		<b>REINFORCED CEMENT CONCRETE</b>				
10	5.40	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- 1) Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/ recoverable separately. 2) Fly ash conforming to grade I 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 clauses 5.2 and 5.2.1 of IS:456 -2000 in the items of BMC and RMC. 3) The above item shall be used judiciously where specified quality of Fly Ash is available for mixing in concrete. Also, the guidelines issued by CDO, CPWD, vide circular no. CDO/SE(RR)/Fly Ash (Main)/102 dated 9th April 2009 shall be followed in such cases.				
10.1	5.40.1	<b>All work up to plinth level. (M25)</b>	Cum	6655.00		
10.3	5.40.2	<b>All work above plinth level up to floor V level (M25)</b>	Cum	10570.00		
	5.34	Extra for proving richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately.				
	5.34.1	Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).				
10.2	5.40.1 +5.34.1	<b>ii) All work up to plinth level.( M30)</b>	Cum	560.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
10.4	5.40.2 +5.34.2	ii) All work above plinth level up to floor V level (M30)	Cum	1986.00		
10.5	5.35	Add for using extra cement in the items of design mix over and above the specified cement content therein.				
10.5.1		a) for M25	Quintal	10335.00		
10.5.2		b) for M30	Quintal	1782.00		
		<b>RCC Plastering</b>				
11	5.23	Smooth finishing of the RCC exposed surface 6mm thick cement mortar 1:3 (1 cement : 3 fine sand)	Sqm	7900.00		
	5	<b>FORM WORK</b>				
12	5.9	Centering and shuttering including strutting, propping etc., and removal of form for,				
12.1	5.9.1	Foundations, Footings, bases of columns,etc for mass concrete.	Sqm	3450.00		
12.2	5.9.2	Walls any thickness including attached pilasters butteresses,Plinth and string courses etc.	Sqm	4050.00		
12.3	5.9.3	Suspended floors,roofs,landings,Balconies and access platform	Sqm	29000.00		
12.4	5.9.5	Lintel,beams,plinth beams,girders,bressumers and cantilevers	Sqm	25150.00		
12.5	5.9.6	Columns and Pillars, Piers, Abutments, Posts and Struts.	Sqm	13400.00		
12.6	5.9.7	Stairs(excluding landings) except spiral-staircases.	Sqm	700.00		
12.7	5.9.15	Small lintels not exceeding 1.5m clear span, molding, as in cornices, window sills, string courses, bands, copings, bed plates, anchor blocks and the like.	Sqm	100.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
12.8	5.9.19	Weather shade, chajjas, corbels etc. including edges	Sqm	2650.00		
13	5.11	Extra for additional height in centering, shuttering where ever required with adequate bracing, propping etc., including cost of de-shuttering and decentring at all levels, over a height of 3.5m, for every additional height of 1 meter or part thereof (plan area to be measured)				
	5.11.1	Suspended floors,roofs,landing,beams and balconies (Plan area to be measured)	Sqm	27800.00		
<b>STEEL REINFORCEMENT</b>						
14	5.22	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto Plinth level.				
	5.22.6	Termo – Mechanically Treated Bars	Kgs	596000.00		
15	5.22.A.	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above Plinth level.				
	5.22.A.6	Termo – Mechanically Treated Bars	Kgs	1565000.00		
<b>6 BRICK &amp; STONE WORK</b>						
16	6.1.	Brick work with common burnt clay F.P.S.( non modular ) bricks of class designation 7.5 in foundation and plinth in:				
	6.1.2	Cement mortar 1:6 (1 cement :6 coarse sand)	Cum	50.00		
17	6.4	Brick work with F.P.S bricks of class designation 7.5 in superstructure above plinth level up to floor v level in all shapes an sizes in:				
	6.4.2	Cement mortar 1: 6 (1 cement :6 coarse sand)	Cum	5300.00		
18	6.13	Half brick masonry with F.P.S brick of class designation 7.5 in superstructure above plinth level up to floor V level				
	6.13.1	CM 1:3 (1 cement : 3 coarse sand)	Sqm	11700.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
19	6.15	Extra for providing and placing in position 2 Nos. 6mm dia M.S bars at every third course of half brick masonry (with FPS brick)	Sqm	11700.00		
20	4.7	Providing and fixing up to floor five level precast cement concrete solid block including hoisting and setting in position with cement mortar 1:3 (1 cement : 3 coarse sand), cost of required centering, shuttering complete :				
	4.7.2	1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20mm nominal size).	Cum	10.00		
		<b>RANDOM RUBBLE MASONRY</b>				
21	7.1	Random rubble masonry with hard stone in foundation and plinth including leveling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20mm nominal size) upto plinth level with:				
	7.1.1	Cement mortar 1:6 (1 cement : 6 coarse sand).	Cum	25.00		
	9	<b>WOOD AND ALUMINIUM WORK</b>				
22	9.1	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position.				
	9.1.1	Second class Teak wood	Cum	0.50		
23	9.5	Providing and fixing panelled or panelled and glazed shutters for doors, windows and clerestory windows including ISI marked M.S. pressed butt hinges bright finished of required size with necessary screws excluding, panelling which will be paid for separately, all complete as per direction of Engineer-in-charge.				
	9.5.1	Second class teak wood 35mm thick shutter	Sqm	7.00		
24	9.7	Providing and fixing panelling or panelling and glazing in panelled or panelled and glazed shutters for doors, windows and clerestory windows (Area of opening for panel inserts excluding portion inside grooves or rebates to be measured). Panelling for panelled or panelled and glazed shutters 25 mm to 40 mm thick :				
24.1	9.7.1	Second class teak wood	Sqm	5.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
24.2	9.7.7.2	5.5 mm thick glass panes	Sqm	5.00		
25	9.72	Providing and fixing bright finished brass butt hinges with necessary screws etc. complete :				
	9.72.1	125x85x5.5 mm (heavy type)	each	40.00		
26	9.53	Providing 40 x 5mm flat iron hold fast 40 cm long including fixing to frame with 10mm diameter bolts, nuts and wooden plugs and embeddings in cement concrete block 30 x 10 x 15 cm 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 20mm nominal size)	Nos	4800.00		
27	9.33	Providing and fixing expandable fasteners of specified size with necessary plastic sleeves and galvanized M.S. screws including drilling holes in masonry work / CC / R.C.C. and marking good etc.				
	9.33.4	50mm long	Nos	12800.00		
28	9.136	Providing and fixing fire resistance door frame of section 143 x 57 mm having built in rebate made out of 16 SWG G.I sheet (Zinc coating not less than 120 gm/sqm) duly filled with vermiculite based concrete mix. Suitable for mounting 60 minutes fire rated door shutters. The frame is fitted with intumescent fire seal strip of size 10x4 mm (minimum) around the frame and fixing with dash fastener of approved size and make, including applying a coat of approved brand fire resistance primer etc. complete as per direction of Engineering -in -charge ( Dash fastener to be paid for separately)	Meter	200.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
29	9.137	Providing and fixing 50mm tk glazed fire resisting door shutter of 60 munities fire rating conforming to IS:13614 (part-II) tested and certified as per laboratory approved by Engineering -in -charge with suitable mounting on door frame, consisting of vertical styles, lock rail, top rail 100mm wide, bottom rail 200 mm wide, made out of 16 SWG G>I sheet (Zinc coating not less than 120 gm/mm <sup>2</sup> ) dully filled FR insulation material and fixing with necessary stainless tell ball bearing hinges of approved make, including applying a coat of approved fire resistance primer etc. all complete as per direction of Engineering -in -charge (Paneling to be paid for separately)	Sqm	90.00		
30	9.138	Providing and fixing glazing in fire resisting door shutter, fixing panels, and partitions etc. with G.I bearing of approved size made out of 20 SWG G.I sheet (Zinc coating not less than 120 gm/mm <sup>2</sup> ), fire resistant sealant, including applying a coat of approved fire resistant primer on G.I. bearing etc. complete all as per direction of Engineering-in-charge.				
	9.138.1	with clear fire resistant glass panes 6 mm tk of approved brand, having minimum 60 minutes fire resistance.	Sqm	80.00		
31	9.139	Providing and fixing panic bar/ latch (Double point) fitted with a single body, Trim latch & lock on brick side of the panic latch of reputed brand and manufacture to be approved by the Engineering-in-charge.all complete.	Sqm	30.00		
32	9.74	Providing and fixing bright finished brass tower bolts (barrel type) with necessary screws etc. complete :				
	9.74.1	250x10 mm	Nos	8.00		
33	9.75	Providing and fixing bright finished brass door latch with necessary screws etc. complete :				
	9.75.1	300x16x5 mm	Nos	4.00		
34	9.81	Providing and fixing bright finished brass handles with screws etc. complete				
	9.81.1	125 mm	Nos	8.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
35	9.82	Providing and fixing bright finished brass hanging type floor door stopper with necessary screws, etc. complete.	Nos	4.00		
36	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.	Nos	35.00		
37	9.76	Providing and fixing bright finished brass 100 mm mortice latch and lock with 6 levers and a pair of lever handles with necessary screws etc. complete (best make of approved quality).	Nos	35.00		
38	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.				
38.1	9.97.2	250 x 10mm	each	1500.00		
38.2	9.97.4	150 x 10mm	each	600.00		
39	21.13	Providing and fixing 100mm brass locks (best make of approved quality) for aluminum doors including necessary cutting and making good etc. complete	Nos	600.00		
40	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.				
	9.100.2	100mm	Nos	1650.00		
41	9.101	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating note less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade with necessary screws etc., complete.				
	9.101.1	Single rubber stopper	Nos	800.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
42	9.84	Providing and fixing IS : 3564 marked aluminium extruded section body tubular type universal hydraulic door closer with double speed adjustment with necessary accessories and screws etc., complete.	Nos	700.00		
43	9.117	Providing and fixing factory made UPVC door frame made of UPVC extruded section having an overall dimensions as below ( tolerance $\pm 1$ mm ), with wall thickness 2.0mm ( $\pm 0.2$ mm), corners of the door frame to be joined with galvanized brackets and stainless steel screws, joints mitered and plastic welded. The hinged side vertical of the frames reinforced by galvanized M.S. tube of size 19x19 mm and 1mm ( $\pm 0.1$ mm) wall thickness and 3 nos. Stainless steel hinged fixed to the frame complete as per manufacturers Specification and direction of engineering -in-change				
	9.117.1	Extruded section profile size 48x40 mm	meter	1600.00		
44	9.118	Providing and fixing existing door frames:				
	9.118.1	24 mm thick factory made PVC door shutters made of styles and rails of a UPVC hollow section of size 59x24 mm and wall thickness 2 mm ( $\pm 0.2$ mm) with in built edging on both sides. The styles and rails mitered and joint at the corners by means of M.S. galvanized / plastic brackets of size 75x220 mm having wall thickness 1.0 mm and stainless steel screws. The styles of the shutter reinforced by inserting galvanized M.S. tube of size 20x20 mm and 1mm ( $\pm 0.1$ mm) wall thickness. The lock rail made up of " H" section, a UPVC hollow section of size 100x24 mm and 2mm ( $\pm 0.2$ mm) wall thickness, fixed to the shutters styles by means of plastic/ galvanized M.S.'U' cleats. The shutter frame filled with a UPVC multi chambered single panel of size not less than 620mm, having over all thickness of 20mm and 1mm ( $\pm 0.1$ mm) wall thickness. The panes filled vertically and tie bar at two places by inserting horizontally 6mm galvanized M.S. rod and fastened with nuts and washers, complete as per manufacturer's specification and direction of Engineer- in -charge. (for W,C and bath room door shutter).	Sqm	500.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
		<b>Aluminium Windows &amp; Ventilators</b>				
45	21.1	Providing and fixing aluminum work for doors, windows, ventilators and partitions with extruded built up standard tubular sections / appropriate z sections and other sections of approved make confirming to IS : 733 and IS : 1285 fixed with fixed with raw plugs and screws or with fixing clips, or with expansion hold fasteners including necessary filling up of gaps at junctions, at top, bottom and sides with required PVC / neoprene felt etc. Aluminium sections shall be smooth, rust free, straight, mitered and jointed mechanically wherever required including cleat angle, aluminium snap beading for glazing / panelling, C.P. brass / stainless steel screws all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing and panelling 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)	Kgs	37100.00		
46	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 PVC / neoprene gasket required (fittings shall be paid for separately)				
	21.1.2.2	Powder coated aluminium (minimum thickness of powder coating 50 micron)	Kgs	27800.00		
47	21.2	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 aluminium 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	Prelaminated particle board with decorative lamination on both sides.	Sqm	1400.00		
48	21.3	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc., with PVC / 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).				

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
48.1	21.3.2	With float glass panes of 5.5 mm thickness	Sqm	2550.00		
48.2	21.3.3	With float glass panes of 8 mm thickness	Sqm	800.00		
49	9.24	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)				
	9.24.1	Rectangular or square	Sqm	45.00		
50	21.4	Providing and fixing double action hydraulic floor spring of approved brand and manufacture IS : 6315 marked, for doors including cost of cutting floors as required, embedding in floors and cover plates with brass pivot and single piect M.S. sheet outer box with side plate etc., complete as per the direction of Engineer-in-charge.				
	21.4.1	With stainless steel cover plate	Each	210.00		
51	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 Enginner-in-charge complete.				
	21.8.1	Upto 5mm depth and 5mm width	meter	6800.00		
52	21.18	Providing and fixing 12 mm thick frameless toughened glass door shutter of approved brand and manufacture, including providing and fixing top & bottom pivot & spring type fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer-in-charge ( Door handle, lock and stopper etc. to be paid separately)	Sqm	10.00		
53	MR	Providing and fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer-in-charge Door handle, lock and stopper etc.	nos	6.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
54	21.17	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 @ 200mm 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).	Kgs	6750.00		
55	9.64	Providing and fixing ISI marked 85x42mm oxidised M.S. pull bolt lock conforming to IS : 7534 with necessary screws bolts, nut and washers etc. complete.	Each	600.00		
		<b>STEEL WORKS</b>				
56	10.28	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 bolt 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 Engineering-in-charge .( for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc. )	Kgs	10100.00		
57	9.48	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats square or round bars etc . Including priming coat with approved steel primer all complete				
	9.48.2	Fixed to openings with rawl plugs screws etc.	Kgs	52600.00		
58	Code 1220	Providing and fixing Wire mesh (rabbit) nominal wide manufactured out of hot dipped galvanised iron of nominal thickness , along route of walls chipped for services, junction between RCC and brick walls including cost of materials, labour for fixing, with all lead and lifts and all incidental charges, complete as per specification and as directed by the engineer in charge. ( length of mesh only be measured for payment )	meter	3000.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
59	10.2	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete: (OTS area)	Kgs	30500.00		
60	10.6	Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 – part 1 and M.S. top cover of required thickness for rolling shutters.				
60.1	10.06.1	80x1.25mm M.S. laths with 1.25 mm thick top cover.	Sqm	70.00		
60.2	10.7	Providing and fixing ball bearing for rolling shutters.	each	10.00		
		<b>FLOORING</b>				
61	11.3	Cement concrete flooring 1:2:4 (1 cement : 2 coarse and : 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				
	11.3.1	40mm thick with 20mm nominal size stone aggregate.	Sqm	50.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
		<b>GRANITE STONE FLOORING</b>				
62	8.2	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 edges to give high gloss finish etc. complete at all levels.				
	8.2.2.2	Area of slab over 0.50 sqm.	Sqm	3500.00		
62.1	11.24	Extra for pre finished nosing to treads of steps of granite stone.	meter	2900.00		
62.3	MR	Extra for making rough surface / 3 groves to treads of steps of granite stone.	meter	2900.00		
62.4	11.25	Extra for Granite stone flooring in treads of steps and risers using single length up to 2.00 metre	Sqm	2900.00		
63	7.38	Stone cladding work for wall lining upto 10m height with special adhesive over 12mm thick bed of cement mortar 1:3 (1cement : 3coarse sand) including pointing in white cement with an admixture of pigment to match the stone shade.				
	7.38.1.1 & 7297 & 2750	Granite stone 18mm thick of any colour and shade	Sqm	1800.00		
64	8.6	Mirror polishing on marble work/Granite stone work where ever required to give high gloss finish complete.	Sqm	5300.00		
65	8.3.2	Extra for providing edge moulding to 18mm thick granite stone counters. Vanities etc. item including machine polishing to edge to give high glass finish etc. complete as per design approved by Engineer- in - charge.	meter	400.00		
66	8.5	Extra for prviding opening of required size and shape for wash basins/kitchen sink in kitchen platform,vanity counters and similar location in granite stone work including necessary holes for pillar taps etc.including rubbing and polishing of cut edges etc.complete.	Each	175.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
67	8.10	Providing and fixing stone slab table rubbed, edges rounded and polished of size 75x50 cm deep and 1.8 cm thick fixed in urinal partitions by cutting a chase of appropriate width with chase cutter and embedding the stone in the chase with epoxy grout or with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6 mm nominal size) as per direction of Engineer-in-charge and finished smooth.				
	8.10.2	Granite Stone of approved shade	Sqm	50.00		
68	11.20	Chequered precast cement concrete tiles 22mm thick in footpath ,Ramp & courtyard jointed with neat cement slurry mixed with pigment to match the shade of tiles including rubbing and cleaning etc. complete on 20mm thick bed of cement mortar 1:4 (1 cement : 4 coarse sand)				
	11.20.3	Dark shade using ordinary cement	Sqm	2500.00		
		<b>VITRIFIED FLOOR TILES</b>				
69	11.41	Providing and laying polished vitrified floor tile in different sizes (thickness to be specified by the manufacturer) with Acid and / or Alkali resistant tiles and water absorptions less than 0.08% and confirming to IS:15622 of approved make in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement:4 Coard sand) including grouting the joints with white cement and matching pigments etc. complete. (Basic Rate : Rs. 110/Sqft)				
	11.41.2	Size of Tiles 60 x 60 cm	Sqm	10500.00		
70	11.46	Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer) with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make in all colours & shade in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.				
	11.46.2	Size of Tiles 60 x 60 cm	Sqm	1200.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
		<b>KOTA STONE FLOORING</b>				
71	11.26 .1	Kota stone flooring over 20mm (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 1:4 ( 1 cement : 4 coarse sand ) : 25mm thick (Basic Rate: Rs. 45/Sqft)	Sqm	2350.00		
72	11.39	Providing and laying rectified Anti skid Glazed Ceramic floor tiles 300x300mm or more (thickness to be specified by the manufacturer) of 1 st quality conforming to IS : 15622 of approved make in colours white,Ivory, Grey, Fume, Red Brown, 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.	Sqm	1300.00		
73	11.36	Providing and fixing 1st quality joint free germs free ceramic glazed wall tiles confirming to IS: 15622(thickness to be specified by the manufacture)of approved make in all coloures,shades except burgundy,Bottle green,Black of any size as approved by Engineer-In -Charge in skirting,risers of steps and dados over 12mm thick bed of cement Mortor 1:3 (1 cement :3Coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete.	Sqm	27700.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
		<b>POLYVINYL CHLORIDE SHEET FLOORING</b>				
74	MR	Providing and fixing homogeneous antistatic Polyvinyl chloride sheet roll from fused jointed in flooring and skirting in approved pattern on a smooth and damp proof base using rubber based adhesives of approved quality and manufacturer like Dunlop S-758, Fevicol SR 998, Pidilite or equivalent as per IS 3462,BS 2050 & BS 3261 including rolling with light wooden roller weighing about 5 kg and having surface resistance in the range of 4x10 <sup>4</sup> Ω- 5x10 <sup>8</sup> Ω all complete as directed by Engineer-in-charge, in approved colour and shade.- Pidilite Roffler antistatic SL or equivalent. .2 mm Thick sheet	Sqm	2100.00		
75.00	MR	Providing and laying an Epoxy bases Antistaic flooring with the following operations.Preparing the surface of floor by etching ,cleaning etc. Providing and applying one coat of epoxy primer Dr.Fixit pidipoxy EP of M/s pidilite Industries Ltd..Providing and applying one coat of Rofflor Antistatic SL undercoat of M/S Pidilite or equivalent having surface resistance in the range of 3x10 <sup>3</sup> Ω - 9x10 <sup>6</sup> .Ω.Providing and laying with Rofflor Antisstatic SL conductive topcoat of M/S Pidilite or equivalent around 2mm thick,having surface resistance range of 5x10 <sup>4</sup> Ω-1x10 <sup>6</sup> Ω(0.05M Ω to 1 M Ω ) as per the manufacturer etc complete	Sqm	500.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
		<b>ROOFING</b>				
76	12.47	Providing and fixing UV stabilized fibre glass reinforced plastic sheet roofing up to any pitch including fixing with polymer coated 'J' or 'L' hooks, bolts and nuts 8mm dia GI plain/bitumen washers complete but excluding the cost of purling rafters, trusses etc the sheets shall be manufactured out of 2400 TEX panel roving incorporating minimum 0.3% Ultra-violet stabilizer in resin system under approximately 2400 psi and hot cured. They shall be uniform pigmentation and thickness without air pockets and shall confirm to IS 10192 and IS 12866.The sheets shall be opaque or translucent, clear or pigmented, textured or smooth as specified.				
	12.47.1	2mm thick corrugated (2.5" or 4.2" or 6") or step down (2" or 3" or 6") as specified)	Sqm	1200.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
		<b>FALSE CEILING</b>				
77	MR	Providing and fixing in true horizontal level false ceiling grid of XL 24mm system manufactured by M/s. AMF / ARMSTRONG using hot dipped galvanized steel section, exposed surface chemically cleaned capping pre-finished in baked polyest paint wall angle of size 3000 x 19 x 19mm used in the periphery of the ceiling fixed to the wall partition / R.C. Column / band walls with the help of screws at 600 mm C/C. Main runner of size 3000 x 24 x 32mm suspended at a 1200mm C/C by using 2mmdia. G.I. wire hanger securely fixed to the structural soffit of RC slab by using 6mm anchor fastener at every 1200mm (max) and 1200mm long cross tee of size 24 x 27mm to be interlocked between in Main runner at 600mm C/C (max) to form a grid of 1200 x 600mm. 600mm long cross tee of size 24 x 27mm fixed in between 1200mm long cross tee for forming a grid of 600 x 600mm. Finally laying AMF THERMATEX FEINGELOCHT WITH HYGENA COATING NRC 0.6 / ARMSTRONG 15mm thick BIO GUARD CEILING TILES manufactured by M/s. ARMSTRONG WORLD INDUSTRIES LTD having firerating of 60 minutes as per BS 476/23 of 1987, Noise Reduction(for ICU and etc areas)	Sqm	1750.00		
78	MR	Providing and fixing in true horizontal level false ceiling grid of XL 24mm system manufactured by M/s. ARMSTRONG WORLD INDUSTRIES LTD using hot dipped galvanized steel section, exposed surface chemically cleaned capping pre-finished in baked polyest paint wall angle of size 3000 x 19 x 19mm used in the periphery of the ceiling fixed to the wall partition / R.C. Column / band walls with the help of screws at 600 mm C/C. Main runner of size 3000 x 24 x 32mm suspended at a 1200mm C/C by using 2mmdia. G.I. wire hanger securely fixed to the structural soffit of RC slab by using 6mm anchor fastener at every 1200mm (max) and 1200mm long cross tee of size 24 x 27mm to be interlocked between in Main runner at 600mm C/C (max) to form a grid of 1200 x 600mm. 600mm long cross tee of size 24 x 27mm fixed in between 1200mm long cross tee for forming a grid of 600 x 600mm. Finally laying ARM STRONG or AMF THERMATEX FEINFRESKO SK NRC 0.6 / ARMSTRONG 15mm thick MINATUF BUTT EDGE MINERAL FIBRE ACOUSTIC CEILING TILES manufactured by M/s. ARMSTRONG WORLD INDUSTRIES LTD having firerating of 60 minutes as per BS 476/23 of 1987, Noise Reduction (for wards, Dr. rooms, waiting, &common areas)	Sqm	12100.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
79	MR	Exposed ceiling shall be insulated with 50mm thick normal density (not less than 16KG/Cum).Treated for fire quality (TF) Expanded polystyrene on the bottom surface of the exposed ceiling .PVC ravel shall be driven on the ceiling in a pattern 1Mx1/2 M.G.I. Wires shall be drawn from the G.I .screws fix to the ravel.Surface shall be removed thoroughly cleaned with wire brush ;dirt,grease and dust shall be removed thoroughly.A coat of bituminous primer shall be applied over the complete surface of the ceiling .Bitumen grade 85/25 confirming t oIS 702 shall be applied over the complete surface both as adhesive and as vapour barrier at the rate of minimum 1.8 kg/sqmt.no area should left out without Bitumen .50mm thick EPS shall be fixed over the Bitumen drawing the G.I wire through the corners of the four EPS slabs.EPS slabs shall be gripped in position by tying the G.I wire with 4"x4" G.I sheets washers on all corners .All the slab joints shall be packed with Bitumen .	Sqm	12000.00		
80	MR	Supplying and applying two coats with heat reflective paint over weathering course in terrace including materilas ,labour etc complete.- Excel cool coat sun sheital , Sun cool coat.	Sqm	5300.00		
81	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 rate 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				

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
		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 ceilingsection and perimeter channel with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3 layers covering upto 150 mm or both sides of joint and two coats of primer suitable for board, all as per manufacturer's specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer in Charge but excluding the cost of painting with :				
81.1	12.45.2	12.5 mm thick tapered edge gypsum fire resistant board conforming to IS: 2095- Part I.	Sqm	2727.01		
81.2	12.45.3	12.5 mm thick tapered edge gypsum moisture resistant board.	Sqm	1250.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
	13	<b>FINISHING</b>				
		<b>Internal Plastering</b>				
82	13.2.1	15mm cement plaster on the rough side of single or half brick wall of mix : 1 : 4 (1 cement : 4 fine sand)	Sqm	61950.00		
		<b>External Plastering</b>				
83	13.2.1	15mm cement plaster on the rough side of single or half brick wall of mix : 1 : 4 (1 cement : 4 fine sand)	Sqm	17100.00		
83.1	13.22	Extra for plastering exterior walls of height more than 10m from ground level for every additional height of 3m or part thereof				
		more than 10m not exceeding 13m	Sqm	11600.00		
84	13.30	18mm thick moulded cement mortar band in two coats under layer 12mm thick with mortar 1:5(1cement: 5coarse sand) top layer 6mm thick with cement mortar 1:4(1cement:4 fine sand)- 2.5cm wide band	meter	4800.00		
		<b>Ceiling Plastering</b>				
85	13.1.1	12mm cement plaster of mix 1:4 (1 cement : 4 fine sand)	Sqm	2000.00		
		<b>WALL FINISHES</b>				
		<b>INTERNAL</b>				
86	13.60.1	Wall painting with Plastic emulsion paint of approved brand and manufacture to give an even shade –Two or more coats on new work.	Sqm	36250.00		
87	13.43	Applying one coat of cement primer of approved brand and manufacture on wall surface – Cement Primer	Sqm	36250.00		
88	13.68.1	French spirit polishing :				
		Two or more coats on new works including a coat of wood filler.	Sqm	10.00		
89	13.48.3	Painting Steel work with Delux Multi surface paint to give an even shade.Two or more coat applied @ 0.90 ltr/10sqm over an over an under coat of primer applied @ 0.80ltr/10sqm of approved brand or manufacture.	Sqm	2502.00		
90	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.	Sqm	36250.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
		<b>EXTERNAL</b>				
91	13.45	Finishing wall with textured exterior paint of required shade:				
	13.45.1	New work (Two or more coats applied @ 3.28ltr/10 sqm)over and including base coat of water proofing cement paint applied @2.20kg/10sqm)	Sqm	7100.00		
92	13.46	Finishing walls with Acrylic Smooth exterior paint of required shade :				
	13.46.1	New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm).	Sqm	17100.00		
93	13.52	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.				
	13.52.2	On wall surface	Sqm	25.00		
	22	<b>WATER PROOFING</b>				
94	22.3	Providing and laying water proofing treatment to vertical and horizontal surfaces of depressed portions of W.C., kitchen and the like consisting of :				
	i)	Ist course of applying cement slurry @ 4.4 kg.sqm mixed with water proofing compound conforming to IS 2645 in recommended proportions including rounding off junction of vertical and horizontal surface.				
	ii)	IIInd 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)	IIIrd course of applying blown or residual bitumen applied hot at 1.7kg per sq.mm of area.				
	iv)	IVth course of 400 micron thick PVC sheet, (Overlaps at joints of PVC sheet should be 100mm wide and pasted to each other with bitumen @ 1.7 Kg/sq.m)	Sqm	1300.00		
95	22.14.1	Grading roof for water proofing treatment with Cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 10 mm nominal size)	Cum	270.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
96	22.5	Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying : a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm. This layer will be allowed to air cure for 4 hours. b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.	Sqm	5300.00		
97	13.21 + 13.7.1 (Rate arrived )	12 mm cement plaster finished with a floating coat of neat cement of mix 13.7.1 1:3 (1 cement: 3 fine sand)				
		Extra for providing and mixing water proofing material in cement plaster work in proportion recommended by the manufacturers	Sqm	6250.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
		<b>EXPANSION JOINT</b>				
98	5.28	Providing and fixing in position 25mm thick bitumen impregnated fibre board confirming to IS :1838 including cost of primer sealing compound in expansion joints.	100 meter	11000.00		
99	5.27	Providing and filling in position bitumen mix filler of proportion 80 kg of hot bitumen 1 kg of cement and 0.25 cubicmetre of coarse sand for expansion joints – 25mm wide and 25mm depth	100 meter	1900.00		
		<b>MISCELLANEOUS</b>				
100	MR	Supply and Installation of BANDRAIL as approved by Architect of fluted aluminium sections of curved profile finished with powder coating/anodising. Aluminium section shall be 76 mm wide, 1.3 mm thick and maximum length of 3 metres. The section shall be fixed onto the wall/gypsum partition tusing 120 mm long nylon clips fixed at every 610 mm centre to centre.The foil is to be slipped into the slop provided after screw fixing.	meter	1250.00		
101	MR	L shaped Corner Guard of Aluminum extrusions of approved size in lengths of 1.5 meter. Extrusion shall have an extruded PVC cover with all tools and plant etc complete and as directed by the engineer in charge	meter	1250.00		
102	MR	Providing and fixing aluminium Pergolas in OTS as per the drawing with all lead and lifts, material, labour and all other incidental charges, as per the direction of engineer in charge	Sqm	750.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
		<b>STRUCTURAL GLAZING</b>				
103	MR	Providing, fabricating and fixing Semi Unitized Structural glazing system using suitable extruded aluminium section for frames anodised to approved colour of 20 microns. Extruded section to be of aluminium alloy as per ISI 6062 (T5 or T6 with temper) conforming to ASTM B221 or approved equivalent standard. The frames works should have water tight joints and provision for rainwater drainage. MS brackets (hot dip Galvenised) or extruded aluminium section brackets to be fixed to building structure with 10 mm dia anchor fastener. The main aluminium frame to be fixed to bracket with suitable SS bolt/nut washer. The complete framework to be aligned and levelled as required. The reflective glass units are to be glued to separate glass panel frames (made out of suitable aluminium section) with specified /approved structural silicon sealant of Dow corning G.E silicone or approved manufacturer after proper curing & testing sealed manufacture each panel to be fixed to main frame individually with fastners. After aligning the panel to correct line /levels the gaps between the glass panels to be sealed with weather sealant of approved make. The system should be designed to take horizontal and vertical movement upto 10mm for every floor and capable of withstanding wind pressure of 200 kpa				
		Aluminium main frame : vertical & Horizontal - 130 x 55 (2.3Kg/mt)				
		Glass panel frame ;42 x 38mm (0.73 kg/mt)				
		Hermitically sealed Double glass unit overall 23mm thick made of 6mm thick heat strengthened colour coated low emission glass of saint Gobain or equivalent + 12mm air gap + 5mm thick clear annealed glass of saint Gobain or equivalent.	Sqm	750.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
104	MR	Providing and fixing of Aluminium composite panel of approved make and colour for wall cladding for straight Brick/Rcc/stone walls & coloumns/beams with necessary aluminium frame works at required level made out of 50x25x3mm C section or equalent. The panel should consist of 2.5 mm thermoplastic core of antitoxic LDPE sandwiched between 0.25 skins thick aluminium sheet making a total panel thickness of 3mm. The surfaces will be finished with PVDF based coating on topsides and service coating on reverse sides would be in polyester paint. The system shall be fixed using GI brackets, aluminium L cleats and stainless steel bolts and nuts complete with spring washer and cap nuts and all other necessary accessories, sealing shall be done using weather sealant of Dow Corning 789 with necessary rods etc., complete..	Sqm	1800.00		
		<b>CIVIL COST</b>				

## GOVT RAJAJI HOSPITAL , MADURAI

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

## INTERNAL &amp; EXTERNAL PLUMBING AND SANITATION WORKS

Sl.No.	DSR	Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
1	M.R	Providing and fixing white vitreous china <b>Wall Mounted type water closet</b> (European type W.C.pan) with seat and lid, 3/6 litre low level white vitreous Dual Flushing cistern and C.P flush bend with fitting and C.I brackets, 40mm 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. Make:Hindware,Cera,Jaquar etc.,				
a)	M.R	WC pan with ISI marked white solid plastic seat and lid	Nos.	175		
2	17.1	Providing and fixing water closet squatting pan ( <b>Indian type W.C. pan</b> ) with 100mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete including cutting and making good the walls and floors wherever required :				
a)	17.1.1	White Vitreous china Orissa pattern W.C. pan of size 580x440mm with integral type foot rests. Make:Hindware,Cera,Jaquar etc.,	Nos.	50		
3	18.49	Providing and fixing C.P. brass <b>bib cock</b> of approved quality conforming to IS:8931. Make:Hindware,Cera,Jaquar etc.,				
a)	18.49.1	15 mm nominal bore.	Nos.	50		

SI.No.	DSR	Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
4	17.7	Providing and fixing wash basin with CI / MS brackets, 15mm CP brass <b>Pillar taps</b> , 32mm CP brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever required.				
a)	17.7.1	White Vitreous China <b>Wash basin</b> size 630 x 450mm with a single 15mm C.P brass pillar tap. Make:Hindware,Cera,Jaquar etc.,	Nos.	200		
5	17.10	Providing and fixing Stainless Steel A ISI 304 (18/8) 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 :				
	17.10.2	Kitchen sink without drain board				
	17.10.2.1	610x510 mm bowl depth 200 mm.	Nos	50		
6	MR	Providing and fixing C.P. long body sink mixture bib tap of approved quality . Make:Hindware,,Jaquar etc., for sink	Nos	50		
5	MR	Providing and fixing CP <b>Bottle Trap</b> for Wash basin and sink				
5.1		Bottle trap 32mm single piece moulded with height of 270mm, effective length of tail pipe 260mm from the centre of the waste coupling 77mm breadth with 25mm minimum water seal, weighing not less than 260 gms. Make:Hindware,Jaquar etc., for WB	Nos.	200		
5.2		Bottle trap 40mm single piece moulded with height of 270mm, effective length of tail pipe 260mm from the centre of the waste coupling 77mm breadth with 25mm minimum water seal, weighing not less than 260 gms. Make:Hindware,Jaquar etc., for Sink	Nos.	50		
6	17.69	Providing and fixing CP <b>Waste coupling</b> for wash basin and sink of approved quality, colour and make.				

Sl.No.	DSR	Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
a)	17.69.2	b) Waste coupling 32mm of 83mm length and 77mm breadth, weighing not less than 60 gms. Make:Hindware,Jaquar etc.,	Nos.	200		
a)	17.69.2	b) Waste coupling40mm of 83mm length and 77mm breadth, weighing not less than 60 gms. Make:Hindware,Jaquar etc.,	Nos.	50		
7	17.5	Providing and fixing white vitreous china flat back half stall urinal of size 580x380x350mm with white PVC automatic flushing cistern, with fittings, standard size C.P. brass flush pipe, spreaders with unions and clamps (all in C.P. brass) with waste fitting as per IS : 2556, C.I. trap with outlet grating and other couplings in C.P. brass including painting of fittings and cutting and making good the walls and floors wherever required : Make:Hindware,Cera,Jaquar etc.,				
a)	17.5.1	Single half stall urinal with 5 litre P.V.C. automatic flushing cistern.	Nos.	50		
8	17.28	Providing and fixing <b>PVC Waste pipe</b> for sink or wash basin including PVC waste fittings complete.				
	17.28.1	Semi rigid pipe				
	17.28.1.1	32mm dia	each	25.00		
	17.28.1.1	32mm dia	each	10.00		
9	MR	Providing and fixing <b>Soap Dish</b> approved make. Make:Hindware,Cera,Jaquar etc.,	Nos.	130		
10	17.34	Providing and fixing <b>Toilet paper holder</b> . Make:Hindware,Cera,Jaquar etc.,				
	17.34.2	C.P Brass	Nos.	175		

SI.No.	DSR	Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
11	17.31	Providing and fixing 600 x 450mm <b>bevelled edge mirror</b> of superior glass (of approved quality) complete with 6mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	Nos.	200		
12	MR	Providing and fixing <b>CP Towel ring</b> trapezoidal shape 215mm long, 200mm wide with a minimum distances of 37mm from wall face with concealed fittings arrangement of approved quality, colour and make weighing not less than 90 gms. Make:Hindware,Cera,Jaquar etc.,	Nos.	130		
13	18.51	Providing and fixing C.P <b>brass Long body bib cock</b> of approved quality conforming to IS standards and weighing not less than 690gms. Make:Hindware,Cera,Jaquar etc.,				
a)	18.51.1	15mm nominal bore	Nos.	25		
14	18.16	Providing and fixing C.P. brass <b>Stop cock</b> (concealed) of approved quality. Make:Hindware,Cera,Jaquar etc.,				
a)	18.16.1	15mm nominal bore	Nos.	550		
15	M.R.	Providing and fixing of CP brass <b>Two way coat hooks</b> of superior quality with CP screws. Make:Hindware,Cera,Jaquar etc.,	Nos.	270		
16	MR	Providing & fixing of CP <b>Health faucet</b> . Make:Hindware,Cera,Jaquar etc.,				
a)		CP angle stop cock with all flange.				
b)		PVC flexible tube				
c)		Hand operated spray unit (instand type).	Set	175		

Sl.No.	DSR	Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
17	M.R.	Providing and fixing of <b>over head shower set</b> with shower flange 170 mm long, including shower head and shower arm conforming to I.S Specification of approved make as per directions including all lead and lift etc., complete.	Nos.	75		
18	M.R.	Providing and fixing of CP brass 15 mm dia, <b>2 in 1 exposed wall mixer cum spout</b> for wall installation with lever control and necessary CP bend for shower connection, including cutting and making good the walls complete as per sample approved by the EIC.	Nos.	75		
19	18.7	Providing and fixing <b>Chlorinated Polyvinyl Chloride (CPVC)</b> pipes, having thermal stability for Hot and Cold water supply including all CPVC plain and brass threaded fittings including fixing the pipe with clamps at 1.00m spacing. This includes jointing of pipes and fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in caharge. Make:Supreme,Finolex,Prince etc.,				
		<b>Internal Work - Exposed on wall</b>				
a)	18.7.2	20mm nominal outer dia.Pipes	Mtr.	12.00		
b)	18.7.3	25mm nominal outer dia.Pipes	Mtr.	36.00		
c)	18.7.4	32mm nominal outer dia.Pipes	Mtr.	100.00		
d)	18.7.5	40mm nominal outer dia.Pipes	Mtr.	75.00		
e)	18.7.6	50mm nominal outer dia.Pipes	Mtr.	1584.00		

SI.No.	DSR	Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
f)	18.9.7	62.5mm nominal inner dia.Pipes	Mtr.	1596.00		
g)	18.9.8	75mm nominal inner dia.Pipes	Mtr.	50.00		
h)	18.9.9	100mm nominal inner dia.Pipes	Mtr.	3444.00		
20	18.8	Providing and fixing <b>Chlorinated Polyvinyl Chloride (CPVC)</b> pipes, having thermal stability for Hot and Cold water supply including all CPVC plain and brass threaded fittings including fixing the pipe with clamps at 1.00m spacing. This includes jointing of pipes and 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 caharge. Make:Supreme,Finolex,Prince etc.,				
		<b>Concealed work including cutting chases and making good the wall etc.</b>				
a)	18.8.1	15mm nominal outer dia.Pipes	Mtr.	850.00		
b)	18.8.2	20mm nominal outer dia.Pipes	Mtr.	1500.00		
c)	18.8.3	25mm nominal outer dia.Pipes	Mtr.	800.00		
d)	18.8.4	32mm nominal outer dia.Pipes	Mtr.	250.00		

SI.No.	DSR	Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
e)	MR	40mm nominal outer dia.Pipes	Mtr.	50.00		
21	18.18	Providing and fixing <b>Ball Valve (brass)</b> of approved quality, High or low pressure, with plastic floats complete. Make:Lehry,Supreme,Finolex,Prince etc.,				
	18.18.2	20mm dia nominal bore	Nos.	10		
22	18.17	Providing and fixing <b>Gun metal gate valve</b> with C.I. wheel of approved quality (screwed end). Make: Lehry,Supreme,Finolex,Prince etc.,				
a)	18.17.1	25 mm dia nominal bore	Nos.	1050		
b)	18.17.2	32 mm dia nominal bore	Nos.	15		
c)	18.17.3	40 mm dia nominal bore	Nos.	10		
e)	18.17.5	65 mm dia nominal bore	Nos.	5		
f)	18.17.6	80 mm dia nominal bore	Nos.	5		
23	MR	Providing and fixing in position <b>Butterfly Valve</b> with CI wheel of approved quality including cost of all materials and labour with all leads complete as per specifications. Make:Lehry etc.,				

SI.No.	DSR	Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
a)		100 mm dia nominal bore	Nos.	2		
24	18.77	<b>Cutting holes</b> upto 15 x 15 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 20mm nominal size) including finishing complete.	each	60		
25	M.R.	Providing and fixing <b>PVC</b> soil, waste and vent pipe to IS : 13592 of SWR quality 4kg / sq.cm pressure rated up to 110mm dia and 6 kg / sq.cm pressure rated agricultural series above 110mm, including all fittings, like EG : Bends, Tees, Elbows, Collars, junction, inspection doors, cowls, offsets, access pipes, jointing with rubber ring / solvent cement by application of leak proof adhesive like FRP paste including cutting holes in walls and floors and making good. Make:Supreme,Finolex,Prince etc.,				
a)		40mm dia (4kg / sq.cm)	Mtr.	45.00		
b)		50mm dia (4kg / sq.cm)	Mtr.	100.00		
c)		63mm dia (4kg / sq.cm)	Mtr.	15.00		
d)		75mm dia (4kg / sq.cm)	Mtr.	2748.00		
e)		90mm dia (4kg / sq.cm)	Mtr.	10.00		

SI.No.	DSR	Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
f)		110mm dia (4 kg / sq.cm)	Mtr.	1932.00		
		Rain Water Pipe				
h)		110mm dia (6 kg / sq.cm)	Mtr.	35.00		
i)		160mm dia (6 kg / sq.cm)	Mtr.	774.00		
36		Providing and fixing Vent Cowl				
36.1	3735	S.C.I. S&S, Slotted Cowl (Terminal Guard) 100 mm	Nos	60		
36.2	3734	S.C.I. S&S, Slotted Cowl (Terminal Guard) 75 mm	Nos	65		
26	MR	Providing and fixing to the Inlet mouth of rain water pipe S.S grating 150mm diameter and weighing not less than 440 grams.	Nos	30		
27	MR	Providing and fixing to the Inlet mouth of rain water pipe S.S grating 110mm diameter and weighing not less than 440 grams.	Nos	10		
28	12.43	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50mm 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.				

SI.No.	DSR	Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
	12.43.1	75 mm	Nos	10		
	12.43.2	110 mm	Nos	160		
	MR	150 mm	Nos	500		
29	M.R.	Providing and fixing <b>PVC floor trap</b> self cleansing design with or without vent arm complete including cutting and making good the walls and floors. Make:Supreme,Finolex,Prince etc.,				
a)		110mm dia inlet 110mm dia outlet	Nos	100		
b)		50mm dia inlet 75mm dia outlet	Nos	400		
30	M.R	Providing and fixing <b>CP grating</b> of 6mm thick with rim including setting in floor with white cement mortar and making good the floor (Chilli make)				
a)		125mm dia	Nos.	100		
	3300	Gunmetal non-return valve-vertical (screwed end) 80 mm dia	Nos.	10		
	MR	Gunmetal non-return valve-vertical (screwed end) 100 mm dia	Nos.	5		

Sl.No.	DSR	Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
31	18.36	Constructing <b>Masonry Chamber 60x60x75</b> , inside with 75 class designation brick work in cement mortar 1:5 (1 cement : 5 fine sand) for sluice valve, with CI 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 20mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 grades stone aggregate 40mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12mm thick finished with a floating coat of neat cement complete as per standard design.	Nos.	50		
32	19.7	Constructing brick masonry manhole in cement mortar 1:4 ( 1 cement : 4 coarse sand ) with R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size), inside plastering 12mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with 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 complete as per standard design :				
33	19.7.2	Inside size 120x90 cm and 90 cm deep including C.I. cover with frame (medium duty) 500 mm internal diameter, total weight of cover and frame to be not less than 116 kg (weight of cover 58 kg and weight of frame 58 kg) :				
	19.7.2.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Nos.	20		
34	19.7.3	Inside size 120x90 cm and 90 cm deep including C.I. cover with frame (heavy duty) 560 mm internal diameter, total weight of cover and frame to be not less than 208 kg (weight of cover 108 kg and weight of frame 100 kg) :				

SI.No.	DSR	Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
	19.7.3.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Nos.	5		
35	19.8	Extra for depth for manholes				
	19.8.2	Size 120x90 cm				
	19.8.2.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Rmt	50		
32	19.4	Providing and fixing square – mouth <b>S.W. Gully trap</b> grade “A” complete with CI grating brick masonry chamber with water tight CI cover with frame of 300 x 300mm 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				
a)	19.4.2	150 x 100mm size P type.				
b)	19.4.2.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	50		
33	MR	Providing and laying with the base concrete 1:3:6 with <b>UPVC</b> pipes 6.00 kgf/sq.cm working pressure <b>110mm outside diameter</b> , compression type fittings, wall clips, making good the wall, ceiling and floor including cost of all material, labour charges. HOM of equipments and testing, excluding cost of fittings, complete as per specifications. (External Sewerage Line)	Mtr.	100.00		
34	MR	Providing and laying with the base concrete 1:3:6 with <b>UPVC</b> pipes 6.00 kgf/sq.cm working pressure <b>160mm outside diameter</b> , compression type fittings, wall clips, making good the wall, ceiling and floor including cost of all material, labour charges. HOM of equipments and testing, excluding cost of fittings, complete as per specifications. (External Sewerage Line)	Mtr.	1100.00		

SI.No.	DSR	Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
35	MR	Providing and laying with the base concrete 1:3:6 with <b>UPVC</b> pipes 6.00 kgf/sq.cm working pressure <b>200mm</b> inside <b>diameter</b> , compression type fittings, wall clips, making good the wall, ceiling and floor including cost of all material, labour charges. HOM of equipments and testing, excluding cost of fittings, complete as per specifications. (External Sewerage Line)	Mtr.	522.00		
34	2.1	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 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 :				
	2.10.1.2	Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia.	Rmt	1750.00		
36	MR	Providing and laying non - pressure NP3 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)		150mm dia. R.C.C. pipe	Mtrs	50.00		
b)		250mm dia. R.C.C. pipe	Mtrs	75.00		
37	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	Ltrs	15000.00		

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SI.No.	DSR	Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
		TOTAL COST				

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**STORM WATER DRAINAGE**

Sl. No	D.S.R. Code No	Description	Units	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
		<b>EARTH WORK EXCAVATION</b>				
1	2.8	Earth work in excavation in foundation trenches or drains (not exceeding 1.5m in width or 10 sq.m on plan) including dressing of sides and ramming of bottoms, lift upto 1.5m including getting out the excavated soil and disposal of excavated soil as directed, with in lead of 50m..	Cum	700.00		
		All kinds of soil				
	2.26	Extra for every additional lift of 1.5m or part thereof in.				
2	2.10.1	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 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 : All kinds of soil	Cum	400.00		
	2.10.1.2	Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia.				
3	1.1.2	Depositing off excavated materials beyond the initial lead of 50m and upto 5km including the cost of labour, cost of equipment and machinery cost of hire charges of machinery lead & lift loading and unloading, transportation, levelling the excavated material at disposal yard and all other incidental charges etc., complete. The work shall be carried out as per the directions of the Engineer in charge of the works.	cum	500.00		

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Sl. No.	D.S.R. Code No.	Description	Units	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
		<b>CONCRETE WORK</b>				
4	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All works upto plinth level.				
4.1	4.1.6	1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size).	cum	90.00		
4.2	4.1.5	1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).	cum	250.00		
5	4.3	Centering and shuttering including strutting, propping etc. and removal of form work for :				
	4.3.2	Retaining walls, return walls, walls (any thickness) including attached pilasters, buttresses, plinth and string courses fillets, kerbs and steps etc..	sqm	2710.00		
		<b>STEEL REINFORCEMENT</b>				
6	5.22	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete.				
	5.22.6	Termo – Mechanically Treated Bars				
		Upto Plinth level	Kg	5000.00		
		<b>BRICK WORK</b>				
7	19.30	Constructing brick masonry chamber for underground C.I. inspection chamber and bends with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg), R.C.C. top slab with 1:2:4 mix (1 cement :2 coarse sand : 4 graded stone aggregate 20 mm nominal size) foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete as per standard design :				

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Sl. No.	D.S.R. Code No.	Description	Units	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
		Inside dimensions 455x610 mm and 45 cm deep for single pipe line :				
	19.30.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	20		
8	19.31	Extra for depth beyond 45 cm of brick masonry chamber :				
	19.31.1	For 455x610 mm size	Rmt	20.00		
	13	<b>FINISHING</b>				
9	13.7	12 mm cement plaster finished with a floating coat of neat cement of mix :				
	13.7.1	1:3 (1 cement: 3 fine sand)	sqm	2150.00		
10	MR	Providing and laying u 160mm redgid uPVCn 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.for connecting rain water to drain including all specialist fittings etc complete.	Rmt	400		
11	MR	Conveying from casting yard and placing in position precast R.C.C cover slab of drain, including of all labour, mortar for leveling, etc complete.	each	1024		

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**NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.**

**RAIN WATER HARVESTING**

SI.NO	D.S.R. Code No	Description	Units	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
<b>1</b>		<b>EARTH WORK EXCAVATION</b>				
1.1	2.80	Earth work in excavation in foundation trenches or drains (not exceeding 1.5mm in width or 10 sq.mm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5mm including getting out the excavated soil and disposal of excavated soil as directed, with in lead of 50m..				
1.1.2		All kinds of soil	Cum	300		
1.2	2.26	Extra for every additional lift of 1.5m or part thereof in.				
1.2.1	2.26.1	<b>All kinds of soil</b>	cum	210		
1.3	2.27	Supplying and filling, in plinth with river sand under floors including, watering, ramming consolidating and dressing complete.	cum	151		
1.4	1.1.1	Deposing off excavated materials beyond the initial lead of 50m and upto 2 km including the cost of labour, cost of equipment and machinery cost of hire charges of machinery lead & lift loading and unloading, transportation, levelling the excavated material at disposal yard and all other incidental charges etc., complete. The work shall be carried out as per the directions of the Engineer in charge of the works.	cum	510		
<b>2</b>		<b>CONCRETE WORK</b>				
2.1	4.10	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All works upto plinth level.				
2.1.1	4.1.8	1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	cum	19		

Sl.NO	D.S.R. Code No	Description	Units	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
3		<b>RCC WORK</b>				
3.1	5.36	Providing and placing in position precast reinforced cement concrete <b>perforated slab</b> square or rectangular as per design and shape in 1:1.5:3 ( 1 cement 1.5 coarse sand : 3 graded stone aggregate 10mm nominla size) including finishing smooth with 6mm thk cement mortar 1:3 ( 1 cement : 3 sand) on exposed surface. Providing formwork in precasting handling,hoisting ,centering and erection,flush or deep ruled pointing at joints in CM 1:2 (1 Cement : 2 coarse sand) etc complete but excluding cost of reinforcement.	cum	15.00		
4		<b>REINFORCED STEEL</b>				
4.1	5.22	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete.				
4.1.1	5.22.6	Termo – Mechanically Treated Bars				
		a) Upto Plinth level	Kg	1500		
5		<b>BRICK WORK</b>				
5.1	6.1.	Brick work with with F.P.S. brick of class designation 50 in foundation and plinth in:				
5.1.1	6.1.2	Cement mortar 1:6 (1 cement :6 coarse sand)	cum	158		
6		<b>FILLING</b>				
6.1	7754 & 6501&2.27	Supplying and filling, in plinth with Gravel under floors including, watering, ramming consolidating and dressing complete.	cum	66		
6.2	16.3.4&2.25	Supplying and Stacking and laying of brick aggregate 120mm to 40mm	Cum	66		

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SI.NO	D.S.R. Code No	Description	Units	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
7		<b>PIPES</b>				
7.1	19.60	Providing and laying of non - pressure NP2 (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.				
7.1.1	19.6.2	150mm dia	Rmt	50.00		
		<b>TOTAL COST</b>				
Note: 30 No's of Rain water harvesting pits						

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**INTERNAL ROADS**

SI.No.	DSR	Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
1	2.6.1	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 upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. All kind of soil	Sqm	800.00		
2	16.1	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating the 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	Sqm	2750.00		
3	16.79	Providing, laying, spreading and compacting graded stone aggregate (size range 53 mm to 0.075 mm ) to wet mix macadam (WMM) specification including premixing the material with water at OMC in mechanical mix plant, carriage of mixed material by tipper to site, for all leads & lifts, laying in uniform layers with mechanical paver finisher in sub- base / base course on well prepared surface and compacting with vibratory roller of 8 to 10 tonne capacity to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge.	cum	800.00		

SI.No.	DSR	Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
4	16.55	Providing and laying bituminous macadam using crushed stone aggregates of specified grading premixed with bituminous binder, transported to site by tippers, laid over a previously prepared surface with paver finisher equiped with electronic sensor to the required grade, level and alignment and rolling with smooth wheeled, vibratory and tandem rollers as per specifications to achieve the desired compaction and density, complete as per specificatons and directions of Engineer-in-Charge.				
	16.55.1	50 mm average compacted thickness with bitumen of grade VG-30 @3.50% (percentage by weight of total mix) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity.	cum	150.00		
5	16.56	Providing and laying semi- dense Bituminous concrete using crushed stone aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site by tippers, laying with paver finisher equiped with electronic sensor to the required grade, level and alignment and rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction and density as per specification, complete and as per directions of Engineer-in-Charge.				
	16.56.1	25 mm compacted thickness with bitumen of grade VG-30 @5% (percentage by weight of total mix) and lime filler @ 2% (percentage by weight of Aggregate) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity.	Sqm	2750.00		
6	16.75	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 diretions of Engineer-in-charge(The panel shuttering work shall be paid for separately)	Cum	50.00		

SI.No.	DSR	Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
7	16.68	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 coarse sand filling the joints with coarse sand etc.all complete as per the direction of Engineer- In charge.	Sqm	1000.00		
8	16.69	Providing and laying at or near ground level factory made kerb stone of M-25 cement in position to the required line, level and curvature jointed with cement mortar 1:3 (1cement :3 coarse sand ) including making joints with or without grooving (thickness of joints except at sharp curve shall not be 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.)	Cum	50.00		
9	13.62	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade				
	13.62.1	Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture.	Sqm	310.00		

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

SI.No.	DSR	Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
10	16.48	Painting road surface marking with adequate no. of coats to give uniform finish with ready mixed road marking paint conforming to IS : 164, on bituminous surface in white/yellow shade including cleaning the surface of all dirt, scales, oil, grease and foreign material etc. complete.				
	16.48.1	New work (Two or more coats).	Sqm	20.00		
		<b>TOTAL COST</b>				

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

**GOVT RAJAJI HOSPITAL , MADURAI**  
**NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.**

**INTERNAL ELECTRICAL SUMMARY**

<b>S.NO</b>	<b>DESCRIPTION</b>		<b>Amount (Rs. in words &amp; in figures)</b>
I	POINT WIRING	Rs.	
II	SUB-DISTRIBUTION BOARDS	Rs.	
III	LT UG CABLES	Rs.	
IV	EARTHING & LIGHNING PROTECTION	Rs.	
V	TELEPHONE AND NET WORK SYSTEM	Rs.	
VI	LIGHTING FIXTURES	Rs.	
	<b>TOTAL COST</b>	Rs.	

GOVT RAJAJI HOSPITAL , MADURAI

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

INTERNAL ELECTRICAL WORKS FOR -KONNI

CODE NO(see Note)	Sl. No	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
SR is for Schdl. Of Rates as per CPWD	I	<b>POINT WIRING</b>				
MR is for Mkt Rate	1	Point Wiring in Steel Conduit with Modular Type Switch:				
SR		Wiring for light point / fan point / exhaust fan point / call bell point with 1.5 sq.mm FR PVC insulated copper conductor single core cable in surface/recessed steel conduit with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sqmm, FR PVC insulated copper conductor single core cable etc. as required.				
1.3.3		Group C	Point	2900		
	2	Twin control point wiring in steel conduit, with modular type switch				
1.40		Wiring for twin control light point with 1.5sq.mm FR PVC insulated copper conductor singlecore cable in surface/ recessed steel conduct, 2 way modular switch, modular plate, suitable GI box and earthing the point with 1.5 SQ MM FR PVC insulated coppber conductor single core cable etc as required				
		Group C	Point	40		
MR		Two Light Point control point wiring in steel conduit, with modular type switch				
		Wiring for two light point with 1.5sq.mm FR PVC insulated copper conductor singlecore cable in surface/ recessed steel conduct, one modular switch, modular plate, suitable GI box and earthing the point with 1.5 SQ MM FR PVC insulated coppber conductor single core cable etc as required	Point	40		
		Three Light Point control with point wiring in steel conduit, with modular type switch				
MR		Wiring for three light point with 2.5sq.mm FR PVC insulated copper conductor singlecore cable in surface/ recessed steel conduct, One modular switch, modular plate, suitable GI box and earthing the point with 1.5 SQ MM FR PVC insulated coppber conductor single core cable etc as required	Point	25		
		<b>Five Light Point control point wiring in steel conduit, with 10A MCB</b>				

CODE NO(see Note)	Sl. No	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
MR		Wiring for Five light point with 2.5sq.mm FR PVC insulated copper conductor singlecore cable in surface/ recessed steel conduct, One 10A MCB, modular plate, suitable GI box and earthing the point with 1.5 SQ MM FR PVC insulated copper conductor single core cable etc as required	Point	15		
		<b>Light Point control with point wiring in steel conduit, with existing MCB located in DB</b>				
MR		Wiring for Three light point with 1.5sq.mm FR PVC insulated copper conductor singlecore cable in surface/ recessed steel conduct for controlling from Existing MCB in DB and earthing the point with 1.5 SQ MM FR PVC insulated copper conductor single core cable etc as required	Point	25		
MR		Wiring for Five light point with 2.5sq.mm FR PVC insulated copper conductor singlecore cable in surface/ recessed steel conduct for controlling from Existing MCB in DB and earthing the point with 1.5 SQ MM FR PVC insulated copper conductor single core cable etc as required	Point	15		
	3	Power Plug Wiring in Steel Conduit (2X4 Sq.mm):				
1.50		Wiring for light/power plug with 2 X 4 sq.mm FR PVC insulated copper conductor single core cable in surface/recessed steel conduits along with 1 no. 4 sqmm FR PVC insulated copper conductor single core cable for loop earthing as required.	Mts	400		
1.60	4	For 2 Nos Power plugs in one pipe wiring for light power plug with 4x4 sqmm FR PVC insulated copper conductor single core cable surface/ recessed steel conduit along with 2 Nos 4mm FR PVC insulated copper conductor single core cable for loop earthing as required	Mts	150		
1.70	5	Circuit / Submain Wiring in Steel Conduit:				
		Wiring for circuit/submain wiring along with earth wire with the following sizes of FR PVC insulated copper conductor, single core cable in surface/recessed steel conduit as required.				
1.7.1	a)	2x1.5sq.mm + 1x1.5sq.mm earth wire	Mts	10000		
1.7.2	b)	2x2.5sq.mm + 1x 2.5sq.mm earth wire	Mts	13000		
1.7.3	c)	2 x4sq.mm +1x 4sq.mm earth wire [ For 16A Plugs]	Mts	8000		

CODE NO(see Note)	Sl. No	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
1.7.4	d)	2 X 6 sqmm + 1 x 6 sqmm earth wire [ For 20A Plugs and for Solare DBs]	Mts	3000		
1.7.9	e)	4 x 4 sq mm + 2 x 4 sqmm earth wire	Mts	800		
1.7.10	f)	4 x 6 sqmm + 2 x 6 sqmm earth wire	Mts	500		
1.7.11	g)	4 x 10 sqmm + 2 x 10 sqmm	Mts	300		
	6	S/F MS Conduit:				
		Supplying and fixing of following sizes of steel conduit along with 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.				
1.20.1	a)	20 mm	Mts	1000		
1.20.2	b)	25 mm	Mts	1000		
1.20.3	c)	32 mm	Mts	400		
1.20.4	d)	40 mm	Mts	300		
1.20.5	e)	50 mm	Mts	100		
	7	S/F Metal Boxes:				
		Supplying and fixing of following sizes (nominal size) on surface or in recess with suitable size of phenolic laminated sheet cover in front including painting etc as required.				
1.22.1	a)	75mm x 75 mm x 60mm deep	Each	100		

CODE NO(see Note)	Sl. No	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
1.22.2	b)	100mm x 100mm x 60mm deep	Each	80		
1.22.3	c)	150mm x 75mm x 60 deep	Each	60		
1.22.4	d)	150mm x 150mm x 60 deep	Each	40		
1.31	8	S/F 1 no 6A Plug Point Modular Type Accessories: Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess including providing and fixing 1 NO 3 pin 6 amps modular socket outlet and 6 amps modular switch, connection, painting etc. as required (For , Independant Socket Outlets,FCU etc)	Each	1050		
MR	9	S/F 2 nos 6A Plug Point Modular Type Accessories( Data Point etc) Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess including providing and fixing 2 Nos 3 pin 6 amps modular socket outlet and 6 amps modular switch, connection, painting etc. as required	Each	290		
MR	10	S/F 3 nos of 6A Plug Point Modular Type Accessories( In OTs) Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess including providing and fixing 3 Nos of 3 pin 6 amps modular socket outlet and 3 Nos of 6 amps modular switch, connection, painting etc. as required	Each	60		
	12	S/F Power Plug Point Modular Type Accessories: Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess including providing and fixing 6 pin 16 & 6 amps modular socket outlet and 16 amps modular switch, connection, painting etc. as required	Each	400		
2.18	13	S/F 20A SPN MCB industrial socket outlet:				
		Supplying and fixing 20 amps, 240 volts, SPN industrial type, socket outlet, with 2 pole and earth, metal enclosed plug top along with 20 amps `C' series, SP, MCB in sheet steel enclosure on surface or in recess, with chained metal cover for the socket outlet and complete with connections testing and commissioning etc, as required.	Each	40		
2.20	14	S/F 32A TPN MCB industrial socket outlet:				

CODE NO(see Note)	Sl. No	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
		Supplying and fixing 32 amps, 415volts, TPN industrial type, socket outlet, with 3 pole,Neutral and earth, metal enclosed plug top along with 30amps 'C' series, TPN, MCB in sheet steel enclosure on surface or in recess, with chained metal cover for the socket outlet and complete with connections testing and commissioning etc, as required.	ea	12		
		<b>TOTAL OF POINT WIRING CARRIED OVER TO SUMMARY</b>				
	<b>II</b>	<b>SUB-DISTRIBUTION BOARDS</b>				
	15	S/F Prewired TP MCB DB: Supplying and fixing of following Three pole and neutral, prewired, sheet steel, MCB distribution board, 7 segments 415 volts, on surface / recess, complete with loose wire box, terminal blocks, duly prewired with suitable size FR PVC insulated copper conductor up to terminal blocks, tinned copper busbar, neutral link, earth bar, din bar, detachable gland plate, interconnections, phosphatized and powder painted including earthing etc, as required (But without MCB / RCCB / Isolator)				
2.8.8	a)	12 way (4 +36 ) Double door	Nos	15		
2.8.7	b)	8 way (4 + 24) Double Door	Nos	16		
2.8.6	c)	6 way ( 4 + 18 ) Double Door	Nos	6		
2.8.5	d)	4 way (4 + 12 )Double Door	Nos	1		
SR	16	S/F Prewired DP MCB DB: Supplying and fixing of following Double pole and neutral, prewired, sheet steel, MCB distribution board, 230 volts, on surface / recess, complete with loose wire box, terminal blocks, duly prewired with suitable size FR PVC insulated copper conductor up to terminal blocks, tinned copper busbar, neutral link, earth bar, din bar, detachable gland plate, interconnections, phosphatized and powder painted including earthing etc, as required (But without MCB / RCCB / Isolator)				
2.7.2	a)	2 + 8 way Single door	Nos	3		

CODE NO(see Note)	Sl. No	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
2.7.3	b)	2 + 12 way Single door	Nos	5		
2.7.1	c)	2 + 4 way single door	Nos	3		
	17	Supplying and fixing 6 amps to 32 amps rating, 240 volts 'c' series, miniature circuit breaker suitable for lighting and other loads of following poles in the existing MCB DB complete with connections,m testing and commissioning etc, as required				
2.10.1	a)	Single pole	Each	1140		
2.10.3	b)	Double Pole	Each	6		
MR		63A DP MCB	Each	15		
MR		40A DP MCB	Each	30		
		Triple Pole				
2.10.4	c	32A TPN MCB	Each	10		
MR	d	63 A TPN MCB	Each	25		
MR	e	40 A TPN MCB	Each	5		
2.14	18	Supplying and fixing 32 amps to 63 amps rating, 240 voltsRCCB UPTO 300 mA SENSITIVITY suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc, as required.				
		Double Pole				

CODE NO(see Note)	Sl. No	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	a)	63 A DP RCCB	Each	30		
	b)	40A DP RCCB	Each	42		
	c)	32 A DP RCCB	Each	3		
	19	Supply and installation of the following TPN MCCB/MCB / Change over switches on suitable MS box for housing MCCB, fixed with suitable Angle Iron Frame work with internal and earth wire connection complete with all accessories				
MR	a)	315A TPN MCCB 36 KA with Thermal and Magnetic trip( 4 Nos for HVAC)	No	8		
	b)	250A TPN MCCB 36 KA with Micro-Processor Releases	No	2		
	c)	200A TPN MCCB 36KA with uP Releases	No	3		
	e)	100A TPN MCCB 25 KA with Thermal and Magnetic trip	No	5		
	f)	63A TPN MCCB 16KA with Thermal and Magnetic trip	No	7		
	g)	32A TPN MCB,10KA	No	5		
	h)	32A DP Two Way C/O Switch	No	10		

CODE NO(see Note)	Sl. No	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
MR	20	Supply installation testing and commissioning of 32 A TPN MCB on suitable MS box with 1 No. DOL starter with build in single phase preventor Suitable upto 5 HP on a suitable AI frame work with connection with earth connection with all accessories	Each	10		
MR	21	Supply installation testing and commissioning of 32 A TPN MCB in suitable MS box with 1No. DOL starter with build in single phase preventor suitable upto 1.5 HP on a suitable MS frame work with connection with earth connection with all accessories	Each	10		
		<b>TOTAL OF SUB-DISTRIBUTION BOARDS CARRIED OVER TO SUMMARY</b>				
	<b>III</b>	<b>LT UG Cables</b>				
	22	Supply of following sizes of 1.1 kV grade XLPE insulated and PVC Inner & outer sheathed ,Steel Wire armoured,Stranded AI Conductor, power cables(A2FXY/A2XWY) complete as required as per IS:7098 PART-1specification.				
	A	Aluminium Conductor Cable				
MR		a) 3.5 C x 300 sq.mm	Mtr	1000		
		b) 3.5 C x 240 sq.mm	Mtr	150		
		c) 3.5 C x 185 sq.mm	Mtr	150		
		d) 3.5 C x 120 sq.mm	Mtr	200		
		e) 3.5 C x 70 sq.mm	Mtr	200		
		f) 3.5 C x 50 sq.mm	Mtr	350		
		g) 3.5 C x 35 sq.mm	Mtr	50		
		h) 3.5 C x 25 sq.mm	Mtr	1800		

CODE NO(see Note)	Sl. No	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
		i) 4 x 16 sqmm	Mtr	1000		
		j) 4 x 10 Sq.mm	Mtr	800		
		k) 4 x 6 sqmm	Mtr	1500		
		l) 2 x 16 sqmm	Mtr	350		
		m) 2 x 10 sqmm	Mtr	100		
MR	B	Supply of following sizes of 1.1 kV grade PVC insulated and PVC sheathed, unarmoured, Stranded Cu Conductor, power cables complete as required as per IS: 1554 specification.				
		a) 3 C x 10 Sqmm Copper cable	Mtr	50		
		b) 3 C x 6 Sqmm Copper cable	Mtr	400		
		c) 3 C x 4 Sqmm Copper cable	Mtr	200		
MR	23	Laying of one number XLPE / PVC insulated and PVC sheathed power cable of 1.1 KV grade of size exceeding 120 sq.mm but not exceeding 400 sq.mm				
		a) 3.5 C x 300 sq.mm	Mtr	1000		
		b) 3.5 C x 240 sq.mm	Mtr	150		
		c) 3.5 C x 185 sq.mm	Mtr	150		

CODE NO(see Note)	Sl. No	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)	
MR	24	a) 3.5 C x 120 sq.mm	Mtr	200			
		b) 3.5 C x 70 sq.mm	Mtr	200			
		c) 3.5 C x 50 sq.mm	Mtr	350			
		d) 3.5 C x 35 sq.mm	Mtr	50			
		e) 3.5 C x 25 sq.mm	Mtr	1800			
		f) 4 x 16 sqmm	Mtr	1000			
		g) 4 x 10 Sq.mm	Mtr	800			
		gh) 4 x 6 sqmm	Mtr	1500			
		i) 2 x 10 sqmm	Mtr	350			
		j) 2 x 16 sqmm	Mtr	100			
			25	a) 3 C x 10Sqmm Copper cable	Mtr	350	
		b) 3 C x 6 Sqmm Copper cable	Mtr	100			
		c) 3 C x 4 Sqmm Copper cable	Mtr	60			

CODE NO(see Note)	Sl. No	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	26	Supply and making end termination with brass double compression gland and aluminium lugs for following size of PVC/XLPE insulated and PVC sheathed aluminium conductor cable of 1.1 kV grade as required.				
MR		a) 3.5 C x 300 sq.mm	Nos	50		
		b) 3.5 C x 240 sq.mm	Nos	18		
		c) 3.5 C x 185 sq.mm	Nos	16		
		d) 3.5 C x 120 sq.mm	Nos	26		
		e) 3.5 C x 70 sq.mm	Nos	32		
		f) 3.5 C x 50 sq.mm	Nos	30		
		g) 3.5 C x 35 sq.mm	Nos	2		
		h) 3.5 C x 25 sq.mm	Nos	112		
		i) 4 x 16 sqmm	Nos	12		
		j) 4 x 10 sqmm	Nos	84		
		k) 4 x 6 Sq.mm	Nos	80		
		l) 2 x 16 sqmm	Nos	6		
		m) 2 x 10 sqmm	Nos	4		

CODE NO(see Note)	Sl. No	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
MR		n) 3 C x 6 Sqmm Copper UG cable	Each	40		
		o) 3 C x 4 Sqmm copper UG cable	Each	60		
MR	27	Supplying of cable route marker with 10 cm x 10 cm x 5 mm thick GI plate with inscription thereon, bolted / welded to 35mm x 35mm x 6mm angle iron, 60 cm long and fixing the same in ground as required.	Nos	100		
SR-2012		<b>CABLE TRAY</b>				
4.10	28	Fabricating and installing following size of perforated MS cable trays including horizontal and vertical bends, reducers, tees, cross members and other accessories as required and duly suspended from the ceiling with MS suspenders and including painting etc. as required.				
4.1.14		a) 600 mm width x 75mm depth x 2.0 mm thickness	Mtr	50		
4.1.8		b) 300 mm width x 62,5 mm depth x 1.6 mm thickness	Mtr	500		
4.1.10		c) 450 mm x 62.5 mm depth 2 mm thickness	Mtr	200		
4.1.2		d) 150mm x 50 mm x 1.6mm Thick	mtr	300		
		<b>TOTAL FOR LT CABLES TO BE CARRIED OVER TO SUMMARY</b>				
SR-2012	<b>IV</b>	<b>EARTHING &amp; LIGHTNING PROTECTION</b>				
5.60	29	Copper earth plate electrode: 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 etc with charcoal or coke and salt complete as required.	Set	20		
5.40	30	Earthing with GI 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 etc. with charcoal or coke and salt complete as required.	Set	32		

CODE NO(see Note)	Sl. No	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
5.20	31	Providing and fixing earth bus of 50 mm x 6 mm copper strip on surface for connections, etc. as required.	Mtr	200		
MR	32	Providing and fixing earth bus of 50 mm x 6 mm G.I strip on surface for connections, etc. as required.	Mtr	3000		
5.14	33	P/F 25mmX5mm copper earth strip in surface/ recess: Providing and fixing 25 mm x 6 mm Copper strip on surface or in recess for earth connections etc. as required.	Mts	375		
5.15	34	P/F 25mmX5mm GI earth strip in pipe: Providing and fixing 25 mm x 5 mm GI strip on surface or in recess for earth connections etc. as required.	Mts	2600		
5.11	35	Providing and fixing 25 mm x 6 mm GI strip in 40 mm dia GI pipe from earth electrode as required.	Mtr	300		
5.19	36	Supply and providing 4MM copper wire on surface or in recess for earth connection	Mts	2500		
MR	37	Supply and providing 8 SWG GI wire on surface or in recess for earth connection	Mts	6500		
		<b>LIGHTNING PROTECTION</b>				
		Providing and fixing(P&F)of lightning conductor finial, made of 25 mm				
MR		dia 1200mm long, copper tube, having single prong at top, with 85				
		mm dia 3mm thick copper base plate including holes etc.	Each	8		
		<b>complete as required.</b>				
6.5		P/F Copper Lightning Conductor Tape in Horizontal Run: Providing and fixing copper tape 20mm x 3 mm thick on parapet or surface of wall for lightning conductor complete as required.	Mts	500		
6.6		P/F Copper Lightning Conductor Tape in Vertical Run: Providing and fixing copper tape 20mm x 3 mm thick on parapet or surface of wall for lightning conductor complete as required. [For vertical run]	Mts	200		

CODE NO(see Note)	Sl. No	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
6.11		P/F Testing Joint for Copper Lightning Conductor: Providing & fixing testing joint made of 20 mm x 3 mm thick copper strip, 125 mm long with 4 nos. of tinned brass bolts, nuts, check nuts and spring washers, etc. complete as required.	Each	8		
6.13		P/f Copper Earth Tape for Lightning Conductor: Providing and laying copper tape 32 mm x 6 mm thick from earth electrode directly in ground as required.	Mts	500		
		<b>TOTAL OF EARTHING &amp; LIGHNING PROTECTION CARRIED OVER TO SUMMARY</b>				
MR	V	<b>TELEPHONE ,MTVA AND NET WORK SYSTEM</b>				
	38	Supply and fixing of following sizes of PVC conduit in surface or in recess including painting the conduit in case of surface or making good the wall/damages in case of recess as required.				
	a)	20 mm dia	Mtr	4200		
	b)	25 mm dia	Mtr	100		
	c)	32 mm dia	Mtr	300		
	39	Supplying and drawing following pair 0.5 sq mm FR PVC	Mtr	3500		
SR 1.18.2		insulated annealed copper conductor, unarmored telephone cable in the existing surface/ recessed steel/ PVC conduit as reqd.				
1.24.6+1.27+labour	40	Supplying and fixing Telephone socket ( RJ-11) on the modular plate including connections with modular plate& switch box as reqd.	No	150		
1.24.7+1.27+labour	41	Supplying and fixing following modular TV socket(RG_6) on the modular plate & switch box including connections , G.I.Box & modular plate as reqd.	No	25		
	42	Providing, laying and fixing following dia G.I. pipe (medium class)				

CODE NO(see Note)	Sl. No	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
		in ground complete with G.I. fittings including trenching (75 cm deep) and re-filling etc as required				
14.13.2		80mm Dia	Mtr	200		
MR	43	Surface/ Flush mount, single port face plate with RJ-45 Outlet in MS box Complete Make: D-link/LEGRAND	Nos	120		
MR		Surface/Flush mount, Double port face plate with RJ-45 Outlet in MS box Make: D-link/LEGRAND	Nos	30		
		<b>TOTAL OF TELEPHONE&amp; Mmisc SYSTEM CARRIED OVER TO SUMMARY</b>				
	<b>VI</b>	<b>LIGHTING FIXTURES</b>				
		Supply of following light fixtures shall be complete with electronic ballast, lamp holder, lamp,starter, starter holder and condenser to improve power factor duly wired up for use on 240V single phase 50 Hz AC supply.				
		All fittings should be fitted with electronic ballast of THD less than 10%				
MR	44	2'x2' ,2 x 36 W CFL ,Recess type fitting with 2 Nos 36W CFL lamp all accessories complete	Nos	530		
		Philips FBS580/236CNNODMMHPF / Wipro WVP 52236 SGW/Bajaj BCT1236 CFL				
MR	45	1 x 18 W CFL surface mounted CFL fitting with 1 No 18 W CFL lamp with all accessories complete	Nos	20		
		WIPRO Cat : No FWP 42118 /Philips				
MR	46	1x 18 W CFL Recess Mount Round CFL fitting with 1Nos 18 CFL lamps with all accessories complete	No	1050		
		Wipro WCP28118SGW,Philips FBH145/118HF				
MR	47	1 x 28 W T5 Surface mounting fluorescent lumminarire CRCA sheet steel box type fitting with electronic ballast with 1No 28W T5 Lamp with all accessories complete.	No	360		
		Philips TMS 122 /128 HF, Wipro Saviour WIF 20128 SGW				
		Bajaj BTIP 128LHD				
MR	49	2 x 28 W T5 surface Mounting fluorescent lumminarire CRCA sheet steel box type fitting with electronic ballast with 2 Nos 28W lamp with all accessories complete.	No	80		
		Philips TMS 122/228 HF, Wipro WIF 20228 SGW				
		Bajaj BLPR 228				

CODE NO(see Note)	Sl. No	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
MR	50	1' x 1' Recess Mounting fitting 2 x 18 W CFL complete with 2 Nos of 18W CFL Lamp & all accessories.	No	220		
		Wipro WCP 17218 /PHILIPS FBS 300/218 P5				
		Bajaj BCLA01218 CFL				
MR	51	1 x 9 W CFL Bulk Head fitting with 1 No 9 W CFL Lamp with all accessories complete	No	235		
		WIPRO WKP14109 / Philips FXC-101				
MR	52	2 x 36 W Surface Mount T8 Floresent fitting with Electronic balast with 2 Nos of 36W Lamps with all accessories complete	No	25		
		Philips TBS 669 / 228 MDGNHF,Wipro WIF 58228 SGW				
		Bajaj BLCXR 1/128-ACRTz				
MR	53	2 x 18 W CFL Recess Mount Round CFL fitting with 2 Nos 18 CFL lamps with all accessories complete	No	125		
		Wipro WCP28218SGW,Philips FBH145/218HF(EBW)				
MR	54	Supply and fixing of 2 x 40 W Twin street light fitting in suitable 32mm GI pipe of length 1 1/2 mts fixed in the wall with suitable MS clamp with internal connection complete with all accessories	Nos.	50		
	55	1x70W MH ftg with Integrated Control gear & 70 W MH Lamp in die cast al housing with IP:65 Enclosure	Nos.	15		
		Wipro Type WHH 96070S				
MR	56	LED Ltg 1x4W,recess Type,spot light Ftg with prismatic lens,LED lamp etc Complete	No	20		
		Wipro Type LD35-XXX-50-XX				
		<b>WALL/CEILING/EXHAUST FANS</b>				
MR	57	Supply of Decorative Wall fan 40 mm sweep,230V.1Ph, complete with Openable mesh Cover ,string Operated .	No	125		
		M/s.Crompton/Bajaj/Khaithan/Usha				
MR	58	Supply of ceiling fan 1200 mm sweep,230V,1Ph, complete with double ball bearing, motor blades, down rods, canopy, capacitor etc., with electronic regulator step down type complete as required.	No	50		
		M/s.Crompton/Bajaj/Khaithan/Usha				

CODE NO(see Note)	Sl. No	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
MR	59	Supply of 300 mm dia Heavy Duty Industrial type air exhaust fan complete with louvers and provision of cable from ceiling rose/connector to fan. M/s.Crompton/GE/Khaithan/Usha	No	180		
MR	60	Supply of 375 mm dia Heavy Duty Industrial type air exhaust fan complete with louvers and provision of cable from ceiling rose/connector to fan. M/s.Crompton/GE/Khaithan/Usha	Nos	10		
<b>INSTALLATION OF LIGHTING FIXTURES AND FANS</b>						
DSR 2012 : 1.41	61	ITC Fluorescent Fitting Directly on Surface: Installation, testing and commissioning of prewired, fluorescent fittings/compact fluorescent fitting of all types, complete with all accessories and tube etc. directly on ceiling/wall, including connections with 1.5 sq.mm FR PVC insulated, copper conductor, single core cable and earthing etc. as required.	Each	725		
1.42	62	Recess Mounted Fittings Installation, testing and commissioning of prewired, fluorescent fittings/compact fluorescent fitting of all types, complete with all accessories and tube etc. in False Ceiling (recess Mounted) including connections with 1.5 sq.mm FR PVC insulated, copper conductor, single core cable and earthing etc. as required.	Each	1955		
1.44	63	ITC Ceiling/wall Fan: Installation, testing and commissioning of ceiling fan including wiring the down rod of standard length (upto 30 cm.) with 1.5 sq.mm FR PVC insulated, copper conductor, single core cable etc. as required.	Each	175		
1.50.1	64	ITC Exhaust Fan upto 300/375 mm Sweep: Installation of exhaust fan upto 300/375 mm sweep in the existing opening, including making the hole to suit the size of above fan making good the damage, connection, testing and commissioning etc as required.following Exhaust fans including repairing of civil damages :	Each	190		
<b>TOTAL OF LIGHTING FIXTURES AND FANS CARRIED OVER TO SUMMARY</b>						

**GOVT RAJAJI HOSPITAL , MADURAI**

**NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.**

**HT & LT ELECTRICAL INSTALLATION WORKS SUMMARY**

<b>S.NO</b>	<b>DESCRIPTION</b>		<b>Amount (Rs. in words &amp; in figures)</b>
I	H.T.DISTRIBUTION PANEL	Rs.	
II	DRY TYPE TRANSFORMERS	Rs.	
III	LT SANDWICH BUS DUCTS	Rs.	
IV	MAIN L.T.PANEL	Rs.	
V	BATTERY , BATTERY CHARGER CUM D.C. BOARD FOR D.C.CONTROL	Rs.	
VI	CAPACITOR(APFC) PANEL	Rs.	
VII	HT CABLES, LAYING,TERMINATION & EARTHING FOR HT INSTALLATION	Rs.	
VIII	SUB-STATION SAFETY EQUIPMENT	Rs.	
IX	SUB DISTRIBUTION PANELS	Rs.	
X	750 KVA D.G. SETS	Rs.	
XI	SOLAR SYSTEM	Rs.	
	<b>TOTAL COST</b>	Rs.	

GOVT RAJAJI HOSPITAL , MADURAI

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

HT & LT ELECTRICAL WORKS

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	<b>INDOOR HT PANEL</b>				
A	The Panel shall be suitable for operation in Tropical Climate with an Ambient of 45Degree C (max), Relative Humidity of 90%,MSL <1000M.The Degree of Protection shall be IP:30 or better. The Panel shall be fabricated with min 2mm Thick CRCA sheet ,suitably reinforced & shall be Epoxy Powder coated. HT & LT components shall be segregated suitably with SAFETY SHUTTERS .The Panel shall be subjected to Routine Tests as per IS / IEC .Type Test certificates for Identical Panels shall be furnished				
	The panel shall be provided with mechanical door interlocks with Switch/ VCB & Standard safety features for Earthing Interlocks, Safety clearances etc as per IS.	No	1		
	<b>INCOMER PANEL shall Consist of :-</b>				
	a) 11 KV 800A,350MVA, TP VCB with suitably				
	interlocked Earth Switch,Indicationfor On/Off / Earthing etc				
	front operated spring assisted manual closing mechanism,				
	Aux.Contacts etc.,and with operating handle.				
	b). LED Indicating lamps , control wiring				
	c) 1 Set 800A copper bus bar PVC sleeved				
	d) Heater with thermostat control				
	e) Provision to receive incoming 3core300sq.mm XLPE HT cable excluding cable glands and cable				
	termination kit (Bottom entry) with all accessories complete.				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	f) Danger Plates, Name Plates, earthing Strips etc as required				
	<b>OUT GOING PANEL with four ( 4 )No VCBs for Transformers</b>				
	11 KV 630A TP 350 MVA, VCB of draw out type having horizontal draw out and isolation. The VCB shall be fitted with motorised spring mechanism for closing with mechanical ON- OFF indicator, emergency trip, safety shutter etc. The following shall be included as part of Panel				
	a) Trip- Neutral -close switch.				
	b) Micro-Processor based O/C,E/F,& S.C. relays, Master trip relay, Supervisory Relays etc Transformer Protection ,Shunt Trip (24V DC) etc				
	c) 144 Sqmm Analog Type Volt meter scaled 0-15KV & Analog Type Ammeter scaled 0-50/5-5A				
	d) Voltmeter selector switch & Ammeter Selector Switch				
	e) Panel illumination lamps operated by door switch.				
	f) Control MCBs for both HT/LT circuits				
	g). Panel earth bus.				
	h) In-Built Power pack suitable for A/C input & DC output FOR control & Motor circuit.				
	i) Spare Auxiliary contacts with minimum 5 NO & 5 NC contacts.				
	j) Draw out type 3 limb 11 KV/110V,100VA, class 0.5, epoxy cast resin Potential transformer with necessary H.T. & LT Fuses/MCB				
	k) Epoxy Cast Resin Metering CTs ( Class 1, 50/5A,15VA) & Protection CTs 15VA(5P10)				
	l) Red & Green indicating lamp for breaker ON – OFF indicator				
	m) White lamp for trip circuit health with push button for testing.				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	n) Blue lamp for spring charged indication.				
	o) Test terminal block.				
	p) 800A TP copper bus having a current density of 1.25 Amps per Sqmm duly sleeved & complete with Insulators & all accessories ..				
	q) Provision for Termination of 3core 240 sq.mm XLPE 11 KV(UE) cable excluding cable glands and cable				
	r) Other accessories, Aux Contactors, Complete wiring as required, Pad Locking for Each feeder				
	p) Panel heater with a control switch.				
	q) 8 Window Solid State Alarm Annunciator with Test, Acknowledge, Reset Push Buttons for Each feeder with Hooter				
	All feeders shall be provided with Inscription Plates & Suitable Danger Boards in 3 Languages. (English, Hindi & Malayalam)				
	<b>TOTAL COST OF HT PANELS</b>				
<b>II</b>	<b>DISTRIBUTION TRANSFORMER(DRY TYPE)</b>				
<b>A</b>					

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	1000KVA, 11 KV/433V, 3 phase, 50 HZ Delta star DYN11, RESIN CAST type,Indoor, naturally cooled, copper wound transformer with a)ON load tap changer from + 5% to -15% in steps of $\pm 1.25\%$ b) Remote Tap Changer Panel( RTCC & AVR) , c) Winding insulation Class H with Temperature rise limited to that of Class"F" d) WTI for alarm & trip, e) degree of protection for enclosure IP:21 or better, f)Adaptor Box for HV cable with cable end box g) suitable bus duct termination on LT side h) Winding Temperature scanner with Alarm & Trip Contacts,i) Neutral shall be suitable for Solid earthing & shall be brought out separately j)complete with rating and technical plate, earthing terminals with lugs, lifting lugs, nos. plain unidirectional rollers, scanner type in all respect with all necessary standard accessories as required. The Transformer Enclosure shall have suitably designed Louvers for Air Circulation & efficient Cooling. The Enclosure shall be Epoxy Powder coated.	Set	2		
	<b>FITTINGS AND ACCESSORIES</b>				
	Transformers shall be provided with the following fittings:				
	1. Rating and Technical plate.				
	2. Earthing terminals with lugs.				
	3. 4 Nos. Flat rollers (Bi-directional).				
	4. Lifting Lugs.				
	5. ON line tap changing				
	6. Winding Temperature Indicator- Scanner & Solid State Alarm Annunciator(8Window) for Tr. Faults mounted on RTTC Panel				
	7. HV Termination- Cable Box.				
	8. LV Termination- Bus duct Flange.				
	<b>TESTS:</b>				
	All routine test as per IS 2026/1977 will be conducted on the unit				
	Type Test certificate (withil Last 3 Years) shall be furnished for reference. .				
	1. Polarity test				
	2. Voltage ratio test				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	3. No load current test				
	4. Full load current test				
	5. Windings insulation resistance test				
	6. Winding resistance test				
	7. Copper loss and magnetizing current test				
	8. Short circuit test at normal tap.(Type Test)				
	9. Alarm and trip device operation check.				
	10.Functional Test for RTCC AVR				
	<b>TOTAL COST OF TRANSFORMERS</b>				
<b>III</b>	<b>SANDWICH BUS DUCTS FOR POWER DISTRIBUTION</b>				
	<b>1 OUTDOOR TYPE</b>				
	Supply, installation, testing and commissioning of sandwich (TPN) bus duct , with high conductivity aluminium conductor in convenient sections in 1.6mm(min) thick Sheet Steel Enclosure ( IP:65),Powder Coated, for use on 3 phase 4 wire, 415V, 50 KA for 1 sec,AC supply, for the following current carrying capacity including jointing of section, flexible joints, expansion joints, bends, suspenders etc . Bus duct supports shall be provided at min 1.5 M intervals for Indoor Type & 2.5M for outdoor Type. Due Care shall be taken while crossing the Walls, which shall be provided with Fire barriers.Earthing with 2 runs of 25mmx6mm copper strip shall be provided. Bus Duct routing shall be as per specification and drawing.				
	<b>2000 A TPN (from D.G SET/ AMF to Main LT Panel)</b>	Mtr	180		
	<b>2 INDOOR TYPE</b>				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Supply, installion, testing and commissioning of sandwich indoor (TPN) bus duct , with high conductivity aluminium conductor in convenient sections in 1.6mm(min) thick Sheet Steel Enclosure ( IP:42),Powder Coated, for use on 3 phase 4 wire, 415V, 50 KA for 1 sec,AC supply, for the following current carrying capacity including jointing of section, flexible joints, expansion joints, bends, suspenders etc . Bus duct supports shall be provided at min 1.5 M intervals for Indoor Type & 2.5M for outdoor Type. Due Care shall be taken while crossing the Walls, which shall be provided with Fire barriers.Earthing with 2 runs of 25mmx6mm copper strip shall be provided. Bus Duct routing shall be as per specification and drawing.				
a	<b>2000 A TPN (from Transformers to Main LT panel)</b>	Mtr	75		
3	<b>RISING MAINS(RM-1,2)FROM MAIN LT PANEL TO FLOORS(STILT,GrFir,F.FLR,S.FLR,3rd Flr)</b>				
	<b>RISING MAINS(RM-1,2)</b>				
	Supply, installation on wall, testing and commissioning of sandwitch type rising mains with high conductivity aliminium conductors, IP:55 degree of protection, suitable for 415V, LT, TPN supply, 50 Hz Ac with suitable fire barriers,thrust pad,expansion joints,T joints,suitable fixing brackets along the length of the rising main, with proper enclosure earthing with earth strips of 2 runs of 25x6 mm copper strip rivetted to the enclosure & short circuit protection of 35 kA for 1 sec., with provision for future extension to Upper floor				
A	1000 A (35 KA)	Mtr	100		
B	End Feed Unit to rising mains comprising of TPN MCCBs in sheet steel enclosures with door interlocked. Rising main's bus bars will be connected to MCCB terminals by solid connections and thrust pads provided to ensure expansion of bus bars upward only.				
	1000 A (35 KA)	No	2.00		

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
C	Provision for installation of Plug-in-Boxes,draw out type to connect Bus-Bars of TEE section to Bus-Bars of Bus Trunking @ VARIOUS FLOORS AS PER SLD / as specified with 4 Pole MCCB. The MCCB shall conform to IEC:947 (Part III) specification of short circuit level of 35 kA for 1 second of the following ratings.				
	a) 250 A 4P MCCB	Nos	5.00		
	b) 200 A 4P MCCB	Nos	5.00		
	c) 160 A 4P MCCB	Nos	5.00		
	The Bus Ducts shall be subjected to Routine Tests as per IS / IEC . Type Test certificates for Identical Bus Ducts shall be furnished				
	<b>Note:-The Vendor shall Take measurement @ site before Procuring the Bus Ducts &amp; shall include all the Items as required for completion.</b>				
	<b>TOTAL OF BUS DUCTS/RISING MAINS</b>				
<b>IV</b>	<b>L.T. PANEL</b>				
1	<b>MAIN LT PANEL BOARD</b>	Set	1		
	Supply, Installation, Testing & Commissioning of Main panel, cubicle type, made out of 2mm thick CRCA sheet, totally enclosed, free standing, floor mounting, dust and vermin proof(IP42), powder coated, indoor, compartmentalised, suitable for operation on 3 phase and neutral, 415 V, 50Hz AC system with Busbars extendable on both sides, 240 V AC for Control circuits, including internal wiring with suitable size wires, rotary handle, spreaders, 3mm thick gland plate, hinged type door with neoprene gasket etc. The panel shall include supply & installation of following switchgears, metering instruments and accessories as per SLD & specification.				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	The Panel shall have TOP Bus Duct & cable Entry. Suitable Support shall be provided in Cable Alley for Cable fixing.				
	Hinged door with Neoprene gaskets for doors & Door Interlock for feeders shall be provided.				
	All feeders shall be provided with Inscription Plates & Suitable Danger Boards in 3 Languages(Hindi/English/Local Language)				
A	<b>Incomers</b>				
a	Two(2) Nos. 2000A and Two(2) Nos 1600A electrically operated draw out type(EDO), 415V, 4 P, 50 KA breaking capacity ACB with inbuilt micro processor control unit which will have features for overload, earth fault, short circuit , variable settings for Currents & Time, Instantaneous Protection against High S.C. and also neutral protection(50% - 100% setting). 24 V DC Shunt Trip, closing Coil, 415 V Motor operator etc--For Transformers & D.G.				
b	The above Breakers shall be Electrically & Mechanically Interlocked as per SLD( DG & EB Power Interlock)				
	Also door Interlocks to be provided.				
c	<b>Bus Coupler</b>				
	one No. of 1600A, 50 KA, Electrically operated draw out type, 415V, 4P ACB with <b>microprocessor based control unit</b> & Shunt Trip				
d	<b>BUSBARS</b>				
	1 Set of 2000 Amp ,415V,TPN,50KA for 1Sec, sleeved Busbars of high conductivity electrolytic quality Aluminium alloy. With 3 Sections as per SLD with suitable Insulators. The Bus bars shall be selected based on 0.8Amps/sq.mm Current rating & with suitable derating for high Temperature @ Site.				
	1 Set of 25 x 3 mm copper Busbars of high conductivity electrolytic quality shall be provided throughout out the panel for its earthing.				
	Suitable Adopter Boxes with Flanges for Incoming Bus Ducts Connection & Outgoing Cables as reqd.				
e	<b>INSTRUMENTS,INDICATIONS,AUXILIARIES ETC</b>				
	<b>For all Incomers</b>				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	3 phase Micro-Processor based Digital Multi function meter /Power Analyser with LED Display to read V, A, F, kW, PF, kWh,KVAr.etc Accuracy class 1,pass word Protected, Site Programmable and with RS-485communication port( Compatible for BMS)				
	1 Set of phase indicating lamps, LED type, RYB.				
	1 Set of ON, OFF, Trip indicating lamps, LED type.				
	1 Set of 2A ,10kA , C curve , control MCB				
	1 Set of 2000/5AClass 1.0, 15VA, Cast Resin CT for metering.				
	1 Set of 2000/5A, Class 1.0, 15VA, Cast Resin CT for connection to APFC panel.				
	2 Sets of 2000/5 A CTs for APFC Panel ( To be mounted in Main LT Panel)				
	2 no. low set earth fault relay for connecting to the transformer neutral with 200/5A, class 5P10, 15VA, resin cast CT with necessary control cable.				
	2 Nos Micro-processor based,site programmable,Auto- Manual reset,.CBCT with EFR				
	2Nos.Voltage Monitors for Interlock with DG AMF operation,REF relays suitable for Neutral CT				
B	<b>OUTGOING FEEDERS</b>				
	<b>All MCCBs shall be rated for 415V,3Ph, 4 Pole, MCCB, Fixed TYPE, SC withstad capacity of 16 KA upto 63 A. ,25 KA upto 125 A,36 KA upto 400A &amp; 50 KA for 630,800A rating. Following shall be included for all feeders.</b>				
	a) built in microprocessor control unit for MCCB				
	b) ON, OFF, Trip indicating lamps, LED type.				
	c)2Amps, 10kA , C curve , control MCB				
	d)Appropriate Ratio CT ( as per SLD)				
	f) Digital KWH Meter( For Working Feeders only & Dummy Space for Spare feeders) with CTs & withRS-485 communication port				
	<b>The Rating of Feeders shall be as below.</b>				
1)	1250A,4Pole, <b>ACB</b> ,EDO Type,with Micro-processor Releases for Rising mains(CHILLER)				
2	800A ,4P, <b>MCCB</b> -4Nos				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	2 No for RM-1,2				
	1No. for Radiology Pnl, 1 Spare				
3	630A 4P MCCB -4NOS				
	a) 2 Nos for capacitor (APFC) panel				
	b)1 No for Utility panel				
	c) 1 No Spare				
4	400A,4P MCCB-4NOS				
	a) 2No for HVAC Pump Pnl				
	b) 1No for Fire Pnl				
	c) 1No for Spare				
5	250A 4P MCCB -2NOS				
	a) 1No. For UPS panel-160KVA				
	b) 1 No Spare				
6	160A 4P MCCB				
	b) 2 No Spares				
	Note:_				
A	a)ACBs Marked A2 & B2 i.e. from Transformer to LTpanel for EB Supply and A1,B1				
B	Panels shall undergo Routine Tests. Type Test certificate for S.C.rating & Temperature Rise shall be furnished for similar panels.				
	<b>BATTERY , BATTERY CHARGER CUM D.C. BOARD FOR D.C.CONTROL</b>				
	Supply, installation, testing and commissioning of 24V, 120 AH rating heavy duty, Valve Regulated maintenance free Battery unit suitable for boost/trickle charging including Suitable floor Mounted Battery Racks, Interconnections, Batteries duly charged and complete with all accessories, etc. The Rack shall be painted with Anti-Acid Resistant paint. Preferred		Set		
	<b>BATTERY CHARGER</b>				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Supply,Erection,Testing & Commissioning of Battery Charger Unit for above Battery with provisions of Auto-Manual selector for "Boost Charging", Float Charging" suitable for 240+/- 10%V,1Ph Supply complete with D.C. Distribution Board. The Housing for above shall be of Indoor Type, fabricated with 2mm thick CRCA sheet ,Floor Mounting cabinet with louvers, The Unit shall be complete with Adjustable Taps for Transformer for adjusting Booster current,Silcon Type Full wave Rectifier, DCMCBS,Protections & Diagnostics, Solid state Alarm Annunciator,Indicating lamps etc.				
	The DC DB shall be part of Charger Panel				
	1 set of 16A, DP MCB (DC)				
	<b>Outgoing</b>				
	4 nos. 6A, DP MCBs, incoming and outgoing terminals.				
	1 set of indicating lamps and DC voltmeter				
VI					
1	<b>AUTOMATIC POWER FACTOR CORRECTION CAPACITOR (APFC-1,2,)PANEL</b>	Set	2		
	Supply, Installation, Testing & Commissioning of automatic power factor control panel, using solid state switching, 400 KVAR Capacitors, as per the following specification				
	The panel shall be Floor Mounted, Freestanding Type & to be made out of 2mm thick MS Sheet Steel with Powder coating ,provided with exhaust fans (with thermostat) and grills for proper ventilation, interconnections with suitable size conductor /cables & lugs . Cable Entry shall be from the bottom.				
	The Panel shall have auto-manual power factor correction system of 400 KVAR capacity (3 phase ISI marked power capacitor) ,provided with Mixed Di Electric Capacitor with Low Di-electric loss(<0.2W/KVAr).The Capacitors will operate in steps with Electronic switching to suppress switching inrush current and for reducing harmonics to improve capacitor life.				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	The Panel shall be designed to operate only when EB supply ACBs in Main LT Panel are switched On by providing necessary Interlocks.				
	The system shall have micro processor based power factor controller provided in the command module having target P.F setting and digital P.F.display. The processor shall have RS 232C serial communication facility ( for remote hooking to BMS computer ).				
	<b>Incomer :</b>				
	The system shall be provided with a Master 630A 4 P, MCCB				
	<b>BUSBARS</b>				
	1 Set of 400 Amp ,415V,TPN,50KA for 1Sec, sleeved Busbars of high conductivity electrolytic quality Aluminium alloy				
	1 Set of 25 x 3 mm copper Busbars of high conductivity electrolytic quality shall be provided throught out the panel for its earthing.				
	<b>Outgoing</b>				
	4sets 100A, 415 V MCB & 100 A power contactor and suitable for 50 KVAR capacitor bank				
	8 sets 100A, 415 V MCCB & 60A power contractor and suitable for 25 KVAR capacitor bank				
	<b>A-M Selector Switch &amp; on/off indication for Each Feeder</b>				
	MCB with D curve for Capacitor feeders				
	to be provided				
	<b>LT Capacitor Banks as below shall be suitably mounted in the panel with ease of Operation &amp; maintenance.</b>				
	4 x 50 KVAR LT power capacitor banks				
	8 x 25 KVAR LT power capacitor banks				
	<b>Digital Display - Relay :</b>				
	The relay shall have the following parameters with LCD display for showing:				
	Voltage - 3 phase and per phase				
	Current - 3 phase and per phase				
	Power Factor - 3 phase and per phase				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Active Power - 3 phase and per phase				
	Reactive Power - 3 phase and per phase				
	Capacitor current - 3phase and per phase				
	<b>Protection to be provided as below</b>				
	Under and over voltage				
	Temperature rise				
	Decreases in set power factor level-Alarm.				
	Harmonics distortion				
	Phase reversal				
	Voltage imbalance and failure of any phase				
	<b>TOTAL OF APFC PANEL</b>				
<b>VII</b>	<b>HT CABLES, LAYING,TERMINATION &amp; EARTHING FOR HT INSTALLATION</b>				
1	Supply of the following 11 KV(UE) XLPE Insulated Armoured cable with stranded Compact Circular Aluminium Conductor,XLPE Insulated with Semi conducting Compound in combination with Copper Tape, core laid-up, inner PVC sheathed,,GI Flat Strip Armoured, outer PVC Sheathed(PVC ST-2 Type), conforming to IS:7098-part-II ( Preferred Make:- Universal,Tropudor,CCI,Havells)				
	3C x 240 Sq.mm [ From HT breaker Panel to Transformers]	Mtr	50		
2	Laying of one number PVC insulated and PVC sheathed/XLPE HT cable of grade 11kV, of size not exceeding 300 sq.mm in the existing RCC/HUME Pipe/ METAL TRAY as required by excavating, sand cushioning and refilling the trench complete.				
	3C x 240 Sq.mm	Mtr	50		

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
3	Supplying and making cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for the following size of HT XLPE aluminium conductor cable of 11 kV grade as required( Make:-3M Birla / Reychem)				
	a) 3 Core 300 Sq.mm (for Incomer) Indoor	Nos	1		
	b) Core 240 Sq.mm a) Indoor	Nos	4		
4	Supplying and making cable end jointing with cast resin compound, including lugs and other jointing materials, for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required				
	Core 240Sq.mm Indoor	Nos	1		
5	RCC / HUME PIPES				
	Providing, laying and fixing following dia RCC pipe NP2 class (light duty) in ground complete with RCC collars, jointing with cement mortar 1:2 (1 cement : 2 fine sand) including trenching (75 cm deep) and refilling etc as required.				
a	12"( 300 mm ) Dia	Mtr	50		
b	19"(450mm) Dia	Mtr	20		
6	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	cover plate having locking arrangement and watering pipe of 2.7				
	metre long etc. with charcoal/ coke and salt as required. Set	Set	10		
7	Providing and fixing earth bus of 50 mm x 65mm copper strip on surface for connections, etc. as required [For Transformer neutrals]	Mtr	100		
8	Providing and fixing earth bus of 25 mm x 5 mm copper strip on surface for connections, etc. as required [For Transformer and HT breaker body earthing]	Mtr	250		
	<b>TOTAL OF HT CABLES, LAYING, TERMINATION &amp; EARTHING FOR HT INSTALLATION TO CARRIED OVER TO SUMMARY</b>				
<b>VIII</b>	<b>SUB-STATION SAFETY EQUIPMENT</b>				
	Supply & installation of following safety equipments at suitable places as required.				
1	a) First Aid Box as approved by St. John Ambulance Brigade or Indian Red Cross Society as per IS Code 2217/1963.	No	2		
	b) Shock treatment chart in Hindi and English duly framed in glass frame work including mounting arrangement.	Nos	6		
	c) Electrical insulated rubber mat non-skid type with flouted top and plane 1 meter wide and 12mm thick to withstand 22 KV dielectric strength, ISI marked.	Mtr	30		
	d) Rubber Gloves suitable for 22 KV System	Pair	2		
	<b>TOTAL OF SUB-STATION SAFETY EQUIPMENT CARRIED OVER TO SUMMARY</b>				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
IX	<b>SUB LT PANELS (BOARDS)</b>				
	Supply, installation, testing and commissioning of floor mounted , dust, damp and vermin proof ( IP:42) Cubicle Type Compartmentalised Panel with incoming and outgoing Feeders/ MCCBs/ MCBs as per SLD/ BOQ. Panels shall be made out of 14 SWG MS sheet, Epoxy Powder Coated, complete with Sleeved TPN Aluminium bus bars, protection relays, ammeter, voltmeter, ammeter selector switch, voltmeter selector switch, kWh ( Energy meter), indicating lamps etc. 2 Nos of 25 x 3mm copper earth Bus shall be provided. Cable Entry for Incomer shall be generally from Bottom & OUTGOINGS FROM TOP unless otherwise indicated. Panels shall have hinged doors with Neoprene gaskets for Feeder Compartments & Cable Alley. The Panel shall be complete with Power & Control Wiring, danger & Inscription Plates, Lifting Hooks etc.				
	<b>Note:</b> 1)All MCCBs shall be as per KA rating given & with micro-processor based releases for O/L,S/C for 250A & above. Adjustable Thermal magnetic releases for lower ratings.				
	2)On/Off/trip indicating lamps LED Type), Suitable Ratio CTs with Digital Ammeter to read Phase/ Line Currents, Digital Voltmeter to read phase Voltages for Incomer, Selector Switches as required/ as per SLD				
	3) CBCT with Earth Fault Relay for Incomer to Trip in case of Earthing				
	4) MCBs are of 10 KA rating.				
	5) Bus bars for Ph& N shall be of same Rating & to be sized based on 0.8Amps/sq.mm(max) with Suitable Derating for Higher Ambient				
	6) STARTERS in Panel shall have Auto-Manual CSS,Ammeter ,Indication Lamps etc				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	7) ATS( Auto-Transfer from one Power source to Other to be provided for all Floor Power Panels & Main Ltg Panels. This shall be achieved with 2 Nos. Motor operatrd MCCBs. The ATS rating shall be = or > that of Incomer. ATS shall be micro-Processor based with provision for Manual,Test,OFF Positions as well as shall be provided with Diagnostic facility. Digital Display for A,V,T shall be provided.				
1	<b>MAIN UPS PANEL BOARD -1</b>	No	1		
	<b>Incomer</b>				
	1 No. 250A 4P MCCB 36KA				
	<b>Outgoing</b>				
	2 No 125 A,4P,MCCB				
	6No. 63A TPN MCCB 16 KA				
	4No.32 A TPN MCB 16 KA				
	<b>Bus Bars :</b>				
	TPN 250A,36 K A for 1Sec, bus bar of aluminium alloy.				
2	<b>MAIN UPS PANEL BOARD -2</b>	NO	1		
	<b>Incomer</b>				
	1 No. 125A 4P MCCB 25KA				
	<b>Outgoing</b>				
	4 No. 63A TPN MCCB 16 KA				
	2No.32 A TPN MCB 16 KA				
	<b>Bus Bars :</b>				
	TPN 100A,25 K A for 1Sec, bus bar of aluminium alloy.				
3	<b>FLOOR PANEL( FP-1,2,3,4,5)</b>	No	5		
	<b>Incomer</b>				
	1No Auto-Transfer System withelectronic / Micro-Processor Control(ATS) with MCCBs,Indication Lamps complete with provision for manual switching				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	WITH 250A TPN MCCB 36 KA				
	<b>Outgoing</b>				
	8 Nos. 63A, TPN MCCB 16KA				
	<b>Bus Bars :</b>				
	TPN 250A,36KA bus bar of aluminium alloy.				
	Cable Entry:-top				
4	<b>RADIOLOGY PANEL-</b>	No	1		
	<b>Incomer</b>				
	1 No. 800A 4P MCCB, 50 KA				
	<b>Outgoing</b>				
	2No 400A TPN MCCB 36 KA				
	2No Each 250 A & 200A TPN MCCB 36 KA				
	<b>Bus Bars :</b>				
	TPN 800A bus bar of aluminium alloy.				
	Cable Entry:-top				
5	<b>LIFT MAIN PANEL</b>	No	1		
	<b>INCOMING</b>				
	1 NO 200A TPN MCCB 25 KA				
	<b>OUT GOING</b>				
	8 Nos 63 A TPN MCCB 16KA				
	3 Nos. 40A, TPN MCB 10KA				
	<b>BUS BARS</b>				
	TPN 200 A,25KA bus bar aluminium alloy				
	Cable Entry:-top				
6	<b>UTILITY PANEL BOARD</b>	Set	1		
	<b>INCOMING</b>				
	1 No 630A TPN MCCB 36 KA				
	<b>OUT GOING</b>				
	2 Nos 250 A TPN MCCB 36 KA				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	5 Nos 160 A TPN MCCB 25 KA				
	2 Nos 100 A TPN MCCB 16KA				
	<b>BUS BARS</b>				
	TPN 600A Bus bar of aluminium alloy				
	Cable Entry:-top				
7	<b>CHILLER PDB PANEL</b>	Set	1		
	<b>INCOMING &amp; BUS COUPLER</b>				
	1No 1250A TPN ACB 36 KA				
	<b>OUT GOING</b>				
	6 Nos 400 A TPN MCCB 36 KA				
	4 Nos 125 A TPN MCCB 36 KA				
	<b>BUS BARS</b>				
	TPN600A ,36KA Bus bar of aluminium alloy				
	Cable Entry:-top				
8	<b>HVAC PUMP PANEL</b>	Set	1		
	<b>Incomer</b>				
	1 No. 400 A 4P MCCB 36 KA				
	<b>Bus Bars :</b>				
	TPN 315 A ,36 KA Bus bar of aluminium alloy.				
	<b>OUTGOINGS</b>				
	12 Nos. 63 A TPN MCCB 16 KA with Starters as below				
	Starters shall be complete with Contactors,O/L with SPP,				
	3Nos. 10 HP Automatic Star delta starter				
	[For Primary Pump Sets]				
	3 Nos. 30 HP Automatic star delta starter				
	[For condensing water pump sets]				
	3 Nos Spare Star-Delta Starters(10 HP)				
	one Nos Spare Star-Delta Starters(5 HP)				
	<b>Note:-Above Feeders shall have CTs, Ammeter Selector Switch &amp; Analog Ammeter, Auto-Manual Selector Switches,Push Buttons,Indication Lamps,O/L with SPP etc</b>				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	3 Nos. 63 A TPN MCCB 16 KA feeders for Secondary Pumps(VFD) ( VFD by HVAC Supplier)				
9	<b>AHU PANEL-1 ( G.Flr)</b>	Set	1		
	<b>INCOMING</b>				
	1No 125A TPNMCCB 25 KA				
	1 set of phase indicating lamp with switches				
	<b>OUTGOING</b>				
	3 Nos 63A TPN MCCB ,16KA				
	7 No 32A TPN MCB,10KA On cC URVE				
	DOL STARTERS FOR 1.5 KW-3No				
	DOL STARTERS FOR 3.7 KW-4No				
	STAR-DELTA STARTERS FOR 11 KW-3No				
	<b>BUS BARS</b>				
	TPN 100 A,25 KA Bus bar of aluminium alloy				
	Cable Entry:-top				
10	<b>HVAC AHU PNL-2( OTs)</b>	Set	1		
	<b>INCOMING</b>				
	1No 125A TPNMCCB 25 KA				
	1 set of phase indicating lamp with switches				
	<b>OUT GOING</b>				
	11 Nos 32 A TPN MCB 16 KA -C CURVE				
	11No DOL starter for 3.7KW				
	1 No.63A ,16 KA MCCB Feeder				
	<b>BUS BARS</b>				
	TPN 100 A,25 KA Bus bar of aluminium alloy				
	Cable Entry:-top				
11	<b>HVAC AHU PNL-3 ( HRV)</b>	Set	1		
	1No 125A TPNMCCB 25 KA				
	1 set of phase indicating lamp with switches				
	<b>OUT GOING</b>				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	10 Nos 32 A TPN MCB 16 KA -C CURVE				
	10Nos DOL starter for 2.2KW				
	<b>BUS BARS</b>				
	TPN 100 A,25 KA Bus bar of aluminium alloy				
	Cable Entry:-top				
12	<b>STREET LIGHTING PANEL</b>	Set	1		
	<b>INCOMING</b>				
	1 No100A TPN MCCB 26 KA				
	<b>OUT GOING</b>				
	3 Nos 63 A TPN MCB 10 KA				
	2 Nos 32 A ,10KA TPN MCB				
	<b>BUS BARS,100A,TPN,26KA</b>				
	Cable Entry:-top				
	<b>AUTO-C/O PANEL(FIRE P.H.)</b>	Set	1		
13	1no, 400A Auto_change over system with Motorised Two Nos. 400A mps MCCB swith Electronic / micro-Processor based control system( Make:- Legrand/ Schnieder).The Unit shall have provision for manual Operation,Testing & Off. Digital Display for parametres such as V,A,F, shall be provided.The interlock shall ensure lock-out for simultaneous Switching off both supplies				
14	<b>KITCHEN PANEL</b>	Set	1		
	<b>INCOMING</b>				
	1 No125A TPN MCCB 36 KA				
	<b>OUT GOING</b>				
	3Nos 63 A TPN MCCB 16 KA				
	3 Nos 32 A TPN MCB				
	<b>BUS BARS</b>				
	TPN 125 A,25KA,Al Bus Bar				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
15	<b>WATER SUPPLY PUMPS PANEL</b>	Set	1		
	<b>Incomer</b>				
	1 No. 200 A 4P MCCB 36 KA				
	<b>Bus Bars :</b>				
	TPN 200 A ,36 KA Bus bar of aluminium alloy.				
	<b>OUTGOINGS</b>				
	2 No 100A ,4p,MCCB				
	4 Nos. 63 A TPN MCCB 16 KA with Starters as below				
	Starters shall be complete with Contactors,O/L with SPP,A/M Switch,Indication Lamps, Analogue Ammeter etc				
	4 Nos. 10 HP Star delta starter				
	<b>BUS BARS</b>				
	TPN 200 A,36KA,Al Bus Bar				
16	<b>CSSD PANEL</b>	Set	1		
	<b>INCOMING</b>				
	1 No125A TPN MCCB 36 KA				
	<b>OUT GOING</b>				
	4Nos 100 A TPN MCCB 16 KA				
	2 Nos 63 A TPN MCCB 16KA				
	<b>BUS BARS</b>				
	TPN 125 A,25KA,Al Bus Bar				
17	<b>LAUNDRY PANEL</b>	Set	1		
	<b>INCOMING</b>				
	1 No125A TPN MCCB 36 KA				
	<b>OUT GOING</b>				
	6 Nos 63 A TPN MCCB 16 KA				
	4 Nos 32 A TPN MCB				
	<b>BUS BARS</b>				
	TPN 125 A,25KA,Al Bus Bar				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	<b>TOTAL FOR SUB PANEL BOARDS CARRIED OVER TO SUMMARY</b>				
<b>x</b>	<b>DG SETS</b>	<b>unit</b>	<b>QTY</b>		
1	Supply, Transportation, Safe Storage, Insurance, Installation, Testing and Commissioning of HSD fed Diesel Generating set as per Technical Specification, in Acoustic Enclosure having Nominal Power Rating of 750 KVA & BHP rating of 1470 or as required @ 415 volts, 3Ph, at 1500 RPM, 0.8 lagging power factor considering 0.85 Load Factor. The Scope shall be to cover all equipment & accessories for the efficient & Trouble free Operation of DG sets.	sets	2		
	<b>Scope</b>				
	The Scope covers the following, but not limited to it, to ensure Completeness & Satisfactory operation of DG SET..				
	Payment for Variable items shall be based on Site Measurements.				
	Supply of O&M Manuals, Drgs, 1set of Essential Tools, Test Certificates, Statutory Approval Documents etc				
	DG shall have a Warranty Period of Two (2) Years from the date of Commissioning & Handing over to the Client. Servicing as per Manufacturer's Standard during warranty shall be done by the Vendor for which no payments shall be made Except for Consumables like Filters. Oil etc.				
	Any other items required for completion is deemed to be included in the scope of works of Vendor				
	Also Vendor shall quote for Comprehensive AMC after the Expiry of warranty Period separately				
	The First fill of Oil shall be in the scope of Vendor. As well as HSD for Trial runs till Commissioning & handing Over to Client				
	<b>Diesel Engine:</b>				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	High Efficiency Diesel Engine of Turbo-Charge Type,4 stroke ,water cooled with Radiator, electric start, developing 1470 BHP or as required at 1500 RPM suitable for 1250 kVA output of alternator at 45 Degree C, 65% RH & at 1000 Meter MSL . The Engine shall conform to BS 5514 , ISO;3046, capable of taking 10% over loading for one hour after 12 hours of continuous operation. The engine shall be fitted with all the required accessories for reliable& trouble free operation.				
	(Preferred Make:- Cummins/Kohler/ Kirloskar)				
	<b>Engine mounted Instrument Panel fitted with and having digital display for following:</b>				
	(i) Start-stop switch				
	(ii) Water temperature indication				
	(iii) Lubrication oil pressure indication				
	(iv) Lubrication oil temperature indication				
	(v) Battery charging indication				
	(vi) RPM indication				
	(vii) Over speed indication				
	(viii) Low lub. Oil trip indication				
	(ix) Engine Hours indication				
	<b>Alternator:</b>				
	Synchronous Alternator rated at 750 KVA ,415 volts,3 phase,4Wire, 50 Hz, at 1500 RPM, AC supply with 0.8 lagging power factor @ specified ambient conditions.. The alternator shall be having SPDP enclosure, brushless, continuous duty, self-excited and self-regulated through AVR conforming to IS: 4722/BS 2613 suitable for tropical conditions and with class-H insulation. The Output from the Alternator shall be through Bus Ducts for connection to AMF Panel. As such suitable adopter Box for 2000Amps Sandwich Bus Ducts shall be provided considering the Vibration effect of DG set. ( Preferred Make:- ABB/ Kirloskar/Stamford)				
	<b>Base Frame &amp; Foundation:</b>				
	Both the engine and alternator shall be mounted on suitable base frame made of MS channel I & vibration isolation arrangement as per recommendations of manufacturer on the concrete foundation being provided by Client. The Vendor shall furnish Civil details of Foundation to the Client for providing the same.				
	<b>Fuel Tank:</b>				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Daily service fuel tank of 990 litres capacity fabricated out of 3mm thick M.S. sheet complete with all standard accessories and fuel piping between fuel tank and diesel engine with MS class 'C' pipes of suitable dia. Complete with valves, level indication & accessories as required				
	<b>Exhaust System:</b>				
	Dry exhaust manifold with hospital exhaust silencer and catalytic converter with insulation complete.				
	<b>Starting System</b>				
	24V DC starting system comprising of starter motors: voltage regulator and arrangement for initial excitation complete with suitable 4 nos. of batteries with leads complete as required as per specifications.				
	<b>Control Panel:-</b>				
	The DG Control Panel shall be a microprocessor- based for monitoring, metering, and control of generator set. The control shall provide an operator interface for ,digital voltage regulation, digital governing, and generator set protective functions. The integration of all the functions in to a single control system shall be provided to enhance reliability and satisfactory performance of DG set				
	<b>Acoustic enclosure suitable for Genset</b>				
	The Acoustic Enclosure to House the DG set shall be in min 16 SWG Sheet steel Enclosure with suitable reinforcement & Insulation of Fire Retardant Rock wool or better acoustic material conforming to CPCB & Green Building Concept. The Max sound level outside the Enclosure shall be limited to 75 DB@ 1 M away. Adequate maintenance Space inside the enclosure shall be provided for attending to DG set. The Enclosure shall be provided with lockable doors & shall be Epoxy Powder coated. Due care shall be taken to ensure proper connection of BUS DUCTS to Alternator so as to avoid any transfer of Vibration / Consequential effects.				
2	<b>AMF (SYNCHRONISING&amp; LOAD SHARING )PANEL</b>	Set	1		
	Supply, Installation, Testing & Commissioning of <b>Indoor</b> floor mounted free standing dust & vermin proof cubicle (IP:52) for AMF, Auto Sync & Auto Load sharing functions of 3 Nos.. D.G.SETS. The panel shall be fabricated out of 14/16 SWG CRCA sheet, Epoxy Powder Coated & comprising the following:				
	<b>INCOMERS</b>				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	2 Nos. 2000A TP 50 KA electrically operated with draw-out Type ACB .				
	3Nos. 630A TP (AC 3 cat.) air break contactors /Electrically operated fixed MCCB for neutral logic,				
	Cast Resin Current Transformers as below:-				
	2Nos. - 2000/5A Class 0.5 15 VA C.T. For metering				
	2 Nos. - 2000/5A Class 5P10 15 VA for Protection				
	2 Nos. - 2000/5A Class PS 15 VA				
	1 No. DIGITAL type flush mounting load manager with the following parameters & RS 485 communication port.				
	Current				
	Voltage				
	KW / kVAR				
	KWhr				
	Power factor.				
	Frequency				
	Sensing, indication & tripping arrangement for demand power arrangement etc.				
	. Microprocessor based AMF logic with EB sensing for under / over voltage, Reverse Power, under/over frequency, unbalance, programmable start/stop timings,DG battery supervision integral push button for DG stat/stop,DG breaker close/open, Auto/Manual/Off and Annunciator accept /reset. Programmable mains restoration, re-cooling timings, Micro-processor based Protection relays, inbuilt 16 window LCD Annunciator for DG faults.				
	Integrated microprocessor based Auto Synchronizer with outputs for voltage increase/decrease, Frequency ease/decrease, and programmable breaker closing time with load sharing relay.				
	Auto Load Sharing Relay				
	. 8 channel, temperature scanner for monitoring bearing and winding temperature				
	Battery charger				
	DC Voltmeter and ammeter.				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Push buttons for Emergency stop, Trip circuit healthy etc.				
	16 Windows facia Annunciator.				
	Potential transformers as required for protection and all circuitry requirements.				
	Incoming terminals/ Adopter Box for bus duct Connection				
	<b>Push Buttons for AMF By-Pass Mode</b>				
	<b>OUTGOINGS</b>				
	Outgoing switches comprise of the following :-				
	2 Nos. 2000A TPN 50 KA electrically operated with draw-out Type ACB .				
	One No Fixed Type 400 A,TPN,MCCB with Micro-Processor Releases( For Fire Pnl)				
	ACB shall be with Microprocessor based alpha numeric type 3 O/C + 1 E/F relay with selectable IDMTL / DMTL characteristics and in built High set feature on O/C and E/F.				
	Digital type Ammeter with selector switches.				
	. Digital type Voltmeter with selector switches.				
	Outgoing terminals/ Adopter Box to receive bus duct.				
	Suitable no of auxiliary contactors, relays etc for contact multiplication, interlocking etc & scheme				
	development shall be in the scope of the vendor.				
	1 Set. 2000A TP & N bus bars with Alu. flat with the size having a current density of 0.8A / Sqmm with suitable derating for High Ambient. The Bus bar shall be provided with colour coded heat shrinkable suitable intervals with SMC/ FRP as per IS. 0.7A / Sqmm. The Bus bar shall be provided with colour coded heat shrinkable, PVC sleeves with the exception of joint. The bus bar shall be supported at suitable with SMC / FRP as per IS.				
	<b>The Panel shall be designed suitably for connection of Sandwich Bus Ducts for Incomers &amp; out going feeders.</b>				
	Suitable Adopter Boxes with Flanges for Incoming Bus Ducts Connection to be provided				

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
3	<b>Works Associated with Erection</b>				
A	Supply and installation of Exhaust piping( About 30 M) using 10"dia of M.S. as per IS including hardwares like flanges, bends, bolts & Gaskets etc, along with a <b>Suitable Common Stack</b> for Connection of Exhaust Piping from each DG set complete with supporting Structures& Foundation accessories (except for Civil Works) ,Insulation, Earthing etc complete. The same shall conform to CPCB norms.	Mts	30		
B	Supply and installation of Exhaust piping using 16"dia of M.S.pipe as per IS including hardwares like flanges, bends, bolts & Gaskets etc, complete.	Mts	50		
C	Erection of Residential silencers complete with all accessories.	Nos	2		
D	Supply and fixing of MS angle channel with anchor fasteners for supporting of exhaust / fuel piping with epoxy painting	Kgs	2000		
E	Providing thermal cladding for exhaust pipe by mineral wool wrapping with chicken mesh and alu. sheet including bends.	Mts	30		
F	Providing thermal cladding for 16" exhaust pipe by mineral wool wrapping with chicken mesh and alu. sheet including bends.	Mts	20		
G	Providing thermal cladding for residential silencer.	Nos	4		

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
H	Supply and installation of 16" Flexible bellows.	No	2		
I	Supply, fabrication and laying of 25mm M.S. pipe for fuel line.	Mts	30		
J	Supply , laying & Termination of 4 core x 4 sqmm multistrand armoured copper control cable with end terminations.	Mts	150		
K	Supply ,laying& Termination of 4 core x 2.5 sqmm multistrand armoured copper control cable with end terminations.	Mts	60		
L	Supply , laying& Termination of 12 core x 2.5 sqmm multistrand armoured copper control cable with end terminations.	Mts	120		
M	Supply and laying of 60 x 6mm copper earth flat for neutral earthing.	Mts	130		
N	Supply and laying of 40 x 6mm copper earth flat for earthing.	Mts	130		

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Liaison work and obtaining CEIG approval and safety certificate for Genset Installation	LS	1		
	<b>TOTAL OF GEN SETS CARRIED OVER TO SUMMARY</b>				
XI	<b>SOLAR LIGHTING SYSTEM</b>				
	Supply , safe Storage, installation, testing and commissioning of Solar Lighting System of 4 KW ,230+/-3% V,1Ph,50 Hz for Internal Lighting of Building (STILT+ 4Firs) with the following specifications	Nos	2		
	Space for Mounting of Solar Array, Battery Room,Invertor etc shall be provided by Client for which Vendor shall furnish the details.				
	The Scope covers the following, but not limited to it ,to ensure Completeness & Satisfactory operation. It is the responsibility of the Vendor to Include all items as required.				
	Inter Connected Photo-Voltaic Solar panels of monocrystalline silicon Type including module mounting structure, solar Charger Controller, Interconnected Multi-Strand Copper Wiring, Protections & Indications for Working & Faulty Conditions,Earthing & all accessories complete.PV Panels shall be of BHEL or reputed Make approved by ECB				
	Operation temp.Range:-20 - 90Degree C				
	Operation Hours=4				
	No. of Modules: As per Standards to achieve rated Power Output of 4KW for min 4Hours operation				
	Details such as Max.Power Rating, Ir,Vr,Isc,Open Ckt Voltage, Dimensions of Panel, etc to be furnished by Vendor.				
	Efficiency of the System shall not be less than 90%				
	Maintenance Free Valve Regulated Lead Acid Battery as per IS:15549-2005 of Capacity 160AH for 4hours Back-up with inter connections , erected in a suitable MS Rack Coated with Acid-Resistant paint				
	Suitable Invertors of 4KW or more complete with Battery Charger, Protection for O/L, S.C. ,LCD Display Panel etc Complete with all accessories				
	The whole System shall have 2 years Warranty for satisfactory operation with Individual Warranty as below.				

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

Sl.No.	DESCRIPTION	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	PV Modules= 15 years				
	Battery Bank= 3 years				
	The Out put Cable from the Solar System to Building Lighting DB is excluded from this scope.				
	<b>TOTAL OF SOLAR SYSTEM</b>				

GOVT RAJAJI HOSPITAL , MADURAI

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

HEATING VENTILATION AND AIR CONDITIONING WORKS

Sl. No.	Description of Items	Unit	Qty.	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
1.0	Supply of High Efficiency Water cooled screw type water chilling packages of 175 TR capacity each, at the duty conditions of 12°C to 7°C chilled water and 32.2 °C to 36.4°C condenser water temperatures, complete as per specifications; including customs and other duties at full rate; all local taxes, levies etc. that are applicable; port clearance, warehouse charges, handling, transportation to site; rigging, installation, testing, commissioning and han	Nos.	2		
2.0	Supply, installation, testing and commissioning of Induced draft FRP construction cooling tower of 200 TR capacity at 28.2° C WB complete as per specifications. Heat rejection capacity 750,000 kials per hour.	Nos.	2		
3.0	Supply, installation, testing and commissioning of condenser water pump of capacity 46 Lps at 24 Mts. w.c. total head complete as per specifications. (2 working, 1 standby).	Nos.	3		
4.0	Supply, installation, testing and commissioning of primary chilled water pump of capacity 32 Lps at 12 Mts. w.c. total head complete as per specifications. (2 working, 1 standby).	Nos.	3		
5.0	Supply, installation, testing and commissioning of secondary chilled water pump of capacity 32 Lps at 28 Mts. w.c. total head complete as per specifications. (2 working, 1 standby).	Nos.	3		
6.0	Supply, installation, testing and commissioning of Variable Frequency Drive arrangement for the secondary pump motors consisting of adjustable frequency drive (AFD) and Pressure sensors / transmitters for each pump complete as per specifications. The pumps and VFD must be compatible.	Sets	3		

Sl. No.	Description of Items	Unit	Qty.	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
7.0	Supply, installation, testing and commissioning of Floor Mounted / Ceiling Suspended double skin type Chilled Water Air Handling Units (AHUs) with 25 mm thick PUF insulation. Forward curved centrifugal blowers of Kruger or Nicotra make. The cooling coil shall be of aluminium fins and seamless copper tubes and shall be 6-rows deep. The drive motor shall be of TEFC construction. The drain pan shall be of stainless steel sheet inclusive of required drain pipe etc . Pre-filters of HDPE non woven fabric with an efficiency of 90% down to particle size of 20 microns particle size shall be provided. The AHU shall be complete as per specifications and their capacities shall be:				
7.1	3 TR / 1200 CFM	No.	R.O.		
7.2	5 TR / 2000 CFM	No.	1		
7.3	8 TR / 3200 CFM	No.	1		
7.4	10 TR / 4000 CFM	Nos.	2		
7.5	12 TR / 5000 CFM	No.	1		
7.6	15 TR / 6500 CFM	No.	1		
7.7	18 TR / 7500 CFM	No.	R.O.		
7.8	24 TR / 10000 CFM	No.	R.O.		
7.9	30 TR / 12000 CFM	No.	R.O.		

Sl. No.	Description of Items	Unit	Qty.	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
8.0	Supply, installation, testing and commissioning of chilled water Air Handling Units similar to that specified under Item 7.0 above, but additionally fitted with Fine filters of 99% efficiency down to 5 microns particle size, complete as per the specifications. Capacities of the AHUs:				
8.1	3 TR / 1200 CFM	No.	R.O.		
8.2	5 TR / 2000 CFM	No.	R.O.		
8.3	6 TR / 2400 CFM	No.	1		
8.4	8 TR / 3200 CFM	No.	1		
8.5	10 TR/ 4000 CFM	Nos.	2		
8.6	12 TR/ 5000 CFM	No.	R.O.		
8.7	15 TR / 6500 CFM	No.	R.O.		
8.8	20 TR/ 8000 CFM	No.	R.O.		
8.9	24 TR / 10000 CFM	No.	R.O.		
8.10	27 TR / 11000 CFM	Nos.	2		
8.11	30 TR / 12000 CFM	No.	1		

Sl. No.	Description of Items	Unit	Qty.	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
9.0	Supply, installation, testing and commissioning of chilled water Air Handling Units similar to that specified under Item 7.0 above, but additionally fitted with Fine filters of 99% efficiency down to 5 microns particle size and backward curved centrifugal blowers to cater to the pressure drop of the HEPA filter modules, as per the specifications. Capacities of the AHUs:				
9.1	16 TR/ 4000 CFM	Nos.	6		
10.0	Supply, installation, testing and commissioning of Heat Recovery Ventilator (HRV) as per specifications. The HRV shall be of double skin construction and fitted with centrifugal blowers, drive motors and belt drive arrangement similar to the AHUs specified under 7.0, but with no Cooling Coil. Each HRV shall be provided with Two centrifugal blowers of the same capacity, each with it's drive motor and drive arrangement. The casing shall be partitioned horizontally to form two separate air flow systems, one for exhausting the room air to the outside and the other for supplying fresh air into the AHU room. A Heat Recovery Wheel shall be provided in the centre of the casing. This HRW shall be capable of transferring a minimum of 85% of both Sensible and Latent Heat, between the two opposing air streams. The HRV capacities are:				
10.1	4000 CFM Fresh air	Nos.	6		
11.0	Supply, installation, testing and commissioning of chilled water Fan Coil Units, complete with one ball valve with strainer at the inlet, one ball valve and 2-way motorised valve at the outlet, copper tubes and fittings, thermostat and three speed switch, canvas connection and mounting arrangement complete as per specifications. Capacities of the FCUs:				
11.1	1 TR/ 400 CFM	Nos.	11		
11.2	1.5 TR/ 600 CFM	Nos.	84		

Sl. No.	Description of Items	Unit	Qty.	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
11.3	2 TR / 800 CFM	Nos.	49		
11.4	2.5 TR / 1000 CFM	Nos.	9		
11.5	3 TR / 1200 CFM	Nos.	4		
12.0	Supply, installation, testing and commissioning of rectangular air ducts fabricated out of GI sheets of the following sheet thickness. The ducts must be machine fabricated and must be air-tight and have a neat finish. The ducting shall be complete with fasteners and gaskets at all joints. The ducts shall be supported from the ceiling with anchor fasteners, threaded rods of GI and support angles. The ducting shall conform to IS:655 and it's latest amendments. Please see the relevant item under Technical Specifications.				
12.1	24 swg	Sq mt.	750		
12.2	22 swg	Sq mt.	600		
12.3	20 swg	Sq mt.	210		
12.4	18 swg	Sq mt.	10		

Sl. No.	Description of Items	Unit	Qty.	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
13.0	Supply, installation, testing and commissioning of rectangular air ducts fabricated out of <u>Aluminium</u> sheets of the following sheet thickness. The ducts must be machine fabricated and must be air-tight and have a neat finish. The ducting shall be complete with fasteners and gaskets at all joints. The ducts shall be supported from the ceiling with anchor fasteners, threaded rods of GI and support angles. The ducting shall conform to IS:655 and it's latest amendments. Please see the relevant item under Technical Specifications.				
13.1	22 swg	Sq mt.	570		
13.2	20 swg	Sq mt.	10		
14.0	Supply, installation, testing and commissioning of spiral wound circular ducting of 24 swg thick GI sheet, as per ISS 655, factory made, complete with necessary fittings like reducers, bends, take-off collars, grill collars, dummy ends etc. and suitable anchor fasteners, GI threaded rods, fasteners etc. for installation. For ducting in areas where there is no false ceiling.	Sq mt.	150		
15.0	Supply, installation, testing and commissioning of circular flexible aluminium duct connections with end clamps from main supply air ducts to the HEPA filter modules. The ducts shall be supported from the ceiling with anchor fasteners, threaded rods and clamps of GI. The ducting shall conform to IS:655 and it's latest amendments. Please see the relevant item under Technical Specifications.	Sq.mt.	60		
16.0	Supply, installation, testing and commissioning of thermal insulation for ducts out of nitrile rubber sheet covered with aluminium foil as per the Technical Specifications				
16.1	12 mm thick insulation	Sq mt.	1400		

Sl. No.	Description of Items	Unit	Qty.	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
16.2	25 mm thick insulation	Sq mt.	650		
17.0	Supply, installation, testing and commissioning of thermal insulation for ducts out of TF grade EPS slabs and covered with aluminium foil. Insulation thickness as per the Technical Specifications				
17.1	25 mm thick slabs	Sq mt.	10		
17.2	50 mm thick slabs	Sq mt.	10		
18.0	Supply, installation, testing and commissioning of acoustic lining of initial portion of supply air ducts with fibreglass rigidboard grade 300/12 mm thick covered with RP tissue and perforated aluminium sheet as per the Technical Specifications	Sq mt.	250		
19.0	Supply, installation, testing and commissioning of supply air grills / diffusers of extruded aluminium with powder coated finish and fitted with VCDs of MS sheet as per the Technical Specifications.	Sq mt.	45		
20.0	Supply, installation, testing and commissioning of return air grills/diffusers out of extruded aluminium with powder coated finish as per the Technical Specifications.	Sq mt.	60		
21.0	Supply, installation, testing and commissioning of fire dampers of GI with fusible link as per the Technical Specifications	Sq mt.	6		
22.0	Supply, installation, testing and commissioning of volume control dampers of GI sheet as per the Technical Specifications	Sq mt.	4		
23.0	Supply, installation, testing and commissioning of fresh air intake with damper, cowl and wire netting as per the Technical Specifications	Sq mt.	2		

Sl. No.	Description of Items	Unit	Qty.	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
24.0	Supply, installation, testing and commissioning of chilled water piping complete with MS 'C' class pipes and fittings and pipe supports and insulated with 50 mm thick eps moulded pipe sections, polythene sheet, wire netting and cement plastering as per the Technical Specifications. Pipe sizes:				
24.1	20 mm NB	Rmt.	470		
24.2	25 mm NB	Rmt.	240		
24.3	32 mm NB	Rmt.	250		
24.4	40 mm NB	Rmt.	246		
24.5	50 mm NB	Rmt.	860		
24.6	65 mm NB	Rmt.	370		
24.7	80 mm NB	Rmt.	475		
24.8	100 mm NB	Rmt.	192		
24.9	125 mm NB	Rmt.	60		
24.10	150 mm NB	Rmt.	136		
24.11	200 mm NB	Rmt.	140		

Sl. No.	Description of Items	Unit	Qty.	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
25.0	Supply, installation, testing and commissioning of Chilled water valves insulated with 50 mm thick eps slabs, polythene sheet and cement plastering as per the Technical Specifications				
25.1	20 mm Ball valve	Nos.	1		
25.2	25 mm Ball valve	Nos.	1		
25.3	32 mm Ball valve	Nos.	2		
25.4	40 mm Ball valve	Nos.	6		
25.5	50 mm Butterfly valve	Nos.	24		
25.6	65 mm Butterfly valve	Nos.	1		
25.7	80 mm Butterfly valve	Nos.	10		
25.8	100 mm Butterfly valve	Nos.	4		
25.9	125 mm Butterfly valve	Nos.	1		
25.10	150 mm Butterfly valve	Nos.	18		
25.11	200 mm Butterfly valve	Nos.	1		

Sl. No.	Description of Items	Unit	Qty.	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
26.0	Supply, installation, testing and commissioning of 2-way motorised valves with actuator, step down transformer, if required and thermostat for the chilled water AHUs. Valve size:				
26.1	25 mm	Set	1		
26.2	32 mm	Set	1		
26.3	40 mm	Set	3		
26.4	50 mm	Sets	12		
26.5	65 mm	Set	1		
26.6	80 mm	Set	3		
27.0	Supply, installation, testing and commissioning of Dual plate type non-return valve with flanges and 50 mm thick insulation as per the Technical Specifications.				
27.1	150 mm	Nos.	6		
28.0	Supply, installation, testing and commissioning of Y- type strainers with fittings and 50 mm thick insulation as per the Technical Specifications . Size:				
28.1	25 mm	Nos.	1		
28.2	32 mm	Nos.	1		
28.3	40 mm	Nos.	3		

Sl. No.	Description of Items	Unit	Qty.	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
28.4	50 mm	Nos.	12		
28.5	65 mm	No.	1		
28.6	80 mm	No.	3		
28.7	150 mm	Nos.	3		
29.0	Supply, installation, testing and commissioning of Balancing valves with 50 mm thick insulation as per the Technical Specifications. Size:				
29.1	25 mm	Nos.	1		
29.2	32 mm	Nos.	1		
29.3	40 mm	Nos.	3		
29.4	50 mm	Nos.	12		
29.5	65 mm	No.	1		
29.6	80 mm	No.	3		
29.7	150 mm	Nos.	3		

Sl. No.	Description of Items	Unit	Qty.	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
30.0	Supply, installation, testing and commissioning of Gravity Flow type Expansion tank of 1000 litres capacity of HDPE construction with float valve, quick fill, inlet, outlet, drain and overflow connections with suitable sized ball valves. Tank shall be insulated with 25 mm thick nitrile rubber insulation and covered with wire netting and cement plastering. The Tank shall be installed in the open terrace in the Fourth floor at the highest point of the chilled water piping.	No.	1		
31.0	Supply, installation, testing and commissioning of automatic air purge valves of 20 mm size	Nos.	12		
32.0	Supply, installation, testing and commissioning of Condenser water piping of GI 'C' class pipes and fittings as per the Technical Specifications. Sizes:				
32.1	100 mm	Rm	6		
32.2	125 mm	Rm	6		
32.3	150 mm	Rm	50		
32.4	200 mm	Rm	6		
32.5	250 mm	Rm	100		
33.0	Supply, installation, testing and commissioning of Butterfly valves with fittings for condenser water piping as per the Technical Specifications. Sizes:				
33.1	100 mm	No.	1		

Sl. No.	Description of Items	Unit	Qty.	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
33.2	125 mm	No.	1		
33.3	150 mm	No.	14		
34.0	Supply, installation, testing and commissioning of Dual plate type non return valves with fittings as per the Technical Specifications. Sizes:				
34.1	100 mm	No.	1		
34.2	125 mm	No.	1		
34.3	150 mm	Nos.	3		
35.0	Supply, installation, testing and commissioning of Y- type strainer with fittings as per the Technical Specifications. Sizes:				
35.1	100 mm	No.	1		
35.2	125 mm	No.	1		
35.3	150 mm	Nos.	3		
36.0	Supply, installation, testing and commissioning of Balancing valves for condensers as per the Technical Specifications. Sizes:				
36.1	100 mm	No.	1		
36.2	125 mm	No.	1		

Sl. No.	Description of Items	Unit	Qty.	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
36.3	150 mm	Nos.	3		
37.0	Supply, installation, testing and commissioning of Flow switches for condensers and chillers	Nos.	4		
38.0	Supply, installation, testing and commissioning of Water pressure gauges with siphon and cock	Sets	26		
39.0	Supply, installation, testing and commissioning of Thermometer, industrial type with couplings	Sets	8		
40.0	Supply, installation, testing and commissioning of drain piping of hard PVC pipe and fittings, insulated with 12 mm thick nitrile rubber. Size:				
40.1	25 mm	Rmt.	300		
40.2	32 mm	Rmt.	25		
40.3	40 mm	Rmt.	35		
40.4	50 mm	Rmt.	12		
41.0	Supply, installation, testing and commissioning of Exhaust Blower of SISW construction, complete with drive motors and drive arrangement, of the following capacity.				
41.1	4500 CFM @ 40 mm st. pr. for CSSD in Stilt floor	No.	1		
42.0	Supply, installation, testing and commissioning of wall mounted propeller type exhaust fans complete with mounting frame, mesh guard and gravity louvers. Capacities as follows:				

Sl. No.	Description of Items	Unit	Qty.	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
42.1	225 mm dia. 1400 rpm	Nos.	20		
42.2	300 mm dia 1400 rpm	No.	1		
42.3	380 mm dia 1400 rpm	No.	1		
42.4	450 mm dia. 1400 rpm	No.	1		
43.0	Supply, installation, testing and commissioning of under deck insulation for roof areas exposed to sun light, using 50 mm thick TF grade eps slabs as per the Technical Specifications.	Sq mt.	2000		
	<b>Total</b>				

GOVT RAJAJI HOSPITAL , MADURAI

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

LIFTS WORKS

Code No.	SI.No	Description	Unit	Qty	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	1	<p><b>I. BED CUM PASSENGER LIFT</b></p> <p>Supply, Installation, Testing, Commissioning and handing Over of 26 passenger cum bed lift as per the following technical specifications including all taxes and duties complete.</p> <p><b>Technical Specifications.</b></p> <p>2) Type of Lift - Bed cum Passenger Lift</p> <p>3) Capacity of Lift - 26 Passengers</p> <p>4) Speed - 0.5 M / sec</p> <p>5) Type of drive - AC variable voltage Variable Frequency drive system (With Close loop)</p> <p>6) No of Floors - Stilt + Ground + First floor + second floor + Third floor</p> <p>7) Total Travel - 20.5 Mts</p> <p>8) Levelling accuracy - High level accuracy with smooth jerk free stopping</p> <p>9) Construction of Car - High Quality stainless steel scratch proof surface - Moon Rock finish</p> <p>10) Hand rails - Stainless steel Mirror finish not less than 600mm long at 900mm above floor level to be</p>				

Code No.	Sl.No	Description	Unit	Qty	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
		fixed adjacent to the control panel in the lift car.				
	11)	Car Size -1600 x 2400				
	11a.	Lift well size : 2400 x 3000				
	12)	Car Entrance -1200 x 2000				
	13)	Car Entrance _ Automatic Power operated Door centre opening Horizontal sliding stainless steel scratch free surface.				
	14)	Operation - Microprocessor based automatic push button duplex collective selective with / without attendant				
	15)	Flooring - 4mm Thick Vinyl Tiles				
	16)	False Ceiling - Perplex false ceiling				
	17)	Position of _ Directly above the lifts Machine				
	18)	Landing Entrance - Centre opening M.S Powder - coated finish door with provision for emergency key opening at all landings				
	19)	Power Supply _ 415V 3 Phase 50HZ 4 wire system				

Code No.	SI.No	Description	Unit	Qty	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
		20) Car Fittings - Compact Fluorescent lights 6 nos and 400mm sweep cabin fans - 2 Nos.				
		21) Indication - UP/Down Scrolling direction and position indicator in car and all landing digital floor Position indicator scrolling type in car and at all landing				
		22) Emergency Alarm Bell - Battery operated alarm bell - to be provided with automatic charging device				
		23) Emergency light - Battery operated light to be provided with automatic charging device.				
		24) Fireman Switch - To be provided at Ground floor				
		25) Automate Rescue Device - To facilitate the landing of the - lift to the nearest floor at the line of power failure. This shall consist of suitable type battery system with charger invertor, under voltage Protection ayatem etc ., Complete with all accessories.				

Code No.	Sl.No	Description	Unit	Qty	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
MR	2	26) Over speed governor, phase failure and phase reversal relay, alarm bell, T Guide brackets for car and counterweight, rubber padding under winding unit, motor of adequate capacity, single reduction worm gear, electromagnetic brake with compression springs, car safety gears, buffers, electro mechanical door locks, emergency keys side supporting angles, motor over load protection devices, final limit switch main suspension ropes counter weights, lifting joints for mounting the machineries, voltage stabilizer for circuit control.				
		27) Providing Architraves The architraves should cover the thickness of sill level door frame at the landing and indicator boxes at all landing as per the design preferred by the Engineer in charge				
		28) Provision of Communication Intercom with phone				
		29) Sill Angles and facia - To be provided by the lift Contractor Plates Contractor				
		30) Minor Builder - To be provided by the Lift contractor Work Lift contractor				
		31) Scaffolding - To be provided by the Lift contractor	Nos	6		
		Supply, Installation, Testing, Commissioning and handing Over of 6 passenger (408kg) lift as per the following technical specifications including all taxes and duties complete. <b>Technical Specifications.</b>				

Code No.	Sl.No	Description	Unit	Qty	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)

Code No.	SI.No	Description	Unit	Qty	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
		2) Type of Lift - Passenger Lift				
		3)Capacity of Lift - 6 Passengers				
		4) Speed - 0.7 Mt / sec				
		5)Type of drive - AC variable voltage Variable Frequency drive system (With Close loop)				
		6) No of Floors - Stilt + Ground floor + First floor + Second floor + third floor				
		7) Total Travel - 20.5m				
		8) Levelling accuracy - High level accuracy with smooth jerk free stopping				
		9) Construction of Car - High Quality stainless steel scratch proof surface - Moon Rock finish				
		10) Hand rails - Stainless steel Mirror finish not less than 600mm long at 900mm above floor level to be fixed adjacent to the control panel in the lift car.				
		11) Car Size -1200 x 1000				
		11a. Lift well size : 1900 x 1700				
		12) Car Entrance -700				

Code No.	Sl.No	Description	Unit	Qty	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
		13) Car Entrance _ Automatic Power operated Door centre opening Horizontal sliding stainless steel scratch free surface.				
		14) Operation - Microprocessor based automatic push button duplex collective selective with / without attendant				
		15) Flooring - 4mm Thick Vinyl Tiles				
		16) False Ceiling - Perplex false ceiling				
		17) Position of _ Directly above the lifts Machine				
		18) Landing Entrance Door - Centre opening M.S Powder coated finish door with provision for emergency key opening at all landings				
		19) Power Supply - 415V 3 Phase 50HZ 4 wire system				
		20) Car Fittings - Compact Fluorescent lights 6 nos and 400mm sweep cabin fans - 2 Nos.				
		21) Indication - UP/Down Scrolling direction and position indicator in car and all landing digital floor Position indicator scrolling type in car and at all landing				

Code No.	Sl.No	Description	Unit	Qty	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
		22) Emergency Battery operated alarm bell Alarm Bell - to be provided with automatic charging device				
		23) Emergency - Battery opratated light to be provided with automatic charging device.				
		24) Fireman _ To be provided at Ground floor Switch				
		25) Automate To facilitate the landing of the Rescue - lift to the nearest floor at the Device line of power failure. This shall consist of suitable type battery system with charger inverter, under voltage Protection ayatem etc ., Complete with all accessories.				
		26) Over speed governor, phase failure and phase reversal relay, alarm bell, T Guide brackets for car and counterweight, rubber padding under winding unit, motor of adequate capacity, single reduction worm gear, electromagnetic brake with compression springs, car safety gears, buffers, electro mechanical door locks, emergency keys side supporting angles, motor over load protection devices, final limit switch main suspension ropes counter weights, lifting joints for mounting the machineries, voltage stabilizer for circuit control.				
		27) Providing The architraves should cover Architraves the thickness of sill level door frame at the landing and indicator boxes at all landing as per the design preferred by the Engineer in charge				

Code No.	SI.No	Description	Unit	Qty	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
MR	4	28) Provision of Intercom with phone Communication	Nos	2		
		29) Sill Angles and fascia - To be provided by the lift Contractor Plates				
		30) Minor Builder - To be provided by the Work Lift contractor				
		31) Scaffolding - To be provided by the Lift contractor				
		<u>II. DUMB WAITER</u> Supply, Installation, Testing, Commissioning of and handing Over of 250 Kg Dumb Waiter as per the following technical specifications including all taxes and duties complete. <b>Technical Specifications.</b>				
		2) Type of Lift - Dumb Waiter				
		3)Capacity of Lift - 250 Kg				
		4) Speed - 0.5 Mts / sec				
		5)Type of drive - Single Speed Drive				
		6) No of Floors - Stilt + Ground + First floor + Second floor + Third floor				
7) Total Travel - 12.5mts						

Code No.	SI.No	Description	Unit	Qty	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
		8) Levelling - High level accuracy with accuracy smooth jerk free stopping				
		9) Construction - M.S Painted - Bleaumont of Car				
		10) Car Size - 1000 X 1000 X 1200 W X D X H				
		11) Car Opening - 1000 X 1200				
		12) Car Entrance - Collapsible Gate - With finish Door				
		13) Operation - External Extended Push Button with / without attenant				
		14) Landing Entrance - Collapsible Gate - M.S. Painted Door				
		15) Power - 415V 3 Phase 50HZ 4 wire Supply system				
		16) Car Fittings - Bulk Head fitting and circular fan				
MR		17) Indication - Arrows in landing only. [ For 2 Nos for Trauma and 2 Nos for OBG]	Nos	2		
<b>Total</b>						

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**NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.**

**UPS SYSTEM**

Sl. No	Description	Unit	Qty	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
<b>UPS</b>					
	<p>Supply, Installation Testing and commissioning of double conversion, DSP Based, True on line UPS system with 415V +/- 15% V,50Hz,3Ph Input &amp; 415V+/-1%, 50 Hz ,3Ph Output, working on 16 Bit microprocessor Architecture,Isolation transformers, RS 232 ports, monitoring software , O/L.S.C. protections &amp; self diagnostic features,LCD Display Panel for Functions &amp; all parameters, complying with IEC standards. Convertors,Invertors &amp; Battery Charger shall utilize PWM technology with IGBT. Battery Back up time of 15 minutes with required No of 'SMF Battery of 12V, 150 AH with Battery management System, housed in suitable Cabinet /stand,Static ByPass, complete with Internal wiring &amp; all accessories to be provided. The System shall have in-built P.F.correction &amp; shall ensure THD as per latest International standards. The efficiency of UPS shall be 97% or more.Only Incomer feeder Cables to UPS shall be provided by Client &amp; Output from UPS final Point shall be Tapped from Client for further distribution.UPS shall be under Warranty for 2 years from the date of Acceptance by Client.</p>				
1	1x160KVA in Parallel Redundant System with Individual Battery Bank	Nos	1		

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**BMS SYSTEM-**

SI.No	Description	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	<b>BUILDING MANAGEMENT SYSTEM</b>				
1	Supply and installation of PC Pentium duo Processor, 1GB RAM, 80GB HDD, CD ROM Drive & 17inch colour monitor, key board, mouse with A4 Laser printer complete with all accessories.	ea	2		
2	Supply, Installation, Testing of IBMS Graphical interface software with 2 Web Clients based on MS Windows XP Professional complete.	lot	1		
3	Supply, Installation and Testing of System Interface Controller for DDC complete.	lot	1		
4	Interagrations of VRV, VFD for PUMP, BTU & Energy meter, Lighting Control etc through MODBUS Rs 485 interface.	lot	1		
5	Supply, Installation and Testing of Portable Operator Terminal (POT) capable to be hooked to any DDC controller to monitor and change set points of any parameter and communicate to any DDC controller in the network complete.	lot	1		
6	Supply, Installation and Testing of DCC Controllers with in-built real time clock, Battery Back up, 32 bit micro-processor for the following as per Input/Output Summary complete (as per IO points)				
a	chillers-2 No	lot	1		
b	AHU 12 Nos ( Max 2 AHUs per DDC)	lot	1		
c	FCUs	lot	1		

SI.No	Description	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	<b>BUILDING MANAGEMENT SYSTEM</b>				
d	Exhaust Fan (as per I/O points)	lot	1		
e	Water Management System (as per I/O points)	lot	1		
f	Main L.T. Panel - 1 No	lot	1		
<b>g</b>	<b>Lifts - 6 Nos</b>	1	1		
<b>h</b>	<b>DG status</b>	1	1		
7	Software Integration of the following through Modbus RS485 Interface	Lot	1		
	VRV Interface -Bacnet/Modbus communication - 6Nos				
	VFD for Secondary Pump & AHU - 16 Nos				
	Energy Meter Communication - 12 Nos				
	Lifts - 6 Nos				
	FCU -24 Nos				
<b>8</b>	<b>FIELD DEVICES</b>				
a	Supply, Installation and Testing of Outside Temperature & RH sensor complete	No	2		
b	Supply, Installation and Testing of Immersion Temperature Sensor complete	Nos	16		
c	Supply and installation of CO2 sensor complete with connection through the fresh air dampers with copper wires in PVC pipe complete with all accessories	Nos	12		
d	Supply, Installation and Testing of Water DP Switch for Pump ON/OFF Status complete	Nos	6		

SI.No	Description	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	BUILDING MANAGEMENT SYSTEM				
e	Supply, Installation and Testing of Water Level Switch complete	Nos	4		
f	Supply, Installation and Testing of Air DP Switch for Fan status complete	Nos	60		
g	Supply, Installation and Testing of Air DP Switch for Filter status complete	Nos	12		
h	Supply, Installation and Testing of Duct temperature Sensor complete	Nos	12		
i	Supply, Installation and Testing of Duct temperature & RH Sensor complete	Nos	12		
j	Supply, Installation and Testing of Air Differential Pressure sensor for filter complete	Nos	12		
k	Supply, Installation and Testing of Room temperature Sensor complete	Nos	12		
l	Supply, Installation and Testing of On/Off damper Actuator complete	Nos	12		

SI.No	Description	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	<b>BUILDING MANAGEMENT SYSTEM</b>				
m	Supply, Installation and Testing of Communicable FCU Room temperature controller with display and set point adjustment with Modbus RS485 Interface	Nos	24		
n	Supply, Installation and Testing of Variable Frequency Drive				
	11KW VFD for Secondary Pumps complete	Nos	3		
o	Supply, Installation and Testing of 2-way motorized modulating valves for the following dia				
	40mm Dia for Air Handling Units	Nos	6		
	25mm Dia for FCUs	Nos	104		
g	<b>DATA BACKBONE FOR FIBER</b>				
a	Supply, Installation, Testing and Commissioning of 6 - core 9/125U SM outdoor optical fibre cable.	MTRS	350		
b	Supply, Installation, Testing and Commissioning of SC - simplex connector single mode.	Nos	40		
c	Supply, Installation, Testing and Commissioning of SC duplex connector single mode.	Nos	20		

SI.No	Description	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	<b>BUILDING MANAGEMENT SYSTEM</b>				
d	Supply, Installation, Testing and Commissioning of LIU 12 port rack mount BLK.	Nos	4		
e	Supply, Installation, Testing and Commissioning of patch cord LC-SC duplex 2MTR SM	MTRS	10		
<b>10</b>	<b>Cabling &amp; Conduits</b>				
a	Supply and laying of Signal cable 2c x 1.0 sq,mm ATC Flexible Shielded for AI & AO signals in the existing PVC pipe complete with all accessories	Mtrs	1500		
b	Supply and laying of Signal cable 2c x 1.0 sq,mm ATC Flexible UnShielded for DI & DO signals in the existing PVC cable complete with all accessories	Mtrs	1000		
c	Supply and laying of Communication Cable - CAT6 Cable in the existing PVC cable complete with all accessories	Mtrs	2000		
d	Supply and laying 25 mm PVC rigid conduit pipe with suitable clamps complete with all accessories	Mtrs	6000		
	<b>GRAND TOTAL</b>				

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

**GOVT RAJAJI HOSPITAL , MADURAI**

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

**DATA & NETWORKING, CCTV SUMMARY**

<b>S.NO</b>	<b>ITEMS</b>		<b>Amount (Rs. in words &amp; in figures)</b>
I	DATA & NET WORKING	Rs.	
II	CCTV SYSTEM	Rs.	
III	<b>MASTER ANTENNA TV SYSTEM</b>	Rs.	
	<b>TOTAL IN Rs</b>	Rs.	

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

**GOVT RAJAJI HOSPITAL , MADURAI**  
**NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.**  
**DATA & NETWORKING, CCTV WORKS**

Sl.No	Description	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	<b>PART-I</b>				
	<b>DATA:- SUPPLY,Installation,Testing &amp; Commissioning of Data Net Working complete with VDI Structured CABLING &amp; co-ordinating with Server System Supplier</b>				
	<b>SERVER</b>				
	Supply, Installation, Testing and Commissioning of DUAL CORE 3.0 GHz processor with 5 MB CACHE / 1333 MHz FSB; 2 GB MEMORY / 250 GB SATA HARD DISK / GIGABIT ETHERNET ON BOARD / DVR-ROM / KEYBOARD / MOUSE WITH Windows 2008 Server with 5 User Pack OEM ( Make:- 1 INTEL XEON E5 or Eqv IBM)	No	1+1		
2	Supply, Installation, Testing and Commissioning of core switch as per the technical specifications	No	2		
	i) (24) 10/100/1000 auto-sensing, auto-negotiating, MDI/MDI-X RJ45 ports				
	ii) (4) mini-GBIC combo ports				
	iii) (2) dedicated stacking ports				
	iv) (1) DB9 console port				
	CORE SWITCH Type Cisco WS-C3750X-24T-L or eqv DLINK/ NORTEL				
3	Supply, Installation, Testing and Commissioning of Edge switch as per the technical specifications	No	12		
	i) (24) 10/100/1000 auto-sensing, auto-negotiating, MDI/MDI-X RJ45 ports				

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

Sl.No	Description	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	ii) (4) mini-GBIC combo ports				
	iii) (2) dedicated stacking ports				
	<b>EDGE SWITCH Type CISCO WS-C2960S-24TS-L OR eqv DLINK/NORTEL</b>				
4	Supply, Installation, Testing and Commissioning of LIU 12 port rack mount BLK.	Nos	6		
5	PATCH PANEL with UTP CAT6 24RJ Connectors complete	No	12		
6	42 U Network cum Server Rack Assembly, Floor Mounting, made of Aluminium Channels equivalent to Euro Rack System with side and rear panels made of Powder Coated sheet steel, front transparent perspex door and with rails, rollers with fans will be provided at the top for ventilation. Make : Netrack/Legrand/ DLink	Nos	1		
7	15 U Wall Mounting cabinet with Standard Accessories like Power Supply units etc FOR Patch panel	No	12		
8	4 pair CAT 6 cable Make: D-link/Finolex/LEGRAND	box( 305 M	25		
9	Supply, Installation, Testing and Commissioning of 6 - core 9/125U SM outdoor optical fibre cable.	MTRS	50		
	Multimode Fiber Optic cable-Type OM2(50/125uM)				
	Supply, Installation, Testing and Commissioning of SC - simplex connector single mode.	Nos	40		

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Sl.No	Description	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Supply, Installation, Testing and Commissioning of SC duplex connector single mode.	Nos	20		
	50 Pair Jelly filled Riser cable	Mtr	200		
	100 Pair Jelly filled Riser cable	Mtr	50		
	50 Pair Krone Box	No	3		
	100 Pair Krone Box	No	1		
n	80x50x 2mm mm PVC Casing/ Trunking with accessories	Mtr	500		
o	Plastic Box( Surface/ Flush Mount) 1/2 module	Nos	150		
	<b>TOTAL FOR DATA / NETWORKING(PART-T)</b>				
	<b>PART-II</b>				
	<b>Closed Circuit TV System</b>				
	<b>supply.installation,Testing &amp; Commissioning of CCTV system consisting of the following items,but not limited to it ,for total integration of the system</b>				
	<b>Indoor Camera</b> :- CCD camara with colour flexidome , 3.5mm varifocal lens, capable of operating in min Lux level of 0.2 lumens or less,min 660 TV lines, min 25 M IR range,compatible for CCTV application,in IP;65 housing with all accessories complete Make - Bosch/Videotec/Pelco	Nos	28		

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Sl.No	Description	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
1					
	Out door PTZ Camera with Power supply unit & PTZ controller	Nos	2		
2					
	Power Supply unit ( For camera) (24V AC/ 50 Hz or as per Camera requirement)	Nos	30		
3					
	<b>DIGITAL VIDEO RECORDER</b>				
4	Stae of the Art IP based, 16 Channel digital video recorder of Embedded Type with dual streaming Technology for Video & Audio, with Web Server feature, Mouse/ Joy stick Controller for Cameras, multi-client Viewing ,capable of supporting upto 5 T or more bytes,high resolution,multiscreen display & recording , capable of supporting Thumb Drive,HDD& Optical devices through USB,suitable for operation on 230 V,1Ph,50 Hz supply complete with required soft ware & interlinking of all DVRs Make: GE SecurityModel DVSR 16 EA or Eqv of Sony/Bosch/Pelco	Nos	2		
	32" LCD TV compatible for CCTV System Make - Sony/LG/Sharp	Nos	2		
5					
	<b>Cable and Conduiting</b>				
6	Supply & laying of CCTV Co-Axial Unarmoured cable in existing conduit, Cable shall be with solid bare annealed Cu conductor, HRPVC/ Polyethylene insulated, shileded with mylar tape,Al wire braided with black PVC outer sheath/jacket. cable compatible for good connectivity & requirement for CCTV system( Make:-Havells/Varsha/ Finolex/ RRCables)	mtr	1000		

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

SI.No	Description	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	<b>TOTAL FOR CCTV SYSTEM</b>				
	<b>PART-III</b>				
	MASTER ANTENA TV (MATV) system				
25	The Scope of work is Supply, installation, Testing for T.V. System with following Items & components in Rooms & other Specific Areas. It also covers co-ordination with T.V service provider for completeness & usage of the Items /components erected by Vendor				
	<b>T.V. CONNECTION</b>				
	A. Supply and fixing of booster amplifier	No	3		
	B. Supply and fixing of 3 way splitter	Nos	12		
	C. Supply and laying of RG 11 co-axial cable in the existing PVC pipe	Mtr	1200		
	<b>TOTAL FOR MATV</b>				

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

**GOVT RAJAJI HOSPITAL , MADURAI**

**NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.**

**PA SYSTEM,EPBAX, OHP & NS SUMMARY**

<b>S.NO</b>	<b>DESCRIPTION</b>	<b>Amount (Rs. in words &amp; in figures)</b>
<b>I</b>	<b>P.A SYSTEM</b>	
<b>II</b>	<b>TELEPHONE SYSTEM.</b>	
<b>III</b>	<b>OVER HEAD PROJECTOR</b>	
<b>IV</b>	<b>TOTAL FOR NURSE CALL SYSTEM</b>	
	<b>TOTAL IN Rs</b>	

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

**GOVT RAJAJI HOSPITAL , MADURAI**  
**NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.**  
**PA SYSTEM,EPBAX, OHP & NS WORKS**

Sl.No	DESCRIPTION OF SYSTEMS / ITEMS	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
<b>1</b>	<b>PUBLIC ADDRESS SYSTEM</b>				
a	26U high 19" width, 650mm depth, Rack assembly Made of Aluminium Channels Side and Rear panels made of 16 SWG powder coated steel sheet Front transparent perspex door Bearing with rails, and rollers Ventilated type Side panels Powder coated to 'Siemens Grey' colour as per IS 5 Spare U covered with blank panels Suitable for mounting. one System Controller, two Mixer Amplifier one Music Source (Optional) Make-Siemens/Bosch	Nos	1		
b	Programmable System Controller with built in DVR, zone selection for 12 zone, having 1st level priority for DVR, 2nd level for Announcement & Music. with built in monitoring facility. Make: BOSCH /Siemens or EQV	Nos	1		
c	Call station with zone selector & all Facility with goose neck microphone for 12zones Make : Bosch /Siemens(	Nos	2		
d	Compact Music system with 3CD Changer, Double Deck cassette player, and AM/FM Tuner built in single module. OPTIONAL) Make: Philips Model: V230/Sony	Nos	1		
e	480Watts Power Amplifier (1+1Std by) with dual inputs,priority Switching,70/100V& 8Ohms output,suitable for 230V,Ph,50Hz with Battery Back-up. Make: Bosch Model : LBD 1916/Phillips	Nos	2		
f	6 Watts Wooden Box Cabinet Speaker Make:Bosch Model:LBD 3902/Philips	Nos	8		
g	2 core 24/0.2 mm ATC twin twisted unarmoured LS Cable Make-Finolex/Havells/D-Link	Mtr	2200		
h	Main junction box to terminate field cables with necessary tags	Nos	15		

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

SI.No	DESCRIPTION OF SYSTEMS / ITEMS	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
1	<b>PUBLIC ADDRESS SYSTEM</b>				
i	12 Watt Wall Mounting Speaker Make:Bosch Model:LBD 3902/Philips	Nos	4		
j	6 Watt false Ceiling Mounting Speaker Make:Bosch Model:LBD 3902/Philips	Nos	80		
	<b>TOTAL AMOUNT FOR P.A. SYSTEM.</b>				
	<b>TELECOMMUNICATION</b>				
1	<b>EPABX:- Supply,Installation,Testing &amp; Commissioning of micro-processor based, state of the Art, Telephone PBX System</b>				
	<b>, IP READY, based on Linux/GRUB compliant, integrated Software for multiTasking for Hospitality Services including Billing ,comprising of items as below but not limited to them. Expanadable upto 500 Ports</b>				
	Providing PRI cards for Trunk lines / for tie line				
	with reqd.software				
a	16Analog Trunk Lines	Nos	1		
b	4 Digital Extensions				
c	250 Analogue Extensions( Expandable up to 300)				
d	In-Built Voicemail ( 4 Port & 80 Min)				
e	LAN Connectivity				
f	Embedded WELCOME MESSAGE				
g	Least Cost Routing				
h	Personal Assistant				
i	Music on Hold				
	<b>(Make - Siemens/ AVAYA/ALCATEL )</b>				

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

SI.No	DESCRIPTION OF SYSTEMS / ITEMS	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
1	<b>PUBLIC ADDRESS SYSTEM</b>				
2	a. 200 pair MDF with KRONE disconnection modules ( System MDF & Customer MDF)	Nos	1		
a	100Pair MDF	Nos	1		
b	50Pair MDF	Nos	3		
c	SCP & IPM's for Trunk Lines	Nos	8		
d	Jumper Cable	Mtr	75		
e	IDF 20 Pair	Nos	2		
3	Desktop Digital operator Console with Caller Identification, Reception of text message, Message LED, Programmable keys, Navigational keys, Guide key, loud speaker, Integrated alphabetical key board Make - Alcatel Model: A-4035/ Eqv Siemens/Nortel/Ayaya	Nos	2		
a	Head Set for operator Console (optional)	Nos	1		
b	Calling Bill Software	Set	1		

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

SI.No	DESCRIPTION OF SYSTEMS / ITEMS	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
1	<b>PUBLIC ADDRESS SYSTEM</b>				
	<b>TELEPHONES</b>				
c	Analog push button telephone with Caller ID, flash and radial	Nos	200		
d	Digital Executive phone with 3x16 / 2x24 character alpha numeric display, 12 programmable keys with 2 colour LED's etc	Nos	24		
4					
	<b>Supply,laying &amp; Termination of Telephone Wires/ Cables as per DOT spcn,with solid annealed Cu Conductor of 0.5mm thick, High Density Polyethylene insulated,Twisted pair,unarmoured ,with outer sheath of low density Polyethylene ( Make:-FINOLEX/ DELTON/HAVELLS)</b>				
a	5pair 0.5mm unarmoured telephone Cu cable	Mtr	2000		
b	10 pair 0.5mm unarmoured telephone Cu cable	Mtr	1000		
c	20 pair 0.5mm unarmoured telephone cable	Mtr	200		
d	50 pair 0.5mm unarmoured telephone Cu cable	Mtr	100		

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

SI.No	DESCRIPTION OF SYSTEMS / ITEMS	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
1	<b>PUBLIC ADDRESS SYSTEM</b>				
5	S, I & T of Outdoor Telephone Cables as per DOT spcn, with solid annealed Cu Conductor of 0.5mm thick, High Density Polyethylene insulated, Twisted pair Jelly filled, Inner sheath of Polyethylene & core wrapping, moisture barrier with Al tape, Double G.I. wire/strip armoured, with outer jacket of low density Polyethylene ( Make:- FINOLEX/ DELTON/HAVELLS)				
	100Pair( for College)	Mtr	100		
5	<b>Power pack Unit</b> with Batteries, Charger etc for 2 Hrs Back-up compatible for above System	Lot	1		
	<b>TOTAL AMOUNT for TELEPHONE SYSTEM.</b>				
	<b>OVER HEAD PROJECTOR</b>				
	Screen: Pull down screen, High Gain mat White with size 6 Ft X 5 Ft	Nos	1		
	LCD Projector COMPATIBLE WITH IBM PC : - Brightness of 3000 ANSI 1 -> Lumens with contrast ratio of 2000:1 with a resolution of 1024 X 768, supplied with cordless remote control, VGA cable. Make - ACER / Panasonic/Sony/LG	Nos	1		
	Ceiling Mount Kit	Nos	1		

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

SI.No	DESCRIPTION OF SYSTEMS / ITEMS	UNIT	QTY	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
1	<b>PUBLIC ADDRESS SYSTEM</b>				
	<b>TOTAL AMOUNT-OHP</b>				
	<b>NURSE CALLING SYSTEM</b>				
	(Wired System)( Make:- Royal Electronics/ GE Health Care/Process Care )				
	Micro-Processor based Nurse Calling System complete with Microswitch , Remote Display Panel with LED lit Windows,@Nurse Station, LED Display outside patient Room. Complete suitable for 230V,1Ph,50 Hz supply				
a	16 Window Display Panel with Controller, Inbuilt SMPS,Protections, Acceptance Button, Pre-Recorded Voice Anouncement, Alarm Cancel,& Electronics Complete	No	15		
b	8 Window Display Panel with Controller, Inbuilt SMPS,Protections, Acceptance Button, Pre-Recorded Voice Anouncement, Alarm Cancel,& Electronics Complete	No	3		
c	Bed side Unit with soft Touch call Button,Reset& Indication	No	264		
d	Wiring 4 Pair Telephone cable/ Wire in PVC Conduit	Rmt	5500		
	<b>TOTAL FOR NURSE CALL SYSTEM</b>				

GOVT RAJAJI HOSPITAL , MADURAI

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

SEWAGE TREATMENT PLANT (STP) (MECHANICAL EQUIPMENTS)

SI.No	CODE	ITEM	Amount (Rs. in words & in figures)
<b>A. Sewage Treatment Plant</b>			
1	MR	Supply, Erection testing, trial run and commissioning of STP 65Cum/Day Pre Fabricated Type (FAB Technology)as per following specifications;	
		MS Bar Screen & o & G Trap	
		FEED PUMPS - 1.1 KW, 3Cum/hr (2 Nos)	
		FAB TANK - 1.1m dia x 6m Height (2 Nos)	
		TUBE SETTLER - 1.4 x 1.4 x 2.7 m Height	
		AIR BLOWER - 5.5 KW 5.5KW, 105Cum/hr @ 4500MWC	
		SAND FILTER - 500mm Dia	
		CARBON FILTER- 500mm Dia	
		PUMPS FOR THE PSF/ACF 3Cum/hr, 1.5 KW	
		CENTRIFUGE SYSTEM 1Set	

SI.No	CODE	ITEM	Amount (Rs. in words & in figures)
2	MR	All electrics and instrumentation including illumination	
3	MR	Civil works	
		i. Coarse screen chambers (1)	
		ii. Sewage lift pumphouse (1)	
		iii. Fine screen chamber (1)	
		iv. Grit channels (2)	
		v. Equalization tank (1)	
		vi. Flow distribution chamber (1)	
		vii. Aeration tanks (3)	
		viii. Secondary settling tanks (3)	
		ix. Sludge pump house (1)	
		x. Sludge digester (1)	
		xi. Sludge drying beds (2)	
		xii. Parshall flume flow measuring structure (1)	

SI.No	CODE	ITEM	Amount (Rs. in words & in figures)
		xiii. STP Electrical panel room (1)	
		xiv. Tertiary Treatment Plant (1) & Blower Room (1) (including Filter Feed Sump and Reclaimed Water Sump)	
		xv. Other Services (such as storm water drains, plant roads, pavement / foot path, drinking water lines and drainage platform, toilet facility, fencing and entry gate for STP)	
4	MR	Erection testing, trial run and commissioning.	
5	MR	Supply of spares for 2 years trouble free operation including all taxes and duties, freight and transit insurance.	
TOTAL			

**GOVT RAJAJI HOSPITAL , MADURAI**  
**NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.**  
**WATER TREATMENT PLANT (WTP) (MECHANICAL EQUIPMENTS)**

SI.No	CODE	ITEM	Unit	Qty	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
1	MR	Supply, Erection testing, trial run and commissioning of WTP of 25Cum/Hour and as per following specification;				
		Raw Water Pumps - 25cum/hr at 25MWC Head -	Nos	2		
		Chlorine Doser - 0 -6LPH Electronic Diaphragm Type	Nos	1		
		DUAL MEDIA FILTER - 1300 MM DIA X 1500 MM HOS - MOC SHALL BE MSEP	Nos	1		
		ACTIVATED CARBON FILTER - 1500 MM DIA X 1500 MM HOS - MOC SHALL BE MSEP	Nos	1		
		WATER SOFTENER - 800 MM X 1500 MM HOS WITH 975 LTR RESIN - MOC - MSEP	Nos	1		
		INTER CONNECTING PIPING	LoT	1		
		TOTAL				
2	MR	Supply, Erection testing, trial run and commissioning of Hydropneumatic System as per following specification;				
		Discharge - 80Cum/hr at 80 m Head with 1working and 1 Standby Pump	LS	set		
		<b>Total</b>				

GOVT RAJAJI HOSPITAL , MADURAI

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

EFFLUENT TREATMENT PLANT (ETP) (MECHANICAL EQUIPMENTS)

SI.No	CODE	ITEM	Amount (Rs. in words & in figures)
<b>A. Sewage Treatment Plant</b>			
1	MR	Supply, Erection testing, trial run and commissioning of ETP 35Cum/Day with following;	
		MS Bar Screen & o & G Trap	
		FEED PUMPS - 2Nos FAB TANK TUBE SETTLER AIR BLOWER PUMPS FOR THE PSF/ACF CARBON FILTER PUMPS FOR THE PSF/ACF CENTRIFUGE SYSTEM 1Set	
2	MR	All electrics and instrumentation including illumination	

SI.No	CODE	ITEM	Amount (Rs. in words & in figures)
3	MR	Civil works For ETP LS	
4	MR	Erection testing, trial run and commissioning.	
5	MR	Supply of spares for 2 years trouble free operation including all taxes and duties, freight and transit insurance.	
TOTAL			

**GOVT RAJAJI HOSPITAL , MADURAI**  
**NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.**  
**FIRE PROTECTION AND FIRE DETECTION & ALARM SYSTEM**

Sl. No	Description of Item	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	<b>PART - A. FIRE WATER PUMPING SYSTEM</b>				
1	a. Horizontal end suction top discharge centrifugal pump of cast iron body & bronze impeller with stainless steel shaft of 137 Cu.M per hour at 70MWC head as per CPWD specification				
	b. Suitable HP Sq. cage induction motor, TEFC, synchronous speed 2900 RPM, suitable for operation on 415 volts, 3 phase 50 Hz AC with IP 55 protection for enclosure, horizontal foot mounted type with Class-F insulation, conforming to IS -325				
	c. M.S fabricated common base plate, coupling, coupling guard, foundation bolts etc. as required.				
	d. Suitable cement concrete foundation duly plastered with anti-vibration pad.	Set.	1		
2	Supplying, Installation, Testing and Commissioning of diesel engine driven standby fire pump suitable for automatic opration and consisting of following: complete in all respect as required.				
	a. Horizontal end suction top discharge centrifugal pump of cast iron body & bronze impeller with stainless steel shaft of 137 Cu.M per hour at 70MWC head as per CPWD specification				
	b. Suitable HP, water cooled with radiator, diesel engine conforming to relevant BS & IS standard complete with auto starting mechanism, 24/12 Volts electric starting equipment, Diesel Tank, residential silencer, instruments and protection as per specification, stop solenoid for autostop in the event of fault with audio indications, painted with post office red colour etc. as required.				
	c. M.S. fabricated Common base plate, coupling, coupling guard, foundation bolts etc., as required.				

Sl. No	Description of Item	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	d. Suitable cement concrete foundation duly plastered with anti vibration pads.	Set.	1		
3.	c. 100mm dia exhaust pipe with necessary fittings including insulated with 50 mm thick glass wool with 1.0mm thick aluminium sheet cladding.	Mtrs.	12		
4.	Supplying, Installation, testing and commissioning of electric driven pressurisation pump suitable for automatic operation and consisting of following:complete in all respect as required.				
	a. Horizontal end suction top discharge centrifugal pump of cast iron body & bronze impeller with stainless steel shaft of 10.8 Cu.M per hour at 70MWC head as per CPWD specification				
	b. Suitable HP SQ cage induction motor, TEFC type suitable for operation on 415 volts, 3 phase 50 Hz AC with IP 55 protection for enclosure, horizontal foot mounted type with Class-F insulation, conforming to IS -325				
	c. M.S fabricated common base plate, coupling, coupling guard, foundation bolts etc. as required.				
	d. Suitable cement concrete foundation duly plastered with anti vibration pads.	Set	1		
4	Supplying, installation, testing and commissioning vertical monoblock submersible dewatering pump of 1Cu.M/hr discharge of water at 11 m. head complete with all accessories suitable for operation on 230V, single phase, 50 Hz.AC supply complete with starter for automatic operation including water level sensing device, inter-connection with submersible cable etc. as required.	Set.	1		
5	Supplying, installation, testing and commissioning of electrical control panel of cubical construction, floor mounted type, fabricated out of CRCA sheet, compartmentalised with hinged lockable doors, dust and vermin proof, powder coated of approved shade, cable alley, inter-connection, having switchgears and accessories mounting and internal wiring, earth terminals, numbering etc. complete in all respect, suitable for operation on 415V, 3 phase, 50 HZ. AC supply with enclosure protection class IP 42 as required.				

Sl. No	Description of Item	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	A. COMMON PANEL IN FIRE PUMP HOUSE				
	(I) INCOMER				
	(a) Suitable rating TPN SFU with HRC fuses				
	(b) Voltmeter (0-500 Volts) with selector switch				
	(c) Ammeter with selector switch & CT's etc.				
	(d) Set of 3 Phase indicating lamp.				
	(e) Suitable rating Al.bus bar				
	(II) OUTGOING.				
	<b>(a) Main Fire pump.</b>				
	1 No. - Suitable rating TPN SFU with HRC fuses with suitable HP star/delta starter with over load protection, current sensing type single phase preventor complete with all accessories and internal wiring required for automatic operation, selector switch auto/manual operation.				
	<b>(b) Jockey pump</b>				
	1 No. - Suitable rating TPN SFU with suitable HP DOL starter, overload protection, current sensing type single phase preventor complete with all accessories and internal wiring required for automatic operation, selector switch auto/manual operation.				
	c) Feeder for Dewatering pump with Suitable rating MCB				
	d) Feeder for Diesel engine control panel with Suitable rating MCB				
	(e) electrical hooter with ON/OFF switch for the above pumps running indication				
	(f) necessary potential free contact for indication of above pumps running/fault/trip in the addressable fire alarm panel/BMS Panel.	set.	1		
6	<b>DIESEL ENGINE CONTROL PANEL</b>				
	Control panel for Diesel Engine comprising:				
	(a) Auto/Manual selector switch & 3 attempt starting device, timers and relays as required, push buttons, start/stop in manual mode..				
	(b) Indication lamp for High/Low Lub.oil pressure, High Water Temp. and Engine ON Indication.				

Sl. No	Description of Item	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	(c) Battery charger suitable for 12/24V DC with boost and trickle selector switch, with digital panel meter for AC, DC voltage and Ammeter for battery charging current				
	(d) necessary potential free contact for indication of diesel engine driven fire pump running/fault in the addressable fire alarm panel/BMS Panel.				
	(e) All standard relays and accessories for automatic operation of diesel engine	Set	1		
7	Supplying and Laying of suitable size XLPE insulated, PVC sheathed aluminium conductor 1.1 KV grade armoured cable of following sizes on surface/in existing cable tray suitably clamped as required.				
	(a) for electrical motor driven main pump	Mtrs	15		
	(b) for electrical motor driven Jockey pump	Mtrs	15		
	(c) for electrical motor driven dewatering pump	Mtrs	15		
8	Supplying and Laying of XLPE insulated control wiring with multicore copper stranded conductor of following sizes, PVC sheathed armoured cable between various sensors and system controller/starter etc. in pump house & out side on surface/existing cable tray complete with connections at both end with glands etc. as required.				
	(a) 12 x 2.5 sq.mm	Mtrs	20		
	(b) 2 x 1.5 sq.mm	Mtrs	60		
9	Supplying and making end termination with brass compression gland & Al. lugs for following sizes of PVC insulated, PVC sheathed/XLPE Al. Conductor cables of 1.1 KV grade as required.				
	(a) for main pump cable	Sets.	2		
	(b) for jockey pump cable	Sets.	2		
	(c) for dewatering pump cable	Sets.	2		
	(d) for 12Cx2.5Sq.mm cable	Sets.	2		
	(e) for 2C x 1.5 Sq.mm cable	Sets.	10		

Sl. No	Description of Item	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
10	Supplying, installation and testing of earthing station with tinned G.I electrode plate of size 600mm x 600mm x 6mm thick with 2 Nos of 50 mm x 6 mm G.I. Strips from earth electrode 50 mm dia medium class G.I. Pipe, C.I. funnel with 20 gauge G.I. wire mesh, masonry chamber of 450 mm x 450 mm with concrete base , C.I. man hole cover with frame, painted with bituminous paint and packing with bitumastic paint and packaging with mixture charcoal and salt around plate of electrode including digging of earth pit upto permanent moisture level but not less than 3 meters and back filling earth.	Set.	2		
11	Providing and fixing 50x6mm size GI strip earth electrode on surface or in recess for earth connections as per specifications complete as required.	Mtrs	50		
12	Providing and fixing 6 SWG dia G.I wire on surface or in recess for loop earthing complete as required.	Mtrs	20		
13	Fabrication and Installation of following sizes of perforated MS cable tray including horizontal and vertical bends, reducers, tees, cross members and other accessories as required duly suspended from the ceiling with MS suspenders and including painting with post office red synthetic paint as required.				
	(a) 100 mm.(W)x50mm (D)x1.6mm(T)	Mtrs	15		
	(b) 150 mm.(W)x50mm (D)x1.6mm(T)	Mtrs	15		
14	Fabrication and fixing of Dashpot of suitable size for mounting instruments	Each.	1		
15	Providing and fixing of pressure switches	Each.	3		
16	Providing and fixing of pressure gauge assembly comprising of				
	a. 0-16 Kg/Sq.cm SS construction glycerine filled pressure gauge				
	b. suitable type SS construction syphon tube				
	c. suitable size isolation ball valve	Set	5		
17	Providing, Installation, testing and commissioning of 25 mm dia gun metal screwed ball valves	Each.	9		

Sl. No	Description of Item	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
18	Providing, Installation, testing and commissioning of 25 mm dia gun metal screwed non return valve	Each.	1		
19	Supplying & fixing air vessel made of 250mm dia 8mm thick MS pipe of 1200 mm long with necessary safety relief at top of the vessel also for provision of mounting 25mm dia gunmetal valves for drain and to connecting to system.	Each	1		
20	Providing, laying, testing & commissioning of 'C' class heavy MS galvanised pipes conforming to IS 3589 and 1239 including fittings, like elbows, tees, flanges, tapers, nuts, bolts, gaskets etc. fixing the pipe on the wall/ceiling with suitable clamps and painting with two or more coats of synthetic enamel paint of required shade complete as required.				
	(a) 200 mm dia (wall thickness 6.35mm)	Mtrs	12		
	(b) 150 mm dia	Mtrs.	18		
	(c) 80 mm dia	Mtrs	6		
	(d) 50 mm dia	Mtrs	24		
	(e) 25 mm dia	Mtrs	18		
21	Supplying, fixing, testing and commissioning of Cast Iron butterfly valve PN 1.6 as per specification				
	(a) 150 mm dia	Each.	4		
	(b) 50 mm dia	Each.	3		
22	Supplying, fixing, testing and commissioning of double flanged sluice valve of rating PN 1.6, with non-rising spindle, bronze/gun metal seat, ISI marked complete with nuts, bolts, washers, gaskets, conforming to IS 14846, of following sizes as required.				
	(a) 200 mm. dia	Each.	4		
	(b) 80 mm dia	Each.	1		
23	Providing, installation, testing and commissioning of Cast Iron 'Y' type strainer with SS mesh				
	(a) 200 mm dia	Each.	2		
	(b) 100 mm dia	Each.	R.O		

Sl. No	Description of Item	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	(c) 80 mm dia	Each.	1		
24	Providing, installation, testing and commissioning of Wafer type non-return valve of following sizes				
	(a) 150 mm dia	Each.	3		
	(b) 50 mm dia	Each.	1		
25	Supplying & fixing 4 way fire brigade connection of cast iron body with 4 nos of gunmetal male instantaneous inlet couplings with inbuilt non-return valve complete with cap and chain as required.	Each.	1		
<b>TOTAL AMOUNT OF PART - A</b>					
<b>PART - B EXTERNAL FIRE PROTECTION SYSTEM</b>					
1	Providing laying, testing & commissioning of Ductile Iron Class K-9 pipe conforming to IS:8329 including tyton gasket, nuts and bolts, gasket and etc. In ground including excavation & providing cement concrete blocks as thrust blocks/supports, refilling the trench etc. of following sizes complete as required.				
	(a) 150 mm dia.	Mtrs	650		
	(b) 100 mm dia	Mtrs	33		
2	Providing laying, testing & commissioning of Ductile Iron flanged pipe fittings conforming to IS:9523 including nuts and bolts, gasket and etc. In ground including excavation & providing cement concrete blocks as thrust blocks/supports, refilling the trench etc. of following sizes complete as required.				
	a. Flanged Socket				
	i) 150 mm dia	Nos.	30		
	ii) 100 mm dia	Nos.	4		
	b. Flanged Spigot				
	i) 150 mm dia	Nos.	30		
	ii) 100 mm dia	Nos.	4		

Sl. No	Description of Item	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	c. Flanged Bend				
	i) 150 mm dia	Nos.	10		
	ii) 100 mm dia	Nos.	2		
	d. ALL Flanged Tee				
	i) 150x150x150 mm dia	Nos.	8		
	ii) 150x150x100 mm dia	Nos.	2		
	iii) 150x150x80 mm dia	Nos.	10		
	iv) 100x100x100 mm dia	Nos.	1		
	v) 100x100x80 mm dia	Nos.	1		
3	Providing laying, testing & commissioning of 'C' class heavy duty MS galvanised pipe conforming to IS 1239/3589 including fittings like elbows, tees, flanges, tapers, nuts bolts, gaskets etc. In ground including excavation & providing cement concrete blocks as supports, anticorrosive treatment with 4mm thick anti corrosive tape as per IS 10221, refilling the trench etc. of following sizes complete as required.				
	(a) 150 mm dia.	Mtrs	12		
	(b) 100 mm dia	Mtrs	6		
	(c) 80 mm dia.	Mtrs	30		
4	Supplying, fixing, testing and commissioning of Cast Iron butterfly valve PN 1.6 as per specification				
	(a) 150 mm dia	Each.	5		
	(b) 100 mm dia	Each.	R.O		
	(c) 80 mm dia	Each.	R.O		
5	Supplying and fixing Stainless steel single headed hydrant valve with instantaneous SS couplings of 63mm dia with cast iron wheel ISI marked conforming to IS 5290 (Type-A) with blank cap and chain as required.	Each.	10		
6	Supplying and fixing 63mm dia 15mtrs long RRL hose pipe with 63 mm dia male and female SS couplings duly binded with CU/GI wire, rivets etc. conforming to IS:636 (Type-A) as required.	Each.	20		

Sl. No	Description of Item	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
7	Supply and fixing 63 mm dia SS branch pipe with 15 mm size nozzle conforming to IS:903 suitable for instantaneous connection to interconnect hose pipe coupling as required.	Each.	10		
8	Supply & fixing of external standard hose cabinet fabricated out of 16SWG MS sheet with front glass doors to accommodate 2 nos of 63mm dia 15 meters long hose with couplings and one number of branch pipe.	Each.	10		
9	Supply & laying of 300 mm dia NP2 class hume pipe with collars for fire hydrant pipe line crossings roads.	Mtrs	48		
10	Construction of Brick masonry valve chamber of 1.2 m x 1.2 m x 1.52 m (LxWxD) with internal plastering and removable slab for under ground valves	Each.	4		
11	Supplying & fixing 4 way fire brigade connection of cast iron body with 4 nos of gunmetal male instantaneous inlet couplings with inbuilt non-return valve complete with cap and chain as required.	Each.	1		
<b>TOTAL AMOUNT OF PART - B</b>					
<b>PART - "C" INTERNAL HYDRANT &amp; FIRST-AID HOSE REEL SYSTEMS</b>					
1	Providing, laying, testing & commissioning of 'C' class heavy duty MS galvanised pipe conforming to IS 1239 including fittings, like elbows, tees, flanges, tapers, nuts, bolts, gaskets etc. fixing the pipe on the wall/ceiling with suitable clamps and painting with two or more coats of synthetic enamel paint of required shade complete as required.				
	(a) 150 mm dia	Mtrs	180		
	(b) 100 mm dia	Mtrs	165		
	(c) 80 mm dia	Mtrs	40		
	(d) 25 mm dia	Mtrs	36		

Sl. No	Description of Item	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
2	Supplying, fixing, testing and commissioning of Cast Iron butterfly valve PN 1.6 as per specification				
	(a) 150 mm dia	Each.	6		
	(b) 100 mm dia	Each.	5		
3	Providing, installation, testing and commissioning of Wafer type non-return valve of following sizes				
	(a) 150 mm dia	Each.	1		
	(b) 100 mm dia	Each.	5		
4	Supplying and fixing Stainless Steel hydrant valve with instantaneous SS couplings of 63mm dia with cast iron wheel ISI marked conforming to IS 5290 (Type-A) with blank cap and chain as required.	Each.	28		
5	Supplying and fixing 63mm dia 15mtrs long RRL hose pipe with 63 mm dia male and female SS couplings duly binded with GI wire, rivets etc. conforming to IS:636 (Type-A) as required.	Each.	56		
6	Supply and fixing 63 mm dia SS branch pipe with 20 mm size nozzle conforming to IS:903 suitable for instantaneous connection to interconnect hose pipe coupling as required.	Each.	28		
7	Supply and fixing first-aid hose reel with MS construction spray painted in post office red, conforming to IS:884 complete with the following as required:				
	a. MS fabricated hose reel drum to accommodate 20 mm dia 36 mtrs long hose with fixing bracket				
	b. 20 mm dia x 36 mtrs long water hose as per specification.				
	c. 20 mm dia gun metal nozzle				
	d. 25 mm dia gunmetal gate valve at inlet side of the hose reel drum	Set.	28		
8	Supply & fixing 1200mm x 900mm aluminium door frame with powder coating and glass door with universal key for internal wet riser shaft	Set.	28		

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

Sl. No	Description of Item	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
9	Providing, Installation, testing and commissioning of 25 mm dia gun metal air release valve	Each.	5		
10	Providing, Installation, testing and commissioning of 25 mm dia gun metal screwed ball valves	Each	5		
	<b>TOTAL AMOUNT OF PART - C</b>				

Sl. No	Description of Item	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	<b>PART - "D" SPRINKLER SYSEM (HOSPITAL BLOCK)</b>				
1	Supply, installation, testing and commissioning of 150 mm dia sprinkler alarm valve with water water gong and wet pilot trim	Each	3		
2	Supply, installation, testing of 15mm dia Gunmetal body chrome finish QB sprinklers of following types				
	a. 68 Deg. C operating temperature pendent type	Each	2220		
	b. 79 Deg.C Operating temperature Pendent type	Each	250		
	c. 79 Deg. C operating temperature Up-right type	Each	200		
	d. 68 Deg. C side wall type	Each	10		
	e. 79 Deg. C side wall type	Each	50		
	f. 114 Deg.C upright/ pendent sprinklrs	Each	20		
3	supply and fixing of Adjustable roset plate for below falce ceiling sprinklers	Each	2250		
4	Supply, installation and testing of 25mm dia x 1200 long SS flexible hose for below false ceiling sprinklers	Each	2250		
5	Providing, laying, testing & commissioning of 'C' class heavy duty MS galvanised pipe conforming to IS 1239 including fittings, like elbows, tees, flanges, tapers, nuts, bolts, gaskets etc. fixing the pipe on the wall/ceiling with suitable clamps and painting with two or more coats of synthetic enamel paint of required shade complete as required.				
	(a) 150 mm dia	Mtrs	180		
	(b) 100 mm dia	Mtrs	450		
	(c) 80 mm dia	Mtrs	1500		
	(d) 65 mm dia	Mtrs	1850		
	(e) 50 mm dia	Mtrs	60		
	(f) 40 mm dia	Mtrs	60		
	(g) 32 mm dia	Mtrs	650		
	(h) 25 mm dia	Mtrs	6750		
6	Supplying, fixing, testing and commissioning of Cast Iron butterfly valve PN 1.6 as per specification				

Sl. No	Description of Item	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	(a) 150 mm dia	Each	3		
	(b) 100 mm dia	Each	3		
	(c) 80 mm dia	Each	15		
	(e) 50 mm dia	Each	15		
7	Providing, installation, testing and commissioning of Cast Iron 'Y' type strainer with SS mesh				
	(a) 150 mm dia	Each	3		
	(b) 100 mm dia	Each	3		
8.	Supply, fixing, testing and commissioning of sprinkler flow switch				
	a. 100 mm dia	Each	R.O		
	b. 80 mm dia	Each	15		
<b>TOTAL AMOUNT OF PART - D</b>					
<b>PART -E ADDRESSABLE FIRE ALARM SYSTEM</b>					
1	Supply, fixing, testing and commissioning of 5 Loops Addressable fire alarm panel suitable for networking with necessary loop cards, networking cards and other accessories operate on 230V AC power supply with 24V battery back up	Each.	2		
3	Supply, fixing, testing and commissioning of Addressable active repeater panel for above fire alarm panel	Each	1		
5	Supply, fixing, testing and commissioning of Addressable optical smoke detectors	Each.	11		
6	Supply, fixing, testing and commissioning of Addressable Heat Detector	Each	11		
7	Supply, fixing, testing and commissioning of Addressable Multi detectors	Each.	453		
8	Supply, fixing, testing and commissioning of Response Indicator for the detectors installed in concealed places	Each.	32		

Sl. No	Description of Item	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
9	Supply, fixing, testing and commissioning of Addressable manual call points	Each.	62		
10	Supply, fixing, testing and commissioning of Addressable isolator modules (Short circuit Isolators)	Each.	42		
11	Supply, fixing, testing and commissioning of Addressable loop powered sounders	Each.	62		
12	Supply, fixing, testing and commissioning of Addressable Monitor module	Each	15		
	Supply, fixing, testing and commissioning of Addressable Control module	Each	15		
18	Supply, laying, testing and commissioning of 2Cx1.5 Sq.mm FRLS PVC sheathed screened multi-stranded copper conductor armoured cable suitable for addressable fire alarm system	Mts	12750		
19	Laying of fire alarm cable in 25 mm dia PVC conduit pipe in slab and also fixing in walls by cutting and redoing the surface to the original finish	Mts	60		
20	Laying of fire alarm cable in 40 mm dia GI conduit pipe including excavation of trench of required depth and back filling the same to the normal surface	Mtrs	50		
<b>TOTAL AMOUNT OF PART - E</b>					
<b>PART -F FIRE EXTINGUISHERS</b>					
	Supplying, installing and commissioning Portable Fire extinguishers of following type & capacity				
1	Carbon-di- oxide type fire extinguisher of 4.5 kgs. Capacity, CO2 gas filled in brand new seamless cylinder with powder coated finish, made out of Manganese steel, with wheel type valve, discharge nozzle, bend & horn, wall mounting bracket etc. complete, conforming to IS :2878	Each	45		

Sl. No	Description of Item	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
2	ABC stored pressure type fire extinguisher of 6 Kgs. Capacity, with initial filling in brand new cylinder with powder coated finish, fitted with Gun metal valve, discharge hose, wall mounting bracket etc. complete conforming to IS :15683	Each	120		
4	ABC stored pressure type fire extinguisher of 9 Kgs. Capacity, with initial filling in brand new cylinder with powder coated finish, fitted with Gun metal valve, discharge hose, wall mounting bracket etc. complete conforming to IS :15683	Each	10		
5	A set 4 Nos. Firre Buckets with suitable stand made up of angle iron of size 50 mm x 50 mm x 6 mm thick with lettering etc as required (confirming to IS: 2546/1974) (for MV Panel Room only)	Each	1		
6	Fire buckets round bottom type enamel painted, white inside & Red out side and Letter "FIRE" in black	Each	4		
<b>TOTAL AMOUNT OF PART - F</b>					
<b>PART - G SIGNAGES</b>					
Providing and installing in position the following type sign boards made out of 3 mm thick "Opaque" PVC foam board with computer cut, PVC non-reflective self adhesive vinyl painted foam board, complete with mirror fasteners					
1	a. Signage with printed "IN CASE OF FIRE, USE STAIRS UNLESS INSTRUCTED OTHERWISE" 11.25cm height letters in red with white back ground. The size of the board shall be 25cm x 35 cm and shall be fixed at the height of 2 mts. from finished floor near Manual Call Point	No.	15		
2	a. Signage with printed "EXIT" of suitable size as per site condition with self illumination	No.	100		
3	b. Floor identification signage (i.e. GROUND FLOOR etc.) at each stair enclosure on every floor, indicating the floor number in words, lettering size shall be 5 cm with contrasting colour from back ground. Size shall be 15cm x 30cm.	No.	40		
<b>TOTAL AMOUNT OF PART - G</b>					

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Sl. No	Description of Item	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

Sl. No	Description of Item	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
<b>SUMMARY</b>					
	<b>PART - A. FIRE WATER PUMPING SYSTEM</b>				
	<b>PART - B EXTERNAL FIRE PROTECTION SYSTEM</b>				
	<b>PART - "C" INTERNAL HYDRANT &amp; FIRST-AID HOSE REEL SYSTEMS</b>				
	<b>PART - "D" SPRINKLER SYSEM (HOSPITAL BLOCK)</b>				
	<b>PART -E ADDRESSABLE FIRE ALARM SYSTEM</b>				
	<b>PART -F FIRE EXTINGUISHERS</b>				
	<b>PART - G SIGNAGES</b>				
	<b>GRAND TOTAL</b>				

## GOVT RAJAJI HOSPITAL , MADURAI

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

CIVIL ABSTRACT  
CONNECTING CORRIDOR

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
	<b>2</b>	<b>EARTH WORK</b>				
1	2.33	Felling trees of the girth (measured at a height of 1 m above ground level) including cutting of trunks and branches, removing the root				
1.1	2.33.1	Beyond 30 cm girth upto and including 60 cm girth	each	4.00		
1.2	2.33.2	Beyond 60 cm girth upto and including 120 cm girth	each	4.00		
1.3	2.33.3	Beyond 120 cm girth upto and including 240 cm girth	each	4.00		
2	2.6	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 upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed.				
	2.6.1	<b>All kinds of soil</b>	Cum	360.00		
3	2.6+2.26.1	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 upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed.				
		<b>Extra for every additional lift of 1.5 m or part thereof in excavation /banking excavated or stacked materials. All kinds of soil</b>	Cum	360.00		
		<b>FILLING IN SUBSTRUCTURE</b>				
4	2.25	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 etc complete, and form uniform level for flooring concrete .	Cum	360.00		
5	1.1.2 (8)	Conveying from site and disposing off the excess earth as per the direction of engineer in charge.	Cum	360.00		
		<b>CONCRETE WORK</b>				

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
6	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All works up to plinth level.				
	4.1.3	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size)	Cum	40.00		
7	4.1.5	1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size). (Below Flooring & Below Plint Beam)	Cum	6.00		
		<b>REINFORCED CEMENT CONCRETE</b>				
8	5.40	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.				
	5.34	Extra for proving richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately.				
	5.34.1	Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).				
8.1	5.40.1	<b>All work up to plinth level. (M25)</b>	Cum	400.00		
8.2	5.40.2 +5.34.1	<b>All work above plinth level up to floor V level (M30)</b>	Cum	150.00		
8.3	5.35	Add for using extra cement in the items of design mix over and above the specified cement content therein.				
		<b>a) for M25</b>	Quintal	1200.00		
		<b>b) for M30</b>	Quintal	385.00		
	5	<b>FORM WORK</b>				
9	5.9	Centering and shuttering including strutting, propping etc., and removal of form for,				
9.1	5.9.1	Foundations, Footings, bases of columns,etc for mass concrete.	Sqm	300.00		
9.2	5.9.5	Lintel,beams,plinth beams,girders,bressumers and cantilevers	Sqm	700.00		
9.3	5.9.6	Columns and Pillars, Piers, Abutments, Posts and Struts.	Sqm	400.00		
10		<b>STEEL REINFORCEMENT</b>				

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
10.1	5.22	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto Plinth level.				
	5.22.6	Termo – Mechanically Treated Bars	Kgs	36000.00		
10.2	5.22.A.	Steel reinforcement for R.C.C. work including straightening, cutting, bending,				
	5.22.A.6	Termo – Mechanically Treated Bars	Kgs	18750.00		
		<b>Aluminium Windows &amp; Ventilators</b>				
11	21.1	Providing and fixing aluminum work for doors, windows, ventilators and partitions with extruded built up standard tubular sections / appropriate z sections and other sections of approved make confirming to IS : 733 and IS : 1285 fixed with fixed with raw plugs and screws or with fixing clips, or with expansion hold fasteners including necessary filling up of gaps at junctions, at top, bottom and sides with required PVC / neoprene felt etc. Aluminium sections shall be smooth, rust free, straight, mitered and jointed mechanically wherever required including cleat angle, aluminium snap beading for glazing / panelling, C.P. brass / stainless steel screws all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing and panelling 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)	Kgs	1300.00		
12	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 PVC / neoprene gasket required (fittings shall be paid for separately)				
	21.1.2.2	Powder coated aluminium (minimum thickness of powder coating 50 micron)	Kgs	1000.00		
13	21.3	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc., with PVC / 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).				
	21.3.2	With float glass panes of 5.5 mm thickness	Sqm	175.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
14	21.4	Providing and fixing double action hydraulic floor spring of approved brand and manufacture IS : 6315 marked, for doors including cost of cutting floors as required, embedding in floors and cover plates with brass pivot and single piect M.S. sheet outer box with side plate etc., complete as per the direction of Engineer-in-charge.				
	21.4.1	With stainless steel cover plate	Each	4.00		
15	21.17	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 @ 200mm 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).	Kgs	1485.00		
16	9.64	Providing and fixing ISI marked 85x42mm oxidised M.S. pull bolt lock conforming to IS : 7534 with necessary screws bolts, nut and washers etc. complete.	Each	2.00		
17	9.75	Providing and fixing bright finished brass door latch with necessary screws etc. complete :				
	9.75.1	300x16x5 mm	Nos	4.00		
18	9.81	Providing and fixing bright finished brass handles with screws etc. complete				
	9.81.1	125 mm	Nos	8.00		
19	9.82	Providing and fixing bright finished brass hanging type floor door stopper with necessary screws, etc. complete.	Nos	10.00		
20	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.	Nos	4.00		
21	9.76	Providing and fixing bright finished brass 100 mm mortice latch and lock with 6 levers and a pair of lever handles with necessary screws etc. complete (best make of approved quality).	Nos	2.00		
		<b>FLOORING</b>				
		<b>VITRIFIED FLOOR TILES</b>				

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
22	11.41	Providing and laying polished vitrified floor tile in different sizes (thickness to be specified by the manufacturer) with Acid and / or Alkali resistant tiles and water absorptions less than 0.08% and confirming to IS:15622 of approved make in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement:4 Coard sand) including grouting the joints with white cement and matching pigments etc. complete. (Basic Rate : Rs. 110/Sqft)				
	11.41.2	Size of Tiles 60 x 60 cm	Sqm	300.00		
23	11.46	Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer) with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make in all colours & shade in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.				
	11.46.2	Size of Tiles 60 x 60 cm	Sqm	30.00		
	13	<b>FINISHING</b>				
		<b>External Plastering</b>				
24	13.2.1	15mm cement plaster on the rough side of single or half brick wall of mix : 1 : 4 (1 cement : 4 fine sand)	Sqm	500.00		
		<b>EXTERNAL</b>				
25	13.45	Finishing wall with textured exterior paint of required shade:				
	13.45.1	New work (Two or more coats applied @ 3.28ltr/10 sqm)over and including base coat of water proofing cement paint applied @2.20kg/10sqm)	Sqm	500.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
26	MR	Providing and fixing of Aluminium composite panel of approved make and colour for wall cladding for straight Brick/Rcc/stone walls & columns/beams with necessary aluminium frame works at required level made out of 50x25x3mm C section or equivalent. The panel should consist of 2.5 mm thermoplastic core of antitoxic LDPE sandwiched between 0.25 skins thick aluminium sheet making a total panel thickness of 3mm. The surfaces will be finished with PVDF based coating on topsides and service coating on reverse sides would be in polyester paint. The system shall be fixed using GI brackets, aluminium L cleats and stainless steel bolts and nuts complete with spring washer and cap nuts and all other necessary accessories, sealing shall be done using weather sealant of Dow Corning 789 with necessary rods etc., complete..	Sqm	1000.00		
		<b>STEEL WORKS</b>				
27	10.2	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete: (OTS area)	Kgs	11000.00		
28	MR	Supply, fabricating, hoisting and erecting in position hot rolled structural steel members of all type of sections of approved make for trusses, purlins, columns, canopies, lattice girders, sag rods, pipe rack, insert plates, supports for the utility pipings, electrical supports of works, etc., at all elevations, levels and heights including providing and fixing bolts, nuts, washers, angles, channels, joists of various sizes and other structural elements at all levels confirming to latest IS 2062 - Grade A & B including cutting, welding, bending to shape, bolting, cleaning the rust and scales to the satisfaction of Engineer. Rate to include cost of applying a priming coat of approved Zinc rich chromate steel primer and enamel paint required even shade of approved manufacturer and colour, cost of all materials, labourers, tools and tackles, cranes, staging and scaffolding, devices for erection, shims, non shrink grout and packing pieces which will be required for levelling of the work. The rate shall include cost of loading and unloading, transportation and all other incidental charges etc., with all leads and lifts, complete and as directed by the Engineer-in-charge at all levels.	Kgs	100000.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
29	MR	Providing corrugated G.I. sheet roofing including vertical/curved surface fixed with polymer coated J or L hooks, bolts and nuts 8 mm diameter with bitumen and G.I. limpet washers or with G.I. limpet washers filled with white lead and including a coat of approved steel primer and two coats of approved paint on overlapping of sheets complete (up to 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.	Sqm	600.00		
30	MR	Supply, installation, testing and commissioning of side deck insulation for wall area exposed to sunlight, using 50mm thick TF Grade Expanded polystyrene slab of density 24 Kg/cum with all lead and lift, labour, all material, tools and plant complete etc., as per the technical specification (Refere HVAC specification)	Sqm	1000.00		
		<b>CIVIL COST</b>				

## GOVT RAJAJI HOSPITAL , MADURAI

NAME OF PROJECT : UPGRADATION OF GOVT. RAJAJI HOSPITAL MADURAI, TAMILNADU.

CIVIL ABSTRACT  
COMPOUND WALL

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
1	2.31	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1 m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area cleared.	Sqm	1200.00		
2	2.6	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 upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed.				
	2.6.1	<b>All kinds of soil</b>	Cum	1300.00		
3	2.6+2.26.1	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 upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed.				
		<b>Extra for every additional lift of 1.5 m or part thereof in excavation /banking excavated or stacked materials. All kinds of soil</b>	Cum	250.00		
		<b>FILLING IN SUBSTRUCTURE</b>				
4	2.25	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 etc complete, and form uniform level for flooring concrete .	Cum	1400.00		
5	1.1.2 (8)	Conveying from site and disposing off the excess earth as per the direction of engineer in charge.	Cum	150.00		
		<b>CONCRETE WORK</b>				
6	4.1.5	1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size). (Below Flooring & Below Plint Beam)	Cum	115.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
		<b>REINFORCED CEMENT CONCRETE</b>				
7	5.40	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.				
	5.34	Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately.				
7.1	5.40.1	<b>i) All work up to plinth level. (M25)</b>	Cum	120.00		
7.2	5.40.2	<b>ii) All work above plinth level up to floor V level (M25)</b>	Cum	30.00		
7.3	5.35	Add for using extra cement in the items of design mix over and above the specified cement content therein.				
		<b>a) for M25</b>	Quintal	90.00		
	5	<b>FORM WORK</b>				
8	5.9	Centering and shuttering including strutting, propping etc., and removal of form for,				
8.1	5.9.1	Foundations, Footings, bases of columns,etc for mass concrete.	Sqm	500.00		
8.2	5.9.5	Lintel,beams,plinth beams,girders,bressumers and cantilevers	Sqm	450.00		
8.3	5.9.6	Columns and Pillars, Piers, Abutments, Posts and Struts.	Sqm	470.00		

Item no.	DSR 2012	Item Description	Unit	Quantity	Rate (Rs. in words & in figures)	Amount (Rs. in words & in figures)
	Code No.					
		<b>STEEL REINFORCEMENT</b>				
9	5.22	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto Plinth level.				
	5.22.6	Termo – Mechanically Treated Bars	Kgs	13200.00		
10	5.22.A.	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above Plinth level.				
	5.22.A.6	Termo – Mechanically Treated Bars	Kgs	3750.00		
	<b>6</b>	<b>BRICK &amp; STONE WORK</b>				
11	6.4	Brick work with F.P.S bricks of class designation 7.5 in superstructure above plinth level up to floor v level in all shapes an sizes in:				
	6.4.2	Cement mortar 1: 6 (1 cement :6 coarse sand)	Cum	200.00		
	<b>13</b>	<b>FINISHING</b>				
		<b>External Plastering</b>				
12	13.2.1	15mm cement plaster on the rough side of single or half brick wall of mix : 1 : 4 (1 cement : 4 fine sand)	Sqm	2100.00		
		<b>WALL FINISHES</b>				
		<b>EXTERNAL</b>				
13	13.45	Finishing wall with textured exterior paint of required shade:				
	13.45.1	New work (Two or more coats applied @ 3.28ltr/10 sqm)over and including base coat of water proofing cement paint applied @2.20kg/10sqm)	Sqm	2100.00		
14	9.48	Providing and fixing M.S. grills of required patern in frames of windows etc. with M.S. flats square or round bars etc . Including priming coat with approved steel primer all complete				
	9.48.2	Fixed to openings with rawl plugs screws etc.	Kgs	14000.00		
15	15.3	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge.	Cum	20.00		
16	15.9	Demolishing stone rubble masonry/ Brick Masonry 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:				
	15.9.2	In cement mortar	Cum	375.00		
		<b>CIVIL COST</b>				