

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.

TENDER BOQ CIVIL

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
1	2	4	5	36
				-
1	2.1.1	Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including getting out and disposal of excavated earth upto 50 m and lift upto 1.5 m, as directed by Engineer-in-Charge:	Cum.	206.57
				-
2	2.6	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge.		-
	2.6.1	All kinds of soil	CUM.	1,51,094.10
				-
3	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	All kinds of soil		-
	2.10.1.2	Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia.	M	2,400.00
				-
				-
1.1a	2.26	Extra for every additional lift of 1.5 m or part thereof in excavation /banking excavated or stacked materials.		-
	2.26.1	All kinds of soil.	Cum	80,318.51
				-
4	1.1.18	Disposal of moorum,building rubbish,malba, similar unserviceable, dismantled or waste material by mechanical transport including loading, transporting, unloading to approved municipal dumping ground for lead upto 10Km for all lifts,complete as per direction of engineer-in-charge Note-item to be applicable in urban area having direction for restricted hours for movement plying of load carrying motor vehicle of 3.5cum or more.	CUM.	7,022.92
				-
5	2.25(a)	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.	CUM.	3,613.47
				-
6	2.27	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.	CUM.	3,582.10
				-
7	2.2	Open timbering in trenches including strutting and shoring complete (measurements to be taken of the face area timbered)		-
	2.20.3	Depth exceeding 1.5m but not exceeding 3m	SQM	5,109.59

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8	2.23	Extra for planking and strutting in open timbering if required to be left permanently in position. (Face area of the timber permanently left to be measured).	SQM	5,109.59
				-
9	4.13	Providing & applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7kg per square metre on damp proof course after cleaning the surface with brushes and finally with apiece of cloth lightly soaked in kerosene oil.	sqm	76.79
				-
10	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :		-
	4.1.8	Providing and laying Cement concrete 1:4:8 (1cement :4 coarse sand :8 graded stone ballast 40 mm. nominal size) including supply of all materials, labour and T&P etc. required for proper completion of the work and curing complete, also including cost of formwork in foundation.	CUM.	5,907.22
				-
11	4..12	Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification.	PER 50 KG CEMENT	7,460.79
				-
12	5.33	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement		-
	5.33.1	All works upto plinth level		-
	5.33.1.1	Concrete of M25 grade with minimum cement content of 330 kg /cum	CUM.	836.25
	5.33.1.2	All works upto plinth level. Concrete of M30 grade with minimum cement content of 350 kg /cum	CUM.	36,739.90
				-

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S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
13	5.33.2	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.		-
	5.33.2.1	Concrete of M25 grade with minimum cement content of 330 kg /cum	CUM	377.17
	5.33.2.2	All works above plinth level upto floor V level. Concrete of M30 grade with minimum cement content of 350 kg /cum	CUM	30,220.99
				-
14	5.9	Centering and shuttering including strutting, propping etc. and removal of form for :		-
A	5.9.1	Foundations, footings, bases of columns, etc. for mass concrete	SQM.	6,667.18
B	5.9.2	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	SQM.	15,349.60
C	5.9.3	Suspended floors, roofs, landings, balconies and access platform	SQM.	1,01,675.96
D	5.9.5	Lintels, beams, plinth beams, girders, bressumers and cantilevers	SQM.	92,288.60
E	5.9.6	Columns, Pillars, Piers, Abutments, Posts and Struts	SQM.	60,166.12
F	5.9.7	Stairs, (excluding landings) except spiral-staircases	SQM.	7,893.92
G	5.9.9	Arches, domes, vaults up to 6 m span	SQM.	172.17
H	5.9.10	Extra for arches, domes, vaults exceeding 6 m span	SQM.	172.17
I	5.9.16.1	Edges of slabs and breaks in floors and walls Under 20 cm wide	RMT.	59,051.19
J	5.9.21	Lintels, beams, plinth beams, girders, bressumers and cantilevers with water proof ply 12 mm thick	SQM.	1,292.20
				-
15	5.11.1	Extra for additional height in centering, shuttering where ever required with adequate bracing, propping etc., including cost of de-shuttering and decentering at all levels, over a height of 3.5 m, for every additional height of 1 metre or part thereof (Plan area to be measured).	SQM.	59,125.67
				-
16	5.35	Add for using extra cement in the items of design mix over and above the specified cement content therein.	QTL.	-
				-

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S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
17	5.3	Reinforced cement concrete work in beams, suspended floors, roofs having slope up to 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases above plinth level up to floor five level, excluding the cost of centering, shuttering, finishing and reinforcement with 1:1.5:3 (1 cement : 1.5 coarse sand(zone-III)derived from natural sources : 3 graded stone aggregate 20 mm nominal sizederived from natural sources).	CUM.	492.48
				-
18	5.1	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level :		-
		1:1.5:3 (1 cement : 1.5 coarse sand (zone-III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources)	CUM	1,104.29
				-
19	5.38	Extra for R.C.C./ B.M.C/ R.M.C. work above floor V level for each four floors or part thereof.	CUM.	4,254.75
				-
20	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.	1,326.20
				-
21	6.4	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in :		-
	6.4.2	Cement mortar 1:6 (1 cement : 6 coarse sand)	CUM	19,412.94
				-
22	6.5	Extra for brick work / AAC block masonry / Tile brick masonry in superstructure above floor V level, for each four floors or part thereof by mechanical means.	CUM.	5,001.13
				-
23	6.13	Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level.		-
	6.13.2	Cement mortar 1:4 (1 cement :4 coarse sand)	SQM.	54,671.29
				-
24	6.14	Extra for half brick masonry in superstructure, above floor V level for every four floors or part thereof by mechanical means.	Sqm	17,617.36
				-
25	6.15	Extra for providing and placing in position 2 Nos 6mm dia. M.S. bars at every third course of half brick masonry.ird course of half brick masonry.	Sqm	54,173.61
				-
26	2.35	Diluting and injecting chemical emulsion for POST-CONSTRUCTIONAL anti-termite treatment (excluding the cost of chemical emulsion) :		-

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	2.35.3	Treatment of soil under existing floors using chemical emulsion @ one litre per hole, 300 mm apart including drilling 12 mm diameter holes and plugging with cement mortar 1 :2 (1 cement : 2 Coarse sand) to match the existing floor:		-
	2.35.3.1	With Chlorpyriphos E.C. 20% with 1% concentration	Sqm	21,656.33
				-
27	2.35.1	Along external wall where the apron is not provided using chemical emulsion @ 7.5 litres / sqm of the vertical surface of the substructure to a depth of 300 mm including excavation channel along the wall & rodding etc. complete:		-
	2.35.1.1	With Chlorpyriphos/ Lindane E.C. 20% with 1% concentration.	Rmt.	230.72
				-
28	2.34.1	Supplying chemical emulsion in sealed containers including delivery as specified.		-
		Chlorpyriphos/ Lindane emulsifiable concentrate of 20%	Per Litre	1,931.11
				-
27	5.22A.6	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.	Qtl	77,182.49
				-
28	9.76	Providing and fixing bright finished brass 100 mm mortice latch and lock with 6 levers and a pair of lever handles of approved quality with necessary screws etc. complete.	Nos	697.00
				-
29	AOR-1	Providing and fixing bright /matt finished Stainless Steel Sliding Door Bolt of approved quality & make with necessary screws etc all complete. 250x16 mm.	Nos.	5,691.00
				-
30	AOR-2	Providing and fixing bright /matt finished Stainless Steel Tower Bolt of approved quality & make with necessary screws etc all complete. 250x10 mm.	Nos.	16,967.00
				-
31	9.165.1	Providing and fixing bright /matt finished Stainless Steel handles of approved quality & make with necessary screws etc all complete.125 mm.	Nos.	15,274.00
				-
32	9.82	Providing and fixing bright finished brass hanging type floor door stopper with necessary screws, etc. complete.	EACH	3,895.00
				-
33	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.	Each	789.00
				-

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S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
34	21.1	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :Polyester powder coated aluminium (minimum thickness of polyester powder coating 50 micron)		-
	21.1.1.2	For fixed portion Powder coated aluminium (minimum thickness of powder coating 50 micron)	KG.	11,451.52
				-
35	21.1.2.2	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately) Powder coated aluminium (minimum thickness of powder coating 50 micron) Powder coated aluminium (minimum thickness of powder coating 50 micron)	KG.	863.52
				-
36	21.3.2	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge. (Cost of aluminium snap beading shall be paid in basic item): With float glass panes of 5.50 mm thickness	SQM	717.61
				-
37	21.2.2	Providing and fixing 12 mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-in-charge Pre-laminated particle board with decorative lamination on both sides	SQM	51.45
				-
38	21.4	Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS 6315 having brand logo embossed on the body/plate with double spring mechanism and door weight upto 125 kg, for doors, including cost of cutting floors, embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide palte etc. complete as per the direction of Engineer-in-charge.		-
	21.4.1	With stainless steel cover plate minimum 1.25 mm thickness.		-
		Floor Spring	NOS	130.00
				-

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S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
39	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 @ 200 mm centre to centre, including cutting the grill to proper opening size for fixing and operation of handles and fixing approved anodised aluminium standard section around the opening, all complete as per requirement and direction of Engineer-in-charge. (Only weight of grill to be measured for payment).	KG.	3,603.17
				-
40	9.84	Providing and fixing aluminium extruded section body tubular type universal hydraulic door closer (having brand logo with IS : 3564, embossed on the body, door weight upto 36 kg to 80 kg and door width from 701 mm to 1000 mm), with double speed adjustment with necessary accessories and screws etc. complete.	NOS	1,530.00
				-
41	9.1.1	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length (hold fast lugs or dash fastener shall be paid for separately).	Cum	76.24
				-
42	9.1.2	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length Sal wood	CUM.	23.42
				-
43	10.15	Providing and fixing M.S. Tubular frames for doors, windows, ventilators and cupboard with rectangular/ L-Type sections, made of 1.60 mm thick M.S. Sheet, joints mitred, welded and grinded finish, with profiles of required size, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer.		-
	10.15.1	Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	KG	10,939.50
				-
44	26.86	Providing and fixing factory made single extruded WPC (Wood Polymer Composite) solid door/ window/ Ceosetory windows & other Frames/ Chowkhat comprising of virgin PVC polymer of K value 58-60 (Suspension Grade), calcium carbonate and natural fibers (wood powder/ rice husk/ wheat husk) and non toxic additives (maximum toxicity index of 12 for 100 gms) fabricated with miter joints after applying PVC solvent cement and screwed with full body threaded star headed SS screws having minimum frame density of 750 kg/cum, screw withdrawal strength of 2200 N (Face) & 1100 N (Edge), minimum compressive strength of 58 N/mm ² , modulus of elasticity 900 N/mm ² and resistance to spread of flame of Class A category with property of being termite/ borer proof, water/ moisture proof and fire retardant and fixed in position with M.S hold fast/ lugs/ SS dash fasteners of required dia and length complete as per direction of Engineer-In- Charge.		-
		(M.S hold fast/ lugs or SS dash fasteners shall be paid for separately). Note: For WPC solid door/ window frames, minus 5mm tolerance in dimensions i.e depth and width of profile shall be acceptable. Variation in profile dimensions on plus side shall be acceptable but no extra payment on this account shall be made.		-

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S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
	26.86.3	Frame size 50 x 100 mm	Rmt	4,678.65
	26.86.5	Frame size 65 x 100 mm	Rmt	2,889.00
				-
45	9.122	Providing and fixing cup board shutters 25 mm thick, with Pre-laminated flat pressed three layer particle board or graded wood particle board IS: 12823 marked, exterior grade (Grade I Type II), having one side decorative lamination and other side balancing lamination, including IInd class teak wood lipping of 25 mm wide x12 mm thick with necessary screws and bright finished stainless steel piano hinges, complete as per direction of the Engineer-in-Charge	Sqm	1,209.84
				-
				-
46	9.136	Providing and fixing fire resistant 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 120gm/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 resistant primer etc. complete as per direction of Engineer-in-charge(Dash fastener to be paid for separately).	Rmt	1,349.60
				-
47	9.137	Providing and fixing 50 mm thick glazed fire resistant door shutters of 60 minutes fire rating conforming to IS:3614 (Part-II) tested and certified as per laboratory approved by Engineer-in-charge with suitable mounting on doorframe, consisting of vertical styles, lock rail, top rail 100mm wide, bottom rail 200mm wide, made out of 16 SWG G.I. sheet (zinc coating not less than 120 gm/sqm) duly filled FR insulation material and fixing with necessary stainless steel ball bearing hinges of approved make, including applying a coat of approved fire resistant primer etc. all complete as per direction of Engineer-in- charge (pannelling to be paid for separately).	Sqm	819.72
				-
	9.138	Providing and fixing glazing in fire resistant door shutters, fixed panels & partitions etc., with G.I. beading made out 1.6 mm thick G.I. sheet (zinc coating not less than 120 gm/sqm) of size 20 x 33 mm screwed with M4 x 38 mm SS screws at distance of 75 mm from the edges and 150 mm c/c, including applying a coat of approved fire resistant primer/ powder coating of not less than 30 micron on G.I. beading & special ceramic tape of 5 x 20 mm size etc. complete in all respect as per NBC 2016, IS 16231 (Part 3) :2016 and as per direction of Engineer-in-charge with glass of required thickness having 60 minutes of fire resistance both integrity & radiation control (EW60) and minimum 20 min of insulation (EI20). The manufacturer has to give test report / certification of fire glass and the glass should have the stamp showing the value of E, EW & EI. The glass shall be tested in approved NABL accredited lab or any other accreditation body which operates in accordance with ISO/ IEC 17011 and accredits labs as per ISO/ IEC 17025 for testing and calibration scopes shall be eligible. The maximum glazing size shall not be more than 1100 x 2200 mm (w x h) or 2.42 sqm.	Sqm	51.63
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S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
	9.139	Providing and fixing panic bar / latch (Double point) fitted with a single body, Trim Latch & Lock on back side of the Panic Latch of reputed brand and manufacture to be approved by the Engineer- in- charge, all complete.	No.	259.00
				-
48	9.2	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters.		-
	9.20.1	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	Sqm	2,158.17
				-
49	9.21.1+9.127.2	9.21.1 - Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters: 9.127.2 - Providing & Fixing decorative high pressure laminated sheet of plain / wood grain in gloss / matt/ suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S, including cost of adhesive of approved quality.		-
		35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	Sqm	141.30
				-
50	9.21.1+9.127.2*2	9.21.1 - Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters: 9.127.2 - Providing & Fixing decorative high pressure laminated sheet of plain / wood grain in gloss / matt/ suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S, including cost of adhesive of approved quality.		-
		35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	SQM	5,498.24
				-
51	9.23	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	SQM	9,003.77
				-
52	9.24.1	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) : Rectangular or square	SQM	764.82
				-
	9.25.1	Extra if louvers (not exceeding 0.2 sqm) are provided in flush door shutters (overall area of door shutters to be measured).	SQM	305.93
				-

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S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
53	9.129	Providing and fixing cup board shutters 25 mm thick, with Pre-laminated flat pressed three layer particle board or graded wood particle board IS: 12823 marked, exterior grade (Grade I Type II), having one side decorative lamination and other side balancing lamination, including IIInd class teak wood lipping of 25 mm wide x12 mm thick with necessary screws and bright finished stainless steel piano hinges, complete as per direction of the Engineer-in-Charge	Sqm	427.16
				-
54	9.9.1.2	Providing and fixing glazed shutters for doors, windows and clerestory windows using 4 mm thick float glass panes, including ISI marked M.S. pressed butt hinges bright finished of required size with necessary screws. 30mm thick Second class teak wood	Sqm	33.60
				-
55	10.27	Providing and fixing carbon steel galvanised (minimum coating 5 micron) dash fastener of 10 mm dia double threaded 6.8 grade (yield strength 480 N/mm2), counter sunk head, comprising of 10 mm dia polyamide PA 6 grade sleeve, including drilling of hole in frame, concrete/ masonry, etc. as per direction of Engineer-in-charge.		-
	10.27.1	10 x 60 mm	Each	925.00
	10.27.3	10 x 120 mm	Each	6,012.00
				-
56	26.87	Providing and fixing factory made single extruded WPC (Wood Polymer Composite) solid plain flush door shutter of required size comprising of virgin polymer of K value 58-60 (Suspension Grade), calcium carbonate and natural fibers (wood powder/ rice husk/ wheat husk) and non toxic additives (maximum toxicity index of 12 for 100 gms) having minimum density of 650 kg/cum and screw withdrawal strength of 1800 N (Face) & 900 N (Edge), minimum compressive strength 50 N/mm2, modulus of elasticity 850 N/mm2 and resistance to spread of flame of Class A category with property of being termite/borer proof, water/ moisture proof and fire retardant and fixing with stainless steel butt hinges of required size with necessary full body threaded star headed counter sunk S.S screws, all as per direction of Engineer-In- Charge.		-
		(Note: stainless steel butt hinges and necessary S.S screws shall be paid separately)		-
	26.87.1	30 mm thick	Sqm	1,991.70
	26.87.2	35 MM THK	Sqm	450.00
				-
57	10.5	Providing and fixing 1mm thick M.S. sheet door with frame of 40x40x6 mm angle iron and 3 mm M.S. gusset plates at the junctions and corners, all necessary fittings complete, including applying a priming coat of approved steel primer.		-
	10.5.1	Using M.S. angels 40x40x6 mm for diagonal braces	Sqm	55.05
				-

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S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
58	9.147.A	Providing and fixing factory made uPVC white colour sliding glazed window upto 1.50 m in height dimension comprising of uPVC multi-chambered frame with in-built roller track and sash extruded profiles duly reinforced with 1.60 ± 0.2 mm thick galvanized mild steel section made from roll forming process of required length (shape & size according to uPVC profile), appropriate dimension of uPVC extruded glazing beads and uPVC extruded interlocks, EPDM gasket, wool pile, zinc alloy (white powder coated) touch locks with hook, zinc alloy body with single nylon rollers (weight bearing capacity to be 40 kg), G.I fasteners 100 x 8 mm size for fixing frame to finished wall and necessary stainless steel screws etc. Profile of frame & sash shall be mitred cut and fusion welded at all corners, including drilling of holes for fixing hardware's and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealent over backer rod of required size and of approved quality, all complete as per approved drawing & direction of Engineer-in-Charge. (Single / double glass panes, wire mesh and silicon sealent shall be paid separately). Variation in profile dimension in higher side shall be accepted but no extra payment on this account shall be made.		-
		Three track three panels sliding window with fly proof SS wire mesh (Two nos. glazed & one no. wire mesh panels) made of (small series) frame 92 x 44 mm & sash 32 x 60 mm both having wall thickness of 1.9 ± 0.2 mm and single glazing bead of appropriate dimension (Area of window upto 1.75 sqm).	SQM	1,723.69
				-
59	9.147	Providing and fixing factory made uPVC white colour sliding glazed door comprising of uPVC multi-chambered frame with in-built roller track and sash extruded profiles duly reinforced with 1.60 ± 0.2 mm thick galvanized mild steel section made from roll forming process of required length (shape & size according to uPVC profile), appropriate dimension uPVC extruded glazing beads, uPVC extruded interlock and uPVC extruded Inline sash adaptor (if required), EPDM gasket, wool pile, zinc alloy (white powder coated) handle with key on one side of extreme panels along with zinc plated mild steel multi point locking having transmission gear with keeps, zinc alloy (white powder coated) crescent lock (if required), stainless steel (SS 304 grade) body with adjustable double nylon rollers (weight bearing capacity to be 120 kg), G.I fasteners 100 x 8 mm size for fixing frame to finished wall and necessary stainless steel screws etc. Profile of frame & sash shall be mitred cut and fusion welded at all corners, including drilling of holes for fixing hardware's and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealent over backer rod of required size and of approved quality, all complete as per approved drawing & direction of Engineer-in-Charge. (Single / double glass panes, wire mesh and silicon sealent shall be paid separately). Variation in profile dimension in higher side shall be accepted but no extra payment on this account shall be made.		-
		Three track three panels sliding window with fly proof SS wire mesh (Two nos. glazed & one no. wire mesh panels) made of (small series) frame 92 x 44 mm & sash 32 x 60 mm both having wall thickness of 1.9 ± 0.2 mm and single glazing bead of appropriate dimension (Area of window upto 1.75 sqm).	Sqm	944.45

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ CIVIL**

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
A	9.147.B2.1	Two track two panels sliding door with Aluminium channel for roller track, wool pile, zinc alloy (zamak) powder coated handle on every panel along with multi-point locking system, adjustable nylon rollers with SS 304 body. Using R3 series with frame (55 mm & above) x (40 mm & above) & sash (30 mm & above) x (74 mm & above). (Height upto 2.5 metre).	Sqm	453.60
B	9.147.B3.1	Three track three panels sliding door with two glazed & one wire mesh panels with Aluminium channel for roller track, wool pile, zinc alloy (zamak) powder coated handle on two panels along with multi-point locking system, adjustable nylon rollers with SS 304 body. Using R3 series with frame (98 mm & above) x (40 mm & above) & both glazed and fly screen sash (30 mm & above) x (74 mm & above). (Height upto 2.5 metre).		461.76
				-
	9.147.F1.1	Two track two panels sliding door made of (big series) frame 67 x 50 mm & sash 46 x 82 mm both having wall thickness of 2.3 ± 0.2 mm and single glazing bead / double glazing bead of appropriate dimension. (Area of door above 2.00 sqm upto 5.00 sqm)	Sqm	-
				-
60	9.147E	Providing and fixing factory made uPVC white colour sliding glazed window above 1.50 m in height dimension comprising of uPVC multi-chambered frame with in-built roller track and sash extruded profiles duly reinforced with 1.60 ± 0.2 mm thick galvanized mild steel section made from roll forming process of required length (shape & size according to uPVC profile), appropriate dimension of uPVC extruded glazing beads, uPVC extruded interlocks and uPVC extruded Inline sash adaptor (if required), EPDM gasket, wool pile, zinc alloy (white powder coated) handle on one side of extreme panel along with zinc plated mild steel multi point locking having transmission gear with keeps, zinc alloy (white powder coated) touch lock with hook (if required for wire mesh panel), stainless steel (SS 304 grade) body with adjustable double nylon rollers (weight bearing capacity to be 120 kg), G.I fasteners 100 x 8 mm size for fixing frame to finished wall and necessary stainless steel screws etc. Profile of frame & sash shall be mitred cut and fusion welded at all corners, including drilling of holes for fixing hardware's and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of required size and of approved quality, all complete as per approved drawing & direction of Engineer-in-Charge. (Single / double glass panes, wire mesh and silicon sealant shall be paid separately). Variation in profile dimension in higher side shall be accepted but no extra payment on this account shall be made.		-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.

TENDER BOQ CIVIL

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
	9.147.E2.1	Two track two panels sliding window made of (big series) frame 67 x 50 mm & sash 46 x 62 mm both having wall thickness of 2.3 ± 0.2 mm and single glazing bead / double glazing bead of appropriate dimension. (Area of window above 2.50 sqm upto 4.00 sqm.)	Sqm	4,486.20
				-
61	9.147.F3	Casement Door with Double Rebate Frame with one Side Hung Glazed Panel and one Side Hung wire mesh Panel with zinc alloy (zamak) 30 hinges, multi-point locking system with cylinder, zinc alloy (zamak) powder coated handles on both sides of glazed panel and zinc alloy (Zamak) powder coated handle along with multi-point locking system on one side of fly screen panel.		-
	9.147.F3.1	Using R3 series with frame (11 O mm & above) x (45 mm & above) & glazed sash (55 mm & above) x (85 mm & above) & fly screen sash (55 mm & above) x (65 mm & above). (Height upto 2.5 metre).	Sqm	982.44
				-
62	9.7.7.2	5.0 mm (weight not less than 12.50 kg/sqm).	Sqm	1,375.93
				-
63	9.135.2	Providing and fixing fly proof stainless steel grade 304 wire gauge, to windows and clerestory windows using wire gauge with average width of aperture 1.4mm in both directions with wire of dia. 0.50 mm all complete. With 12 mm mild steel U beading.	Sqm	3,436.48
				-
64	9.134	Providing and fixing wire gauge shutters using stainless steel grade 304 wire gauge with wire of dia 0.5 mm and average width of aperture 1.4 mm in both directions for doors, windows and clerestory windows with necessary screws :		-
	9.134.1	35mm thick shutter		-
	9.134.1.2	With ISI marked stainless steel butt hinges of required size		-
	9.134.1.2.1	Second class teak wood	Sqm	1,287.15
				-
65	9.46.2	Providing and fixing chromium plated brass curtain rod having wall thickness of 1.25mm with two chromium plated brass brackets fixed with C.P. brass screws and PVC sleeves etc., wherever necessary complete : 20 mm dia	Rmt	3,086.69
				-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ CIVIL**

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
66	9.166.1	Providing and fixing 18mm thick both sides Pre-laminated cement bonded wood particle board as per IS : 15786:2008 of approved brand and shade with suitable full threaded steel screws etc. in partitions, boxes, shelves, racks and cupboard, kitchen cabinet under kitchen counter etc. all complete as per direction of Engineer-in-charge (Note: Fittings to be paid separately). 18 mm thick	Sqm	626.64
				-
67	9.171	Providing and fixing stainless steel soft closing spring hinges at 0 degree hinges (hydraulic type) of approved make/brand to cupboard shutters with full threaded steel screws including making necessary recess in board and finished etc. complete as per direction of Engineer-in-charge.	Each	100.00
				-
68	10.6.1	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. 80x1.25 mm M.S. laths with 1.25 mm thick top cover	Sqm	31.23
				-
69	10.70	Providing and fixing ball bearing for rolling shutters.	Nos.	10.00
				-
70	9.62.2	Providing and fixing Oxidized iron door bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with nuts and screws etc. complete : 250x16 mm	Nos.	6.00
				-
71	9.63.1	Providing and fixing Oxidized iron 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 : 250x10 mm	Nos.	55.00
				-
72	9.66.1	Providing and fixing Oxidized iron 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 :125 mm	Nos.	61.00
				-
73	10.11	Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators, side /top /centre hung, with beading and all members such as F7D,F4B, K11 B and K12 B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer, but excluding the cost of other fittings, complete all as per approved design, (sectional weight of only steel members shall be measured for payment).		-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ CIVIL**

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
	10.11.1	Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	KG	829.44
				-
74	10.30.1	Providing & fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete with 4.0 mm thick glass panes		110.46
				-
75	10.30.2	Providing & fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete with 5.50 mm thick glass panes	Sqm	859.91
				-
76	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 bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-incharge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	KG	73,941.50
				-
77	10.16.1	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete. Hot finished welded type tubes	KG	1,04,325.57
				-
78	12.5	Providing and fixing precoated galvanised iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in-Charge) of total coated thickness 0.50 mm (base metal of minimum 0.45 mm thickness with total coating thickness of 0.05mm) with zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation and should be supplied in single length upto 12 metre or as desired by Engineer-in-charge. The sheet shall be fixed using self drilling /self tapping screws of size (5.5x 55 mm) with EPDM seal, complete upto any pitch in horizontal/ vertical or curved surfaces, excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.	SQM	9,709.41
				-
79	10.25.2	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required. In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works.	Kg	17,742.82
				-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ CIVIL**

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
80	10.29.2	Providing & fixing fly proof wire gauze to windows, clerestory windows & doors with M.S. Flat 15x3 mm and nuts & bolts complete. Stainless steel (grade 304) wire gauze of 0.5 mm dia wire and 1.4 mm aperture on both sides.	SQM.	1,723.69
				-
81	9.48.1	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. Fixed to steel windows by welding	Kg	9,987.86
				-
82	9.27.1.2.1	Providing and fixing wire gauge shutters using galvanized M.S. wire gauge of average width of aperture 1.4 mm in both directions with wire of dia 0.63 mm, for doors, windows and clerestory windows with hinges and necessary screws : 35 mm thick shutters With ISI marked stainless steel butt hinges of required size Second class teak wood	Sqm	16.70
				-
83	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	5,072.88
				-
84	22.7.1	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations: A-Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300 mm height including cleaning the surface before treatment. B-Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineerin- charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineerin- charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs. C-After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge.		-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ CIVIL**

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
	22.7.1	D-Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep. E-The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test.“All above operations to be done in order and as directed and specified by the Engineer-in-Charge :	SQM	16,412.22
				-
85	22.22A	Providing and applying fibre reinforced elastomeric liquid water proofing membrane with resilient acrylic polymers having Sun Reflectivity Index (SRI) of 105 on top of concrete roof in three coats @10.76 litre/ 10 sqm. One coat of self-priming of elastomeric waterproofing liquid (dilution with water in the ratio of 3:1) and two coats of undiluted elastomeric waterproofing liquid (dry film thickness of complete application/system not less than 500 microns). The operation shall be carried out after scrapping and properly cleaning the surface to remove loose particles with wire brushes, complete in all respect as per the direction of Engineerin- Charge.	Sqm	13,228.27
				-
86	13.5	15 mm cement plaster on rough side of single or half brick wall of mix :		-
	13.5.2	1:6 (1 cement: 6 coarse sand)	SQM.	1,01,719.01
				-
87	13.22	Extra for plastering exterior walls of height more than 10 m from ground level for every additional height of 3 m or part thereof.		-
	A	10 M TO 13 M.	SQM.	4,956.79
	B	13M TO 16 M	SQM.	6,089.44
	C	16M TO 19 M	SQM.	5,157.36
	D	19M TO 22 M	SQM.	4,303.89
	E	22M TO 25 M	SQM.	3,077.81
	F	25 M TO 28 M	SQM.	2,883.81
	G	28 M TO 31 M	SQM.	2,311.10
	H	31 M TO 34 M	SQM.	1,665.85
	I	34 M TO 37 M	SQM.	1,046.27
	J	37 M TO 40 M	SQM.	995.58
	K	40 M TO 43 M	SQM.	927.87
	L	43 M TO 46 M	SQM.	1,418.31
				-
88	13.4	12 mm cement plaster :		-
	13.4.2	1:6 (1 cement : 6 coarse sand)	sqm	1,36,449.45
				-
89	13.16	6 mm cement plaster of mix :		-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ CIVIL**

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
A	13.16.1	1:3 (1 cement : 3 fine sand)	SQM.	-
				-
90	13.5.1	15 mm thick plaster with cement mortar in consisting of 1:4 cement and approved coarse sand of minimum thickness not be less than 10 mm including supply of all materials, labour T&P etc. required for proper completion of the work. On plinth.	SQM	560.15
				-
91	13.5	15 mm cement plaster on rough side of single or half brick wall of mix :		-
	13.5.2	1:6 (1 cement: 6 coarse sand)	SQM.	29,817.82
				-
92	13.9.2	Cement plaster 1:3 (1 cement: 3 coarse sand) finished with a floating coat of neat cement. 20 mm cement plaster.	Sqm	2,027.92
				-
93	5.30	Making Drip Course over Sunshade Portion over plaster Vertically or horizontally as required	RMT.	77,207.79
				-
94	11.3.1	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete. 40 mm thick with 20 mm nominal size stone aggregate	sqm	198.17
				-
95	11.5	62 mm thick cement concrete flooring with concrete hardener topping, under layer 50 mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) and top layer 12 mm thick cement hardener consisting of mix 1:2 (1 cement hardener mix : 2 graded stone aggregate, 6 mm nominal size) by volume, hardening compound mixed @ 2 litre per 50 kg of cement or as per manufacture's specifications. This includes cost of cement slurry, but excluding the cost of nosing of steps etc. complete.	Sqm	793.96
				-
96	11.6.1	Cement plaster skirting (up to 30 cm height) with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement. 18 mm thick.	Sqm	21.85
				-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ CIVIL**

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
97	24.2	Providing and fixing double scaffolding system (cup lock type) on the exterior side of building/structure, upto 25 metre height, above ground level, including additional rows of scaffolding in stepped manner as per requirement of site, made with 40 mm dia M.S. tube, placed 1.5 metre centre to centre, horizontal & vertical tubes joint with cup & lock system with M.S. Tubes, M.S. tube challis, M.S. clamps and staircase system in the scaffolding for working platform etc. and maintaining it in a serviceable condition for execution of work of cleaning and/ or pointing and/ or applying chemical and removing it thereafter. The scaffolding system shall be stiffened with bracings, runners, connecting with the building etc, wherever required, if feasible, for inspection of work at required locations with essential safety features for the workmen etc., complete as per directions and approval of Engineer-in charge. Note:- (1) The elevational area of the scaffolding shall be measured for payment purpose. (2) The payment will be made once only for execution of all items for such works.	SQM	17,097.02
				-
98	16.90	Providing and laying tactile tile (PAVIT TILES) of size 300x300x9.8mm having with water absorption less than 0.5% and conforming to IS: 15622 of approved make in all colours and shades in for outdoor floors such as footpath, court yard, multi modals location etc., laid on 20mm thick base of cement mortar 1:4 (1cement : 4 coarse sand) in all shapes & patterns including grouting the joints with white cement mixed with matching pigments etc. complete as per direction of Engineer-in-Charge.	SQM.	2,055.95
				-
99	11.34	38 mm thick wood block flooring of first class teak wood laid over 25 mm thick leveling layer of cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 10 mm nominal size) to be paid separately, coated with a thin layer of hot bitumen penetration 80/25 (blown type) @ 2.45 kg per sqm, including fixing blocks in position after dipping in hot bitumen (blown type) up to half depth, planed, levelled smooth and finished complete.	Sqm	78.00
				-
100	26.2	Providing & fixing in position Phenol bonded Bamboowood in wall skirting with planks of sizes 14mm thick, 1900mm length (minimum) and 85mm wide(minimum), in approved colour, texture and finish, having Performance Appraisal Certificate (PAC) issued by Building Materials & Technology Promotion Council (BMTPC). The skirting shall be fixed with SS screws & rawl plugs, over underlayment of 4mm thick, expanded polyethylene foam sheets having 40kg/cum density over prepared surface. The bamboowood planks shall have minimum density of 1000Kg/cum & minimum Hardness 1000 Kgf. with Eco friendly UV coating, all complete as per direction of the Engineer in-charge.	Sqm	272.75
				-
101	11.37A	Providing and fixing 1st quality ceramic glazed floor tiles conforming to IS : 15622 of approved make in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thick bed of cement Mortar 1:3 (1 cement: 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete.	Sqm	166.20

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ CIVIL**

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
				-
102	MR	Providing & Fixing of 8mm thick Rubber flooring Rolls with 15% EPDM & 85% SBR, Density (kg/m3):1000/1200, Hardness (Shore a):68, Stretch (MPA):2.2, Abrasion resistance: 0.0075g (ASTM-D4060-01), Rebound resistance: 55%, Friction coefficient: trends μ s: 0.995 .trends μ k: 0.930, Shape deformation: 42%, Length (m):10 \pm 5cm, Width (m):1m \pm 5mm, Thickness (mm): 8mm \pm 0.3mm etc.complete as per the direction of Engineer-in-charge.	Sqm	773.69
				-
103	11.39	Providing and laying rectified Glazed Ceramic floor tiles of size 300x300 mm or more (thickness to be specified by approved make & colours), of 1st quality conforming to IS : 15622, of approved make, in colours & shade, laid on 20 mm thick cement mortar 1:4 (1 Cement: 4 Coarse sand), jointing with grey cement slurry @ 3.3kg/ sqm including grouting the joints with white cement and matching pigments etc., complete.	SQM.	5,755.53
				-
104	8.31	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	SQM.	28,687.47
				-
105	11.41A	Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily.		-
	11.41A.1.1	Double charge vitrified tile polished finish of size of Tile 600 x 600 mm	SQM.	13,580.56
	11.41A.3.1	Glazed Vitrified tiles Matt/Antiskid finish of size	Sqm	3,605.78
				-
106	11.41.2	Providing and laying Double charge vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), including grouting the joints with white cement and matching pigments etc., complete. Size of Tile 600x600 mm		38,778.72
				-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ CIVIL**

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
107	11.46.2	Providing and laying Double charge 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), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joint with white cement & matching pigments etc. complete. Size of Tile 600x600 mm	SQM.	35,946.23
				-
108	11.47.2	Providing and laying Vitrified tiles in different sizes (thickness to be specified by the manufacturer), with water absorption less than 0.08% and conforming to IS: 15622, of approved brand & manufacturer, in all colours and shade, in skirting, riser of steps, laid with cement based high polymer modified quick set tile adhesive (water based) conforming to IS: 15477, in average 6 mm thickness, including grouting of joints .	Sqm	137.54
				-
109	11.41A	Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily.		-
	11.41A.3	Glazed Vitrified tiles Matt/Antiskid finish of size	SQM	3,824.52
				-
110	8.2.2.2	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels. Granite of any colour and shade Area of slab over 0.50 sqm	SQM.	2,210.80
				-
111	8.11	Providing and fixing machine cut, mirror/ eggshell polished , Granite stone work for wall lining (veneer work) including dado, skirting, risers of steps etc., in required design and pattern wherever required, stones of different finished surface texture, on 12 mm (average) thick cement mortar 1:3 (1 cement : 3 coarse sand) laid and jointed with white cement slurry @ 3.3 kg/sqm including pointing with white cement slurry admixed with pigment of matching shade, including rubbing, curing, polishing etc. all complete as per Architectural drawings, and as directed by the Engineer-in-Charge.“ 18 mm thick Granite in any colour and shade.	Sqm	2,225.93
				-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ CIVIL**

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
112	8.9.1.2	Providing and fixing machine cut, mirror/ eggshell polished , Granite stone work for wall lining (veneer work) including dado, skirting, risers of steps etc., in required design and pattern wherever required, stones of different finished surface texture, on 12 mm (average) thick cement mortar 1:3 (1 cement : 3 coarse sand) laid and jointed with white cement slurry @ 3.3 kg/sqm including pointing with white cement slurry admixed with pigment of matching shade, including rubbing, curing, polishing etc. all complete as per Architectural drawings, and as directed by the Engineer-in-Charge.“ 18 mm thick Granite in any colour and shade.	SQM.	3,059.29
				-
113	11.56	Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing , curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge.		-
	11.56.1	Polished Granite stone slab jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent	SQM.	21,001.55
				-
114	8.3.2	Providing edge moulding to 18 mm thick Granite stone, including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.	RMT.	1,046.82
				-
115	11.26.1	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : 25 mm thick	Sqm	50.22
				-
116	11.27	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	Sqm	-
				-
117	16.75	Providing and laying C.C. pavement of mix M-25 with ready mixed concrete from batching plant. The ready mixed concrete shall be laid and finished with screed board vibrator , vacuum dewatering process and finally finished by floating, brooming with wire brush etc. complete as per specifications and directions of Engineer-in charge. (The panel shuttering work shall be paid for separately). (Note:- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/ recoverable separately).	CUM.	2,249.81
				-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ CIVIL**

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
118	16.43.2	Providing and laying design mix cement concrete of M-30 grade, in roads/ taxi tracks/ runways, using cement content as per design mix, using coarse sand and graded stone aggregate of 40 mm nominal size in appropriate proportions as per approved & specified design criteria, providing dowel bars with sleeve/ tie bars wherever required, laying at site, spreading and compacting mechanically by using needle and surface vibrators, levelling to required slope/ camber, finishing with required texture, including steel form work with sturdy M.S. channel sections, curing, making provision for contraction/ expansion, construction & longitudinal joints (10 mm wide x 50 mm deep) by groove cutting machine, providing and filling joints with approved joint filler and sealants, complete all as per direction of Engineer-in-charge (Item of joint fillers, sealants, dowel bars with sleeve/ tie bars to be paid separately). Note:- Cement content considered in M-30 is @ 340 kg/cum. Excess/less cement used as per design mix is payable/ recoverable separately.	Sqm	577.77
				-
119	11.13.1	Providing and fixing glass strips in joints of terrazo/ cement concrete floors. 40 mm wide and 4 mm thick		5,120.74
				-
120	13.41	Distempering with 1st quality acrylic distemper (ready mixed) having VOC content less than 50 gms/litre, of approved manufacturer, of required shade and colour complete, as per manufacturer's specification.		-
	13.41.1	New work (two or more coats) over and including water thinnable priming coat with cement primer having VOC content less than 50 gram/litre	SQM	1,21,558.87
				-
121	13.45.1	Finishing walls with textured exterior paint of required shade : New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm	SQM.	18,351.41
				-
122	13.48.1	Wall painting with Plastic emulsion paint of approved brand and manufacture to give an even shade : Two or more coats on new work (1st quality (Royal, Silk) Asian/ Berger).	Sqm	86,128.03
				-
123	13.48.2	Painting two coats over priming coat on steel & other metal surfaces up to 10 cm width or sq,mt in areas with superior synthetic enamel such as Luxol-3 Hi-gloss apcolite superlac, Dulux specified finishing to give an even shade & incl. cleaning the surface of all dirt, dust & other foreign matter sand preparing and knotting incl. cost of all etc. required for proper completion of work.	SQM.	461.86
				-
124	13.48.3	Painting Steel work with Deluxe Multi Surface Paint to give an even shade. Two or more coat applied @ 0.90 ltr/ 10 sqm over an under coat of primer applied @ 0.80 ltr/ 10 sqm of approved brand and manufacture	Sqm	3,146.05
				-
125	13.47.1	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade : New work (Two or more coats applied @ 1.43 ltr/ 10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm) (Apex Ultima, Weather coat All guard) Asian/ Berger.	Sqm	71,203.52
				-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.

TENDER BOQ CIVIL

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
126	13.83.2	Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound) content less than 50 grams/ litre. of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.	SQM.	73,122.24
				-
127	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.	3,53,240.40
				-
128	13.37.1	White washing with lime to give an even shade:		-
		New work (three or more coats)	Sqm	20,790.45
				-
129	4.17	Making plinth protection 50 mm thick of cement concrete 1:3:6 (1 cement: 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including finishing the top smooth.	SQM.	2,464.31
				-
130	13.68	French spirit polishing :		-
	13.68.1	Two or more coats on new works including a coat of wood filler.	SQM.	3,277.09
				-
131	6.44	Brick edging 7cm wide 11.4cm. deep to plinth protection with bricks of class designation 75 including grouting with cement mortar 1:4 (1 cement : 4 fine sand)	MT.	1,666.11
				-
132	AR	APRON DRAIN	MT.	669.75
				-
133	5.45.1	Providing and fixing of expansion joint system related with wall joint (internal/external) location as per drawings and direction of Engineer-In- Charge. The joints shall be of extruded aluminum base members, self aligning / centering arrangement and support plates as per ASTM B221- 02. The material shall be such that it provides an Expansion Joints System suitable for vertical wall to wall/ wall to corner application, both new and existing construction in office Buildings & complexes with no slipping down tendency amongst the components of the Joint System. The Joint System shall utilize light weight aluminum profiles exhibiting minimal exposed aluminum surfaces mechanically snap locking the multicellular to facilitate movement. (Material shall confirm to ASTM 6063.) Wall Joint of 100 mm gap	RMT.	856.80
				-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ CIVIL**

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
134	5.44.1	Providing and fixing of expansion joint system related with floor location as per drawings and direction of Engineer-In-Charge. The joints system will be of extruded aluminum base members, self aligning / self centering arrangement and support plates etc. as per ASTM B221-02. The system shall be such that it provides floor to floor /floor to wall expansion control system for various vertical location in load application areas that accommodates multi directional seismic movement without stress to it's components. System shall consist of metal profiles with a universal aluminum base member designed to accommodate various project conditions and finish floor treatments.		-
		The cover plate shall be designed of width and thickness required to satisfy projects movement and loading requirements and secured to base members by utilizing manufacturer's pre-engineered self- centering arrangement that freely rotates / moves in all directions. The Self - centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flexure in all directions including vertical displacement. Provision of Moisture Barrier Membrane in the Joint System to have watertight joint is mandatory requirement all as per the manufactures design and as approved by Engineer -in-Charge. (Material shall confirm to ASTM 6063).		-
		Floor Joint of 100 mm gap	M.	1,104.78
				-
135	5.46.1	Providing and fixing of expansion joint system of approved make and manufactures for various roof locations as per approved drawings and direction of Engineer-In-Charge. The joints shall be of extruded aluminum base members with, self aligning and self centering arrangement support plates asper ASTM B221-02. The system shall be such that it provides watertight roof to roof/roof to corner joint cover expansion control system that is capable of accommodating multidirectional seismic movement without stress to its components. System shall consist of metal profile that incorporates a universal aluminum base member designed to accommodate various project conditions and roof treatments.		-
		The cover plate shall be designed of width and thickness required to satisfy movement and loading requirements and secured to base members by utilizing manufacturer's pre-engineered self-centering arrangement that freely rotates / moves in all directions. The Self centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flexure in all directions including vertical displacement. The Joint System shall resists damage or deterioration from the impact of falling ice, exposure to UV, airborne contaminants and occasional foot traffic from maintenance personnel. Provision of Moisture Barrier Membrane in the Joint System to have water tight joint is mandatory requirement. Material shall confirm to ASTM 6063. Roof Joint of 100 mm gap.	RMT.	816.00
				-
136	MR	ALUMINIUM PLAIN CEILING TILES	SQM.	721.00
				-
137	NSR	Providing and laying Electro Static flooring in O.Ts (thickness to be specified by manufacturer), Complete as approved by Engineer-in-charge.	SQM.	721.00
				-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.

TENDER BOQ CIVIL

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
138	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: 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) IInd course of 20 mm 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 1.7 kg. per sqm of area. (iv) IVth course of 400 micron thick PVC sheet. (Overlaps at joints of PVC sheet should be 100 mm wide and pasted to each other with bitumen @ 1.7 kg/sqm).	Sqm	1,242.46
				-
139	22.22	Providing and mixing integral crystalline admixture for waterproofing treatment to RCC structures like basement raft, retaining walls, reservoir, sewage & water treatment plant, tunnels / subway and bridge deck etc.. at the time of transporting of concrete into the drum of the ready-mix truck , using integral crystalline admixture @0.80% (minimum) to the weight of cement content per cubic meter of concrete) or higher as recommended by the manufacturer's specification in reinforced cement concrete at site of work. The material shall meet the requirements as specified in ACI-212-3R- 2010 i.e. by reducing permeability of concrete by more than 90%, compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure. The crystalline admixture shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the Engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.		-
				-
		Basement Rcc+ Terrace slab&beam Rcc	kg.	1,59,085.68
				-
140	22.23	Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI- 212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guaranteed for 10 years against any leakage		-
	22.23.1	For vertical surface two coats @0.70 kg per sqm per coat	SQM.	2,808.31
	22.23.2	For horizontal surface one coat @1.10 kg per sqm.	SQM.	17,189.33

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ CIVIL**

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
				-
				-
141	25.1	Providing and supplying aluminium extruded tubular and other aluminium sections as per the architectural drawings and approved shop drawings , the aluminium quality as per grade 6063 T5 or T6 as per BS 1474,including super durable powder coating of 60-80 microns conforming to AAMA 2604 of required colour and shade as approved by the Engineer-in-Charge. (The item includes cost of material such as cleats, sleeves, screws etc. necessary for fabrication of extruded aluminium frame work. Nothing extra shall be paid on this account). The weight of aluminium extruded section shall be taken for purpose of payment.	KG	24,530.13
				-
	25.2	Designing, fabricating, testing, protection, installing and fixing in position semi (grid) unitized system of structural glazing (with open joints) for linear as well as curvilinear portions of the building for all heights and all levels, including: (a) Structural analysis & design and preparation of shop drawings for the specified design loads conforming to IS 875 part III (the system must passed the proof test at 1.5 times design wind pressure without any failure), including functional design of the aluminum sections for fixing glazing panels of various thicknesses, aluminium cleats, sleeves and splice plates etc. gaskets, screws, toggles, nuts, bolts, clamps etc., structural and weather silicone sealants, flashings, fire stop (barrier)- cum-smoke seals, microwave cured EPDM gaskets for water tightness, pressure equalisation & drainage and protection against fire hazard including:	SQM.	1,663.84
				-
142	25.3	Providing, assembling and supplying vision glass panels (IGUs) comprising of hermetically-sealed 6-12- 6 mm insulated glass (double glazed) vision panel units of size and shape as required and specified, comprising of an outer heat strengthened float glass 6mm thick, of approved colour and shade with reflective soft coating on surface # 2 of approved colour and shade, an inner Heat strengthened clear float glass 6mm thick, spacer tube 12mm wide, desiccants, including primary seal and secondary seal (structural silicone sealant) etc., all complete for the required performances, as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineer-in-Charge.		-
		The IGUs shall be assembled in the factory/ workshop of the glass processor. (Payment for fixing of IGU Panels in the curtain glazing is included in cost of item No.25.2) For payment, only the actual area of glass on face # 1 of the glass panels (excluding the areas of the grooves and weather silicone sealant) provided and fixed in position, shall be measured in sqm.		-
		(i) Coloured tinted float glass 6mm thick substrate with reflective soft coating on face # 2, + 12mm Air gap + 6mm Heat Strengthened clear Glass of approved make having properties as visible Light transmittance (VLT) of 25 to 35 %, Light reflection internal 10 to 15%, light reflection external 10 to 20%, shading coefficient (0.25- 0.28) and U value of 3.0 to 3.3 W/m2 degree K etc. The properties of performance glass shall be decided by the technical sanctioning authority as per the site requirement.	SQM.	5,448.08
				-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ CIVIL**

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
143	25.4	Extra for openable side / top hung vision glass panels (IGUs) including providing and supplying at site all accessories and hardwares for the openable panels as specified and of the approved make such as heavy duty stainless steel friction hinges, min 4 -point cremone locking sets with stainless steel plates, handles, buffers etc. including necessary stainless steel screws/ fasteners, nuts, bolts, washers etc., all complete as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineer-in- Charge.	SQM.	348.82
				-
144	16.81x2	Providing and erecting 4.00 metre high temporary barricading at site; each panel of size 2.50 m x2.00 m made of 40x40x6 mm angle iron or 50x50x3 mm hollow MS tube posts/horizontal members/bracings covered with 1.63 mm thick MS sheet. The sheet shall be fixed with 30x5 mm MS flat by suitable welding/riveting. The panels shall be made so that gap of 50cm above the ground is available making overall height as 2.5 m. MS channel ISLC 75 @ 5.70 kg/m, 50 cm long shall be provided at the bottom having oval shaped holes of size 50x25 mm at both ends with 50 cm long MS angle 40x40x6 mm bracing. Suitable arrangement shall be made to fix the barricading to avoid from overturning by providing 250 mm long expansion fasteners at both ends. The work shall be executed as per drawing/direction of Engineer-in-Charge which includes writing and painting, arrangement for traffic diversion such as traffic signals during construction at site for day and night, glow lamps, reflective signs, marking, flags, caution tape as directed by the Engineer-in-Charge. The barricading provided shall be retained in position at site continuously including shifting of barricading from one location to another location as many times as required during the execution of the entire work till its completion. Rate include its maintenance for damages, painting, all incidentals, labour materials, equipments and works required to execute the job. The barricading shall not be removed without prior approval of Engineer-in-Charge.	Rmt	380.78
				-
145	26.81	Providing and fixing Scaffolding net of required width made of high density Polyethylene UV stabilized knitted on warp knitting machines having density 100 gram / sqm and shading coefficient minimum 75% around the construction site/ for vertical extension as per requirement including fastening/tying with building/scaffolding pipes or with any other fixtures etc. complete as per direction of Engineer-in-Charge. (One time payment shall be made for providing Scaffolding net from start of work till completion of work including shifting if any. The Scaffolding net shall be the property of the contractor on completion of the work)	Sqm	17,097.02
146	Market Rate	Making grooves of size 6x15 mm in trimix flooring to provide construction / expansion joints with cutting machine with diamond cutting wheel including providing 6x15 mm back up rod and 25 mm wide masking tap filling joints with sealent etc. complete.	Sqm.	15,186.21
147	Market Rate	Writing Number on Column in Painting Area as Per design, layout, marking Boxes and Providing Marking Tape and Painting writing Number with Enamel Paint with using Stansil in Box Shape	Each	3,352.00
148	Market Rate	Providing fixing of column Guard with material fixing 100x100x800 mm thickness 10 mm i/c fixing of S.S. Screw 50x8 mm column Guard made with pubberised material	Each	3,352.00

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ CIVIL**

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
				-
149	MR	Providing and fixing kitchen chimney of approved make, including all accessories complete. Size: 90 cm Suction Capacity: Minimum 1000–1500 m ³ /hr Type: Wall mounted curved glass / pyramid / T-shape Material: Stainless steel body with powder coating and toughened glass canopy Filter: Baffle filter / filterless auto-clean technology Motor: BLDC motor (in premium models) Control: motion sensor Lighting: Inbuilt LED lights Noise Level: Not exceeding 65 dB Power: 230V, single phase, 50 Hz Including: Fixing on wall with suitable anchor fasteners Connection with duct pipe up to 1.5 m length Making necessary holes in wall/cabinetry Sealing of joints Testing and commissioning complete.	Each	1.00
				-
150	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 5x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the spacing of 1200 mm centre to centre, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm centre to centre, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I. wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25mm long dry wall screws @ 230 mm interval,		-
		including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3 layers covering upto 150 mm on 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 :	Sqm	1,934.55
				-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ CIVIL**

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
151	12.54.2	Providing and fixing GI Clip in Metal Ceiling System of 600x600 mm module which includes providing and fixing 'C' wall angle of size 20x30x20mm made of 0.5mm thick pre painted steel along the perimeter of the room with help of nylon sleeves and wooden screws at 300 mm center to centre, suspending the main C carrier of size 10x38x10mm made of G.I steel 0.7 mm thick from the soffit with help of soffit cleat 37x27x25x1.6 mm, rawl plugs of size 38x12 mm and C carrier suspension clip and main carrier bracket at 1000 mm c/c. Inverted triangle shaped Spring Tee having height of 24 mm and width of 34 mm made of GI steel 0.45 mm thick is then fixed to the main C carrier and in direction perpendicular to it at 600 mm centers with help of suspension brackets. Wherever the main C carrier and spring T have to join, C carrier and spring T connectors have to be used. All sections to be galvanized @ 120 gms/sqm (both side inclusive), fixing with clip intiles into spring 'T' with :		-
		GI Metal Ceiling Clip in plain Beveled edge global white color tiles of size 600x600 and 0.5mm thick with 25 mm height, made of G I sheet having galvanizing of 100 gms/sqm (both sides inclusive) and 20% perforation area with 1.8mm dia holes and having NRC of 0.5, electro statically polyester powder coated of thickness 60 microns (minimum), including factory painted after bending and perforation.	Sqm	24,290.65
				-
152	16.1	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm depth, dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the sub grade and disposal of surplus earth with lead upto 50 metres.	Sqm	31,986.58
				-
153	16.78.2	Construction of granular sub-base by providing close graded Material conforming to specifications, mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads & lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge.	CUM	3,865.74
				-
154	16.4	Laying, spreading and compacting stone aggregate of specified sizes to WBM specifications in uniform thickness, hand picking, rolling with 3 wheeled road/vibratory roller 8-10 tonne capacity in stages to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density .	CUM	1,048.78
				-
155	16.91.2	Providing and laying factory made chamfered edge Cement Concrete paver blocks In foot path, park & lawns driveway or light & traffic parking etc. of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & attern over 50mm thick compacted bed of course sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand, all complete as per manufacturer's specifications & direction of Engineerin- Charge. 80mm thick Cement concrete paver block of M-30 grade with approved colour, design & pattern.	SQM	13,341.58

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S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
				-
156	AR	Providing and laying design mix cement concrete of M-40 grade, in roads/ taxi tracks/ runways, using cement content as per design mix, using coarse sand and graded stone aggregate of 40 mm nominal size in appropriate proportions as per approved & specified design criteria, providing dowel bars with sleeve/ tie bars wherever required, laying at site, spreading and compacting mechanically by using needle and surface vibrators, levelling to required slope/ camber, finishing with required texture, including steel form work with sturdy M.S. channel sections, curing, making provision for contraction/ expansion, construction & longitudinal joints (10 mm wide x 50 mm deep) by groove cutting machine, providing and filling joints with approved joint filler and sealants, complete all as per direction of Engineerin- charge (Item of joint fillers, sealants, dowel bars with sleeve/ tie bars to be paid separately). Note:- Cement content considered in M-40 is @ 380 kg/cum. Excess/ less cement used as per design mix is payable/ recoverable separately.	CUM	3,635.78
				-
157	16.45	Providing and fixing in position pre-moulded joint filler in expansion joints.	per cm depth per cm width per m length	6,525.75
				-
158	16.46.1	Providing and laying in position bitumen hot sealing compound for expansion joints etc. Using grade 'A' sealing compound.	per cm depth per cm width per m length	6,525.75
				-
159	16.91.2	Providing and laying factory made chamfered edge Cement Concrete paver blocks In foot path, park & lawns driveway or light & traffic parking etc. of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & attern over 50mm thick compacted bed of course sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand, all complete as per manufacturer's specifications & direction of Engineerin- Charge. 80mm thick Cement concrete paver block of M-30 grade with approved colour, design & pattern.	Sqm	4,661.25
				-
160	16.69	Providing and laying Kerb Stone 600mm c/c	Cum	352.69
				-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ CIVIL**

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
161	16.53	Providing and fixing concertina coil fencing with punched tape concertina coil 600 mm dia 10 metre openable length (total length 90 m), having 50 nos rounds per 6 metre length, upto 3 m height of wall with existing angle iron 'Y' shaped placed 2.4m or 3.00 m apart and with 9 horizontal R.B.T. reinforced barbed wire, stud tied with G.I. staples and G.I. clips to retain horizontal, including necessary bolts or G.I. barbed wire tied to angle iron, all complete as per direction of Engineer-in-charge, with reinforced barbed tape(R.B.T.) / Spring core (2.5mm thick) wire of high tensile strength of 165 kg/ sq.mm with tape (0.52 mm thick) and weight 43.478 gm/ metre (cost of M.S. angle, C.C. blocks shall be paid separately)	rmt	1,066.77
				-
162	19.15.1	Providing M.S. foot rests including fixing in manholes with 20x20x10 cm cement concrete blocks 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) as per standard design : With 20x20 mm square bar	each	720.00
				-
163	19.18.2	Supplying and fixing C.I. cover without frame for manholes : 500 mm diameter C.I. cover (medium duty) the weight of the cover to be not less than 58 kg	each	30.00
				-
164	23.1	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer -in-charge, upto 90 metre depth below ground level.		-
	23.1.1	All types of soil		-
	23.1.1.3	400 mm dia	M	900.00
				-
165	23.3	Supplying, assembling, lowering and fixing in vertical position in bore well, unplasticized PVC medium well casing (CM) pipe of required dia, conforming to IS: 12818, including required hire and labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer -in-charge.		-
	23.3.3	200 mm nominal size dia	M	540.00
				-
166	23.4	Supplying, assembling, lowering and fixing in vertical position in bore well unplasticized PVC medium well screen (RMS) pipes with ribs, onforming to IS: 12818, including hire & labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer-in-charge.		-
167	23.4.3	200 mm nominal size dia	M	360.00
				-
168	23.5	Supplying, filling, spreading & leveling stone boulders of size range 5 cm to 20 cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	CUM	112.50
				-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.

TENDER BOQ CIVIL

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
169	23.6	Supplying, filling, spreading & leveling gravels of size range 5 mm to 10 mm, in the recharge pit, over the existing layer of boulders, in required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	CUM	112.50
				-
170	23.7	Supplying, filling, spreading & leveling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge.	CUM	112.50
				-
171	23.8	Gravel packing in tubewell construction in accordance with IS: 4097, including providing gravel fine/ medium/ coarse, in required grading & sizes as per actual requirement, all complete as per direction of Engineerin- charge.	CUM	84.90
				-
172	23.12	Development of tube well in accordance with IS : 2800 (part I) and IS: 11189, to establish maximum rate of usable water yield without sand content (beyond permissible limit), with required capacity air compressor, running the compressor for required time till well is fully developed, measuring yield of well by “V” notch method or any other approved method, measuring static level & draw down etc. by step draw down method, collecting water samples & getting tested in pproved laboratory, i/c disinfection of ubewell, all complete, including hire & labour charges of air compressor, tools & accessories etc., all as per uirement and direction of Engineer-in-charge.	Hrs.	450.00
				-
173	23.13.3	Providing and fixing suitable size threaded mild steel cap or spot welded plate to the top of bore well housing/ casing pipe, removable as per requirement, all complete for borewell of: 200 mm dia	No.	30.00
				-
174	23.15.3	Providing and fixing Bail plug/ Bottom plug of required dia to the bottom of pipe assembly of tubewell as per IS:2800 (part I). 200 mm dia	No.	30.00
				-
175		Providing, laying and jointing P.V.C. pipes including testing of joints etc. complete : 150 mm dia pipe.	M	2,400.00
				-
176	19.2	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) all-round S.W. pipes including bed concrete as per standard design:		-
	19.2.2	150 mm diameter PIPE	M	2,400.00
				-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ CIVIL**

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
177	19.3	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 coarse sand (Zone III) : 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:		-
	19.30.3	Inside dimensions 600x 850 mm and 45 cm deep for pipe line with three or more inlets :		-
	19.30.3.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	EACH	240.00
				-
178	19.27	Constructing brick masonry road gully chamber 50x45x60 cm with bricks of class designation 7.5 in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :		-
	19.27.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	EACH	30.00
				-
179	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.	4,974.91
				-
180	15.31	Dismantling tiled roofing with battens, boarding etc. complete including stacking of serviceable material and disposal of unserviceable material within 50 metres lead.	SQM	17,183.02
				-
181	15.2.2	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge. Nominal concrete 1:4:8 or leaner mix (including equivalent design mix)	CUM.	1,718.46
				-
182	15.7.4	Demolishing brick work manually/by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 meters lead as per direction of Engineering -in-charge.In cement mortar	CUM.	9,344.53
				-
183	15.12.1	Dismantling doors, windows and clerestory windows (steel or wood) shutter including chowkhats, architrave, holdfast etc. Complete and stacking within 50 meters lead : Of area 3 sqm. And below.	NOS.	4,152.42
				-
184	15.6	Extra for scrapping, cleaning and straightening reinforcement from R.C.C. or R.B. work.	KG.	3,31,950.49
				-
185	15.60	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	CUM.	16,897.14
				-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ CIVIL**

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
186	15.44	Dismantling G.I. pipes (external work) including excavation and refilling trenches after taking out the pipes, manually/ by mechanical means including stacking of pipes within 50 metres lead as per direction of Engineer-in-charge :		-
	15.44.1	15 mm to 40 mm nominal bore	Rmt.	2,395.62
				-
187	15.45	Dismantling C.I. pipes including excavation and refilling trenches after taking out the pipes, manually/ by mechanical means breaking lead caulked joints, melting of lead and making into blocks including stacking of pipes & lead at site within 50 metre lead as per direction of Engineer-in-charge:	Rmt.	798.54
				-
188	15.52	Dismantling of flushing cistern of all types (C.I./PVC/Vitrious China) including stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead.	Nos.	159.71
				-
189	2.1	Trenching in ordinary soil up to a depth of 60 cm including removal and stacking of serviceable materials and then disposing of surplus soil, by spreading and neatly leveling within a lead of 50 m and making up the trenched area to proper levels by filling with earth or earth mixed with sludge or/and manure before and after flooding trench with water (excluding cost of imported earth, sludge or manure).	Cum	10,091.70
				-
190	2.2	Supplying and stacking of good earth at site including royalty and carriage up to 1 km (earth measured in stacks will be reduced by 20% for payment).	Cum	10,091.70
				-
191	2.4.2	Supplying and stacking at site dump manure from approved source, including carriage up to 1 km (manure measured in stacks will be reduced by 8% for payment) : Screened through sieve of I.S. designation 16 mm	Cum	4,048.48
				-
192	2.7	Fine dressing of the ground	Sqm	20,242.40
				-
193	2.9	Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge..	Cum	10,091.70
				-
194	2.10	Grassing with selection No.1 grass including watering and maintenance of the lawn for 30 days or more till the grass forms a thick lawn, free from weeds and fit for mowing including supplying good earth, if needed (the good earth shall be paid for separately).		-
	2.10.2	With grass Turf	Sqm	8,073.36
				-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.

TENDER BOQ CIVIL

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
195	2.13	Preparation of beds for hedging and shrubbery by excavating 60 cm deep and trenching the excavated base to a further depth of 30 cm, refilling the excavated earth after breaking clods and mixing with sludge or manure in the ratio of 8:1 (8 parts of stacked volume of earth after reduction by 20% : one part of stacked volume of sludge or manure after reduction by 8%), flooding with water, filling with earth if necessary, watering and finally fine dressing, leveling etc. including stacking and disposal of materials declared unserviceable and surplus earth by spreading and leveling as directed, within a lead of 50 m, lift up to 1.5 m complete (cost of sludge, manure or extra earth to be paid for separately).	Cum	605.50
				-
196	2.14	Digging holes in ordinary soil and refilling the same with the excavated earth mixed with manure or sludge in the ratio of 2:1 by volume (2 parts of stacked volume of earth after reduction by 20% : 1 part of stacked volume of manure after reduction by 8%) flooding with water, dressing including removal of rubbish and surplus earth, if any, with all leads and lifts (cost of manure, sludge or extra good earth if needed to be paid for separately) :		-
	2.14.2	Holes 90 cm dia, and 90 cm deep	Each	2,000.00
				-
197		SUPPLY OF PLANTS		-
A	7.45	Supply and stacking of Grevillea robusta (Silver Oak) plant of height 150- 165 cm. in big poly bags of size 25 cm as per direction of the officer-in-charge.	Nos	200.00
B	7.68	Supply and stacking of Plumeria acutifolia plant of height 150-165 cm. with 3-4 branches in big size HDPE bag as per direction of the officer-in-charge	Nos	150.00
C	7.21	Supply and stacking of Chorisia speciosa plant of height 150-165 cm. in big poly bags of size 25 cm as per direction of the officer-in-charge.	Nos	150.00
D	7.77	Supply and stacking of Polyalthia pendula (Ashok Pendula) plant of height 180-195 cm. in gunny bag of size 30 cm as per direction of the officer-in-charge.	Nos	300.00
E	7.5	Supply and stacking of Azadirachta indica (Neem) plant of height 120- 130cm in big polybag of size 25 cm as per direction of the officer-in-charge.	Nos	300.00
F	7.75	Supply and stacking of Polyalthia longifolia (Ashok) plant of height 180- 195 cm. in gunny bag of size 30 cm as per direction of the officer-in-charge.	Nos	350.00
G	7.7	Supply and stacking of Bauhinia blakeana (Kachnar) plant of height 120- 150 cm. in big poly bags of size 25 cm as per direction of the officer-in-charge.	Nos	150.00
H	7.11	Supply and stacking of Bottle palm plant of ht. 210-240 cm bottom girth 30-35 cm well developed in big HDPE bags.	Nos	200.00
I	3.22	Providing and displaying of Areca Palm plant, having ht. 2.40 m to 2.70 m with 12 to 14 suckers, well developed, fresh and healthy with lush green foliage in 35 cm size of Bucket type cement pots & as per direction of the officer-in-charge.	Nos	200.00
198		Flowering & Indoor Potted Plants in 10" earthen Pots	Nos	150.00
				-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ CIVIL**

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
199		Design (including architectural and structural design and drawing to be carried out as per the Particular specifications of fire and drinking water pupose) and construction (as per contractor's own archetectural and structural design and drawings as approved by Engineer-in-charge) reinforced cement concrete Under Ground water tanks including providing, execution and fixing of the under mentioned items in required quantities except wherever specifically mentioned and including providing and execution of all other items required and necessary for the complete construction, commissioning and functioning of the tank (The decision of the Engineer-in - charge regarding the said other items shall be final and binding on the contractor)		-
A		All necessary excavations, filling required eath available at site from excavations for UG TANK/Valve chambers manholes pipelines in trench plinth, side of foundations, inside the staging area above the foundation under the leveling layer of CC pavement etc in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering in all leads and lifts and for all types of soils.		-
B		Providing and laying in position 100 mm thick and of required size in plan, cement concrete base leveling layer of concrete grade 1:5:10 (1 cement : 5 coarse sand :10 graded stone aggregate 40 mm nominal size) below the RCC foundation and below the CC pavement.		-
C		Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete structural elements, excluding the cost of centering shuttering, finishing and reinforcement including Admixtures in recommended proportions (as per IS: 9103) to accelerate, retard setting of concrete improve workability without impairing strength and durability as per direction of Engineer-in-charge M-25 grade reinforced cement concrete, upto all leads and lifts.		-
D		Providing and admixing water proofing compound (impermo or equivalent) @ 1 kg per 50 kg of cement in all RCC elements of water retaining structures (including RCC elements of staging foundation) required quantities as per the approved structural drawings.		-
E		Reinfocement with TMT steel bars for RCC work including straightning, cutting, bending, placing in position and binding all complete.		-
F		Centering & shuttering including strutting, propping etc and removal of form for all types/ categories/ classes of RCC and PCC upto all leads and lifts		-
G		Providing embedding and fixing in position Aluminium sheet 200 mm wide and 1.90 mm thick at the horizontal joints between two successive lifts of walls of tanks as well as between uppermost lifts of walls and beam/slab of roof dome in required lengths, out of which 100 mm width shall be embedded in the lower layer of RCC and remaining 100 mm width in the successive layer of RCC		-
H		Brick work with FPS bricks of class designation 75 in cement mortar 1:6 (1cement : 6 coarse sand) in retaining, to wall for CC pavement.		-
I		Cement concrete flooring 50mm thick with 20mm nominal size stone aggregate in 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with floating coat of neat cement including cement slurry on the treads and landing of the staircase, on the steps from the finished ground level to the plinth, on terrace balcony and on top external surface (terrace of tank roof)		-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ CIVIL**

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
J		18 mm thick cement plaster in skirting and risers of steps with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a neat of floating cement.		-
K		12 mm thick cement plaster in cement mortar 1:4 (1 cement : 4 fine sand) on outer periphery of the retaining/ toe wall for CC pavement.		-
L		20 mm cement plaster 1:3 (1 cement : 3 fine sand) admixed with approved acrylic based water proofing compound (in required quantities as specified by the manufactures) on internal surface of RCC water tank including finishing with a floating coat of neat cement.		-
M		Finishing all available areas of external RCC surfaces of staging and tank exposed to atmosphere excluding the top external surface of tank roof with premium Acrylic Smooth exterior paint with silicon additives "Snoweryl-XT" of M/s Snowcem India Ltd. Of equivalent of required shade on new work in two or more coats.		-
N		Painting two or more coats on all mild steel work with synthetic enamel paint of approved brand and manufacture to give an even shade.		-
O		950 mm high (above treads excluding flooring & upto bottom of hand rail) railing on both sides of RCC staircase RCC landing, on outer side of tank balcony at bottom dome with vertical 50x50x8 mm angle iron @ 750 mm center to center and 800 mm high (above treads excluding flooring and upto bottom of hand rail) on outer side of tank top dome with vertical 50x50x8 mm angle iron @ 750mm center to center including fixing embedding the vertical iron to treads, slab to the required depth, painting with priming coat of approved steel primer etc. One no MS steel ladder from bottom dome balcony to top dome landing consisting of two Nos MS angles 50x50x6 mm with 20 mm dia MS bar steps @ 250 mm center to center including painting and priming coat etc.		-
P		Hand rail of MS pipes 25 mm nominal bore (class B) one no. on both side by welding etc. to vertical railing of RCC staircase, RCC landings and two Nos MS pipes 25 mm nominal bore (class B) hand rail to outer side of tank balcony railing at bottom dome and top including supplying & priming coat of approved steel primer.		-
Q		Soil testing & verification of SBC of soil (Refer particular specifications also)		-
R		Structural design & drawing including necessary submission of design/details, approval etc. all complete (Refer particular specifications also)		-
S		Testing of tank (Refer particular specifications also) including making all necessary arrangements for filling of tank etc. all complete.		-
T		Disinfection and commissioning of tank	Litre	7,00,000.00
				-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.

TENDER BOQ CIVIL

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
200		Planning, Designing, Engineering, Construction, Procurement, Installation, Testing, Commissioning, Trial of proposed 350 KLD Sewerage Treatment Plant (STP) including civil, mechanical, electrical and instrumentation works for STP sub units namely – Oil and Grease Traps, Equalization Tank, Equalized Effluent Transfer Pump House, PH Correction Tank, Chlorination Tank, Chemical Dosing Tanks (Lime, Feso4, Polymer, UREA , DAP etc. etc), Parshal Flume, Fine Screen & Chamber, Grit Chamber, Flash Mixer, Clariflocculator, Aeration Tank, Secondary Clarifier, Chemical Sludge Sump, Biological Sludge Sump, Dewatering Polymer Dosing (Chemical Sludge), Dewatering Polymer Dosing (Biological Sludge), Chemical & Biological Sludge Pump House, Flash Mixer before Filtration, Deep Bed Filters, Chlorination Tonner House, Chemical & Biological Centrifuge House, Sludge Drying Bed, Chemical House, Chemical & Biological Storage Area, Backwash Tank, Filtered Effluent Storage Tank, Internal Road Parking, Boundary Wall, Horticulture works, Campus Lighting, Flow Meters, all Pumping Machinery such as Equalized Lifting Pumps, Clarifier Mechanism both for primary and secondary clarifier, machinery for flash mixers, Air Blowers, Chlorine Tonner, Pumping Machinery for Pumping of Biological and Chemical Sludge, Pumping of Treated water Effluent, Rising Main from Treated Effluent Sump to the nearby Drain with Sluice Valves , Non- Return Valves, Air Valves and other Accessories including connection to Recycling Network, Water Supply Service line for providing water supply to all units wherever required, all HT, LT Panels their rooms for Air Blowers etc., including Bye pass arrangement & trial run during the stabilization period. The scope of work also includes the construction of Boundary Walls, Roads & Pathways, Landscape & Horticulture, and Campus Lighting etc. at STP Site. Civil, Mechanical, Electrical required for proper performance shall form the part of the scope complete in all respect.		-
		Plant size upto 50KLD	KLD	50.00
		Add extra for every KLD for plant size above 50 KLD and upto 100 KLD	KLD	50.00
		Add extra for every KLD for plant size above 100 KLD	KLD	250.00
				-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.

TENDER BOQ CIVIL

S. N.	ITEM NO.	DESCRIPTION OF ITEM OF WORK	Unit	TOTAL QTY
201		Planning, Designing, Engineering, Construction, Procurement, Installation, Testing, Commissioning, Trial of proposed 30 KLD Effluent Treatment Plant (ETP) including civil, mechanical, electrical and instrumentation works for STP sub units namely – Oil and Grease Traps, Equalization Tank, Equalized Effluent Transfer Pump House, PH Correction Tank, Chlorination Tank, Chemical Dosing Tanks (Lime, Feso4, Polymer, UREA , DAP etc. etc), Parshal Flume, Fine Screen & Chamber, Grit Chamber, Flash Mixer, Clariflocculator, Aeration Tank, Secondary Clarifier, Chemical Sludge Sump, Biological Sludge Sump, Dewatering Polymer Dosing (Chemical Sludge), Dewatering Polymer Dosing (Biological Sludge), Chemical & Biological Sludge Pump House, Flash Mixer before Filtration, Deep Bed Filters, Chlorination Tonner House, Chemical & Biological Centrifuge House, Sludge Drying Bed, Chemical House, Chemical & Biological Storage Area, Backwash Tank, Filtered Effluent Storage Tank, Internal Road Parking, Boundary Wall, Horticulture works, Campus Lighting, Flow Meters, all Pumping Machinery such as Equalized Lifting Pumps, Clarifier Mechanism both for primary and secondary clarifier, machinery for flash mixers, Air Blowers, Chlorine Tonner, Pumping Machinery for Pumping of Biological and Chemical Sludge, Pumping of Treated water Effluent, Rising Main from Treated Effluent Sump to the nearby Drain with Sluice Valves , Non-Return Valves, Air Valves and other Accessories including connection to Recycling Network, Water Supply Service line for providing water supply to all units wherever required, all HT, LT Panels their rooms for Air Blowers etc., including Bye pass arrangement & trial run during the stabilization period. The scope of work also includes the construction of Boundary Walls, Roads & Pathways, Landscape & Horticulture, and Campus Lighting etc. at STP Site. Civil, Mechanical, Electrical required for proper performance shall form the part of the scope complete in all respect.		-
		Plant size upto 50KLD	KLD	30.00
				-
				-
				-

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.				
TENDER BOQ PLUMBING				
ITEM NO.	DSR 2023	DESCRIPTION OF ITEM	TOTAL QTY	UNIT
		SUB HEAD - I - (SANITARY FIXTURES & C.P. BRASS FITTING)		
1	17.3.1	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required W.C. pan with ISI marked white solid plastic seat and lid	1126	Each
2	17.1	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm 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		
	17.1.1	White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests	106	Each
3	17.7A	Providing and fixing wash basin with C.I. brackets, 15 mm dia CP Brass single hole basin mixer of approved quality and make, including painting of fittings and brackets, cutting and making good the walls wherever required:- White Vitreous China Wash basin size 550x400 mm with a 15 mm CP Brass single hole basin mixer	1115	Each
4	17.10	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS:13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :		
		Kitchen sink with drain board		
	17.10.1.3	510x1040 mm bowl depth 200 mm	236	Each
5	17.40	Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of 430x260x350 mm and 340x410x265 mm sizes respectively with automatic flushing cistern with standard flush pipe and C.P. brass spreaders with brass unions and G.I clamps complete, including painting of fittings and brackets, cutting and making good the walls and		
6	17.4.2	Range of two urinal basins with 5 litre white P.V.C. automatic flushing cistern	452	Each
4	17.28.1.2	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete. Semi rigid pipe 40 mm dia	286	each
5	17.22A	Providing and fixing CP Brass 32mm/40mm size Bottle Trap of approved quality & make and as per the direction of Engineer-in-charge.	1288	Each
6	17.22.B	Providing and fixing CP Brass Single lever telephonic wall mixer of quality & make as approved by Engineer in charge. (a) 15 mm nominal dia	488	Each
7	17.31	Providing and fixing 600 x 450mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete in all respect.	1070	Each
8	17.73.1	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour. 450 mm long towel rail with total length of 495 mm, 78 mm wide and effective height of 88 mm, weighing not less than 170 gms	777	Each
9	18.49.1	Providing and fixing C.P. brass bib cock of approved quality conforming to IS:8931 : 15 mm nominal bore	1175	Each
10	18.52.1	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS: 8931. 15 mm nominal bore	851	Each

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.				
TENDER BOQ PLUMBING				
ITEM NO.	DSR 2023	DESCRIPTION OF ITEM	TOTAL QTY	UNIT
11	18.53.1	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931 15 mm nominal bore	5470	Each
	MR	Providing & fixing storage type electric Hot water Geyser 10 Litre made out of heavy gauge steel jacket finished with rust proof baked-on glossy white enamel paint, inside glass lined heavy gauge copper tank, 25 mm thick polyurethane foam insulation, thermostatically controlled immersion heater with pilot neon lamp, replaceable magnesium anode bar, suitable for 8.0 bar maximum working pressure, cold water inlet and hot water outlet pipe, suitable length of electrical cable and 15 amp 3 pin plug top, complete in all respect including testing etc. (Horizontal/Vertical) (only for estimation)	1	Each
12	MR	Providing & fixing storage type electric Hot water Geyser 20 Litre made out of heavy gauge steel jacket finished with rust proof baked-on glossy white enamel paint, inside glass lined heavy gauge copper tank, 25 mm thick polyurethane foam insulation, thermostatically controlled immersion heater with pilot neon lamp, replaceable magnesium anode bar, suitable for 8.0 bar maximum working pressure, cold water inlet and hot water outlet pipe, suitable length of electrical cable and 15 amp 3 pin plug top, complete in all respect including testing etc. (Horizontal/Vertical) (only for estimation)	553	Each
13	17.16a	Providing and fixing 8 mm dia C.P. / S.S. Jet with flexible tube upto 1 metre long with S.S. triangular plate to European type W.C. of quality and make as approved by Engineer - in -charge.	1146	Each
14	17.34	Providing and fixing toilet paper holder		
	17.34.1	C.P. brass	938	Each
15	18.65	Providing and fixing PTMT soap Dish Holder having length of 138 mm, breadth 102 mm, height of 75 mm with concealed fitting arrangements. Weighing not less than 106 gms.	668	Each
16	18.21.2.1	Providing and fixing 45 cm long unplasticised PVC connection pipe with brass unions. (a) 15mm nominal bore	4456	Each
17	MR	Blue Star 200L Cooling Storage Water Cooler SDLX200400B. Features :- Brand Name : Blue Star Refrigerant : R-22 Power Source : Electric Dimensions : 1120 x 750 x 1500 mm Voltage : 230 V Type of Product : Water Cooler	64	Per Ltrs
		TOTAL CARRIED TO SUMMARY		
		SUB HEAD - II - (SOIL, WASTE, RAIN WATER AND VENT PIPES)		
	a)	RAIN WATER DRAINAGE WORK		
18	19.2.1	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) all-round S.W. pipes including bed concrete as per standard design : 100 mm dia	849	metre
19	12.41.2	Providing and fixing on wall face unplasticised-Rigid PVC rain water pipes conforming to IS: 13592 Type A including jointing with seal ring conforming to IS: 5382 leaving 10mm gap for thermal expansion. 110 mm dia	3052	Metre
20	12.42.1.2	Providing and fixing on wall face unplasticised PVC moulded fittings/accessories for unplasticised Rigid PVC rain water pipes conforming to IS:13592 Type A including jointing with seal ring conforming to IS:5382 leaving 10mm gap for thermal expansion. Coupler 110 mm	2764	Each
21	12.42.3.2	Providing and fixing on wall face unplasticised PVC moulded fittings/accessories for unplasticised Rigid PVC rain water pipes conforming to IS:13592 Type A including jointing with seal ring conforming to IS:5382 leaving 10mm gap for thermal expansion. Single tee with door 110x110x110 mm	1065	Each

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TENDER BOQ PLUMBING				
ITEM NO.	DSR 2023	DESCRIPTION OF ITEM	TOTAL QTY	UNIT
22	12.42.4.2	Providing and fixing on wall face unplasticised PVC moulded fittings/accessories for unplasticised Rigid PVC rain water pipes conforming to IS:13592 Type A including jointing with seal ring conforming to IS:5382 leaving 10mm gap for thermal expansion. Single tee without door 110x110x110 mm	762	Each
23	12.42.5.2	Providing and fixing on wall face unplasticised PVC moulded fittings/accessories for unplasticised Rigid PVC rain water pipes conforming to IS:13592 Type A including jointing with seal ring conforming to IS:5382 leaving 10mm gap for thermal expansion. Bend 87.5 degree 110mm bend	683	Each
24	12.42.6.2	Providing and fixing on wall face unplasticised PVC moulded fittings/accessories for unplasticised Rigid PVC rain water pipes conforming to IS:13592 Type A including jointing with seal ring conforming to IS:5382 leaving 10mm gap for thermal expansion. Shoe (Plain) 110mm shoe	244	Each
25	12.44	Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams.	202	Each
26	12.22	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over PVC sheet 1m x 1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, punning, rounding the edges and making and finishing the outlet complete.	202	Each
	b)	UPVC SWR SOIL, WASTE & VENT PIPES AND FITTINGS		
27	18.77	Cutting holes up to 15x15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including finishing complete so as to make it leak proof	235	Each
		Internal Toilet (Soil, Waste & Rain Water Pipe)		
28	MR	Providing, fixing, jointing and testing, uPVC SWR pipes, - type B conforming to IS : 13592 to wall, ceiling and floor, approved quality, complete, for soil, waste & rain water drain including pushfit jointing with seal ring. (i) Single socketed pipes. 110 mm dia. (only for estimation)	15563	Rm.
29	MR	Providing and fixing SWR PVC trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors : 110mm x 110mmX110mm (only for estimation)	1259	Each
30	MR	Providing and fixing on wall face unplasticised - PVC moulded fittings/accessories for unplasticised Rigid PVC pipes including jointing with seal ring leaving 10 mm gap for thermal expansion. Bend without door (45°) 110mm (only for estimation)	4012	Each
31	MR	Providing and fixing on wall face unplasticised - PVC moulded fittings/accessories for unplasticised Rigid PVC pipes including jointing with seal ring leaving 10 mm gap for thermal expansion. Y' Fitting without door 110mm (only for estimation)	2619	Each
32	MR	Providing and fixing on wall face unplasticised - PVC moulded fittings/accessories for unplasticised Rigid PVC pipes including jointing with seal ring leaving 10 mm gap for thermal expansion. Single Tee without door 110mm (only for estimation)	2095	Each
33	MR	Providing and fixing on wall face unplasticised - PVC moulded fittings/accessories for unplasticised Rigid PVC pipes including jointing with seal ring leaving 10 mm gap for thermal expansion. Coupler 110mm (only for estimation)	2439	Each
34	MR	Providing and fixing on wall face unplasticised - PVC moulded fittings/accessories for unplasticised Rigid PVC pipes including jointing with seal ring leaving 10 mm gap for thermal expansion. Clean Out Plug 110mm (only for estimation)	621	Each
35	MR	Providing and fixing on wall face unplasticised - PVC moulded fittings/accessories for unplasticised Rigid PVC pipes including jointing with seal ring leaving 10 mm gap for thermal expansion. Vent Cowl 110mm (only for estimation)	218	Each
36	MR	Providing, fixing, jointing and testing, unplasticized PVC pipes -10 kg/cm2 confirming to IS : 4985 to wall, ceiling and floor, approved quality, complete, for waste water drain including jointing with rubbering/solvent/solution and airtight joints, etc. For Wash basin & Urinal 40mm dia. Pipe (only for estimation)	3054	Metre

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TENDER BOQ PLUMBING				
ITEM NO.	DSR 2023	DESCRIPTION OF ITEM	TOTAL QTY	UNIT
37	MR	Providing, fixing, jointing and testing, unplasticized PVC pipes -10 kg/cm ² confirming to IS : 4985 to wall, ceiling and floor, approved quality, complete,for waste water drain including jointing with rubbering/solvent/solution and airtight joints, etc 40mm dia. Pipe (for wash basin & sunken toilet spout) (only for estimation)	2640	Metre
38	MR	Providing, fixing, jointing and testing, unplasticized PVC pipes -10 kg/cm ² confirming to IS : 4985 to wall, ceiling and floor, approved quality, complete,for waste water drain including jointing with rubbering/solvent/solution and airtight joints, etc . Elbow (90°) 40mm (only for estimation)	349	Each
39	MR	Providing, fixing, jointing and testing, unplasticized PVC pipes -10 kg/cm ² confirming to IS : 4985 to wall, ceiling and floor, approved quality, complete,for waste water drain including jointing with rubbering/solvent/solution and airtight joints, etc . Elbow (45°) 40mm (only for estimation)	348	Each
40	MR	Providing, fixing, jointing and testing, unplasticized PVC pipes -10 kg/cm ² confirming to IS : 4985 to wall, ceiling and floor, approved quality, complete,for waste water drain including jointing with rubbering/solvent/solution and airtight joints, etc . T fitting 40mm (only for estimation)	190	Each
41	MR	Providing, fixing, jointing and testing, unplasticized PVC pipes -10 kg/cm ² confirming to IS : 4985 to wall, ceiling and floor, approved quality, complete,for waste water drain including jointing with rubbering/solvent/solution and airtight joints, etc . Coupler 40mm (only for estimation)	210	Each
42	MR	Providing, fixing, jointing and testing, unplasticized PVC pipes -10 kg/cm ² confirming to IS : 4985 to wall, ceiling and floor, approved quality, complete,for waste water drain including jointing with rubbering/solvent/solution and airtight joints, etc . Elbow (45°) 32mm (only for estimation)	100	Each
43	MR	Supply and fixing of UPVC S.W.R. pipe Nahni Trap size 100x75,110/90 mm confirming to IS-14735 self cleaning design fixed in PCC 1:2:4 and supply and fixing of 125 mm dia heavy duty CP brass jali.	3519	Each
	19.4	Providing and fixing square mouth S.W. Gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300x300 mm size (inside) the weight of cover to be not less than 4.50 Kg and frame to be not less than 2.70 Kg as per standard design:		
		150 x 100 mm. size P type		
	19.4.2.2	With Sewer bricks conforming to IS : 4885	40	Each
	19.7.1	Constructing brick masonry manhole in cement mortar 1:4 (1 cement :4 coarse sand) RCC top slab with 1:2:4 mix (1 cement :2 coarse sand :4 graded stone aggregate 20mm 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 fo neat cement and making channels in cement concrete 1:2:4 (1 cement :2 coarse sand :4 graded stone aggregate 20mm nmal size) finished with a floating coat of neat cement complete as per standard design		
		Inside size 90x80cms and 45cms deep including CI cover with frame (light duty) 455x610mm internal diamensions total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15kg).		
		With FPS bricks of class designation 75		
	19.7.1.1	(i) For Sewer Line	24	Each
	19.7.2.1	Inside size 90x120 cm & 90 cm deep including C.I. cover with frame (medium duty) total wt. of cover & frame to be not less than 116 Kg (wt. of cover 58 Kg & wt. of frame 58 Kg.		Each
	19.8.1.1	Extra for depth of man hole size 90x80 cm	4.4	metre
	19.8.2.1	Extra for depth of man hole size 90x120 cm		metre
	Analysed rate	a) Inside size 60x60 cm & 60 cm deep including C.I. cover with frame (light duty) total wt. of cover & frame to be not less than 38 Kg (wt. of cover 23 Kg & wt. of frame 15 Kg.	12	Each

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TENDER BOQ PLUMBING				
ITEM NO.	DSR 2023	DESCRIPTION OF ITEM	TOTAL QTY	UNIT
		Providing M.S. foot rests including fixing in manholes with 20x20x10 cm cement concrete blocks 1:3:6 (1 cement:3 coarse sand :6graded stone aggregate 20 mm nominal size) as per standard design		
		With 20x20 mm square bar	80	Each
		TOTAL CARRIED TO SUMMARY		
		SUB HEAD - III - (WATER SUPPLY)		
44	18.8.2	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. Concealed work, including cutting chases and making good the walls etc. 20 mm dia nominal bore	20162	Metre
45	18.7.2	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes,having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Internal work - Exposed on wall / Terrace 20 mm dia nominal bore	9490	Metre
45	18.7.3	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes,having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Internal work - Exposed on wall / Terrace 25 mm dia nominal bore	6867	Metre
46	18.7.4	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes,having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Internal work - Exposed on wall / Terrace 32 mm dia nominal bore	5816	Metre
47	18.7.5	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes,having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Internal work - Exposed on wall / Terrace 40 mm dia nominal bore	4072	Metre
48	18.7.6	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes,having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Internal work - Exposed on wall / Terrace 50 mm dia nominal bore	2682	Metre
49	18.9	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & Brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer in Charge.		
	18.9.7	65 mm nominal dia Pipes	1482	Metre
	18.9.8	80 mm nominal dia Pipes	1297	Metre
	18.9.9	100 mm nominal dia Pipes	1382	Metre
	18.18.3	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete : 20mm dia nominal bore	99	Each

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TENDER BOQ PLUMBING

ITEM NO.	DSR 2023	DESCRIPTION OF ITEM	TOTAL QTY	UNIT
50	18.18.3	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete : 25mm dia nominal bore	116	Each
51	18.17.2	Providing and fixing gun metal gate valve with wheel of approved quality. 32mm dia nominal bore	86	Each
52	18.17.3	Providing and fixing gun metal gate valve with wheel of approved quality. 40mm dia nominal bore	62	Each
53	18.17.4	Providing and fixing gun metal gate valve with wheel of approved quality. 50mm dia nominal bore	60	Each
54	18.17.5	Providing and fixing gun metal gate valve with wheel of approved quality. 65mm dia nominal bore	52	Each
55	18.17.6	Providing and fixing gun metal gate valve with wheel of approved quality. 80mm dia nominal bore	50	Each
56	2.10	Excavating trenches in all kind of soil 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 & then returning the soil as required,		
	2.10.1	in layers not exceeding 20cm in depth including consolidating each deposited layer by ramming, watering, etc & disposig of surplus excavated soil as directed within a lead of 50m.		
	2.10.1.1	Pipes, cables etc. not exceeding 80mm dia.	2371	Metre
	2.10.1.2	Pipes, cables etc. exceeding 80mm dia. But not exceeding 300 mm dia.	1530	Metre
	2.10.1.3	Pipes, cables etc. exceeding 300mm dia. But not exceeding 600 mm dia.	710	Metre
57	2.20	Open timbering in trenches including shuttering and shoring complete. (Measurement to be taken of the face area timbered)		
	2.20.1	Depth not exceeding 1.5 meter	2295	Sqm
	2.20.2	Depth exceeding 1.5 meter but not exceeding 3 meter	2295	Sqm
	2.20.3	Depth exceeding 3 meter but not exceeding 4.5 meter	1065	Sqm
58	19.6	Providing and laying Non pressure NP2 class (light duty) RCC pipe with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1cement : 2 fine sand) including testing of joints etc. complete.		
	19.6.3	250mm dia. R.C.C. pipe	850	Meter
	19.6.4	300mm dia. R.C.C. pipe	680	Meter
	19.6.5	450mm dia. R.C.C. pipe	710	Meter
59	19.3	Providing and laying cement concrete 1:5:10 (1 cement: 5 coarse sand : 10 graded stone aggregate 40mm nominal size) upto the haunches of S.W./R.C.C. pipes including bed concrete as per standard design		
	19.3.4	250mm diameter R.C.C. Pipe	850	Meter
	19.3.5	300mm diameter R.C.C. Pipe	680	Meter

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TENDER BOQ PLUMBING				
ITEM NO.	DSR 2023	DESCRIPTION OF ITEM	TOTAL QTY	UNIT
	AR	450mm diameter R.C.C. Pipe	710	Meter
60	19.11	Constructing brick masonry manhole 1.22 m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement :4 coarse sand) inside plastering 12mm thick with cement mortar 1:3 (1 cement :3 coarse sand)with floating coat fo neat cement foundation concrete 1:3:6 (1 cement:3 course sand:6 graded stone aggregate 40 mm nominal size) and making necessary channels in cement concrete 1:2:4 (1 cement :2 coarse sand :4 graded stone aggregate 20mm nminal size) finished with a floating coat of neat cement complete as per standard design		
	19.11.1	1.68m deep with SFRC cover and frame (heavy duty HD-20 grade designation) 560 mm internal diameter confirming to I.S.12592, total weight of cover and frame to be not less than 182 kg fixed in cement concrete 1:2:4 (1 cement:4 course sand:4 graded stone aggregate 20 mm nominal size)including centering,shuttering all complete.(Exavation, foot rests and 12 mm thick cement plaster at external surface shall be paid seprately):		
	19.11.1.1	With common burnt clay (non modular)FPS bricks of class designation 75	50	Each
61		Extra for depth for circular type man hole 1.22 m dia(at bottom) beyond 1.68m to 2.29 m		
	19.12.1	With common burnt clay (non modular)FPS bricks of class designation 75	25	metre
62	19.13	Constructing brick masonry manhole 1.52 m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement :4 coarse sand) inside plastering 12mm thick with cement mortar 1:3 (1 cement :3 coarse sand)with floating coat fo neat cement foundation concrete 1:3:6 (1 cement:3 course sand:6 graded stone aggregate 40 mm nominal size) and making necessary channels in cement concrete 1:2:4 (1 cement :2 coarse sand :4 graded stone aggregate 20mm nminal size) finished with a floating coat of neat cement complete as per standard design		
	19.13.1	2.30m deep with SFRC cover and frame (heavy duty HD-20 grade designation) 560 mm internal diameter confirming to I.S.12592, total weight of cover and frame to be not less than 182 kg fixed in cement concrete 1:2:4 (1 cement:4 course sand:4 graded stone aggregate 20 mm nominal size)including centering,shuttering all complete.(Exavation, foot rests and 12 mm thick cement plaster at external surface shall be paid seprately):		
	19.13.1.1	With common burnt clay (non modular)FPS bricks of class designation 75	25	Each
63		Extra for depth for circular type man hole 1.52 m dia(at bottom) beyond 2.30 m		
	19.14.1	With common burnt clay (non modular)FPS bricks of class designation 75	12.5	metre

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.**TENDER BOQ PLUMBING**

ITEM NO.	DSR 2023	DESCRIPTION OF ITEM	TOTAL QTY	UNIT
64	19.16	Providing orange colour safety foot rest of minimum 6mm thick plastic encapsulated as per IS : 10910 on 12mm dia steel bar conforming to IS: 1786 having minimum cross section as 23 mm x25mm and over all minimum length 263mm and width as 165mm with minimum 112mm space between protruded legs having 2mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufactures's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20mm nominal size) complete as per design.	340	Each
65	19.21	Making connection of drain or sewer line with existing manhole including breaking into and making good the walls, floors with cement concrete 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) cement plastered on both sides with cement mortar (1 cement : 3 coarse sand) finished with a floating coat of neat cement and making necessary channels for the drain etc. complete :		
	19.21.2	For pipes 250 to 300 mm diameter	4	Each
	19.21.3	For pipes 350 to 450mm diameter	1	Each
66	18.72	Providing and laying Double flanged Centrifugally (Spun) Cast Iron, D.I Pipe K-9 /K-7(IS : 8329)		
	18.72.1	100 mm dia Ductile Iron K-7	206	Metre
67	18.70	Providing Push - on-joints to Centrifugally (Spun) Cast Iron Pipes or Ductile Iron Pipes including testing of joints and including the cost of rubber gasket :		
	18.70.1	100mm dia pipe	68.66666667	Joint
68	18.31	Providing and fixing C.I. Sluice valves (with cap) complete with bolts, nuts, rubber insertions etc. (the tail pieces if required will be paid separately):		
	18.31.1.2	100mm diameter-class II	3	Each
69	18.59	Providing and fixing C.I. Double acting air valve of approved quality with bolts, nuts, rubber insertions etc. complete (The tail pieces, tapers etc. if required will be paid separately.		
	18.59.1	50 mm dia	2	Each
70	18.12	Providing & fixing G.I. pipes complete with G.I. fittings including tenching and refilling etc.		

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TENDER BOQ PLUMBING				
ITEM NO.	DSR 2023	DESCRIPTION OF ITEM	TOTAL QTY	UNIT
		External work		
	18.12.4	32mm nominal bore.	160	metre
	18.12.6	50mm nominal bore.	380	metre
	18.12.7	65mm nominal bore.	560	metre
	18.12.8	80mm nominal bore.	1065	metre
71	18.41	Providing & fixing sand of grading zone V or coaser grade alround the G.I. Pipes in external work.		
	18.41.4	32 mm diameter pipe	160	metre
	18.41.6	50 mm diameter pipe	380	metre
	18.41.7	65mm diameter pipe	560	metre
	18.41.8	80 mm diameter pipe	1065	metre
72	18.17	Providing and fixing gate valve (with cap complete with bolts, nuts, rubber insertion etc.		
	18.17.2	32 mm nominal bore	5	Each
	18.17.4	50 mm nominal bore	4	Each
	18.17.5	65 mm nominal bore	1	Each
	18.17.6	80 mm nominal bore	8	Each
73	18.33	Constructing masonry Chamber 60x60x75 cm, inside with 75 class designation brick work in cement mortar 1:4 (1 cement :4 coarse sand) for sluice valve, with C.I. surface box 100mm top diameter, 160mm bottom diameter and 180mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design :		
	18.33.1	With F.P.S. bricks	19	Each
74	18.13	Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixing tee, including cutting and threading the pipe etc. complete :		
	18.13.1	25 to 40 mm dia nominal bore	5	Each
	18.13.2	50 to 80 mm dia nominal bore	13	Each

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TENDER BOQ PLUMBING				
ITEM NO.	DSR 2023	DESCRIPTION OF ITEM	TOTAL QTY	UNIT
75	MR	Supply, assembly, erection, testing and commissioning of SS / CI submersible non-clog pumps, suitable to handle Pump room drainage having the following capacities with vortex impeller / grinder type, complete with 3 phase squirrel cage submersible motor of required HP for 415 ± 10% volts, 3 phase, 50 Hz. A.C. supply cooled by surrounding liquid, submersible cable upto main panel within the plant room, dry running preventor, G.I. guide pulling chain, all the necessary piping and accessories, valves, delivery header etc. as required complete in all respects. The rate will include electrical panel with cyclic operation as supplied by the manufacturers). (For U G Tank Pump room drainage).		
		Flow Rate : 300 LPM		
		1Set = 2 Nos. Pumps (1 Working + 1 standby) with control panel.		
		Head in Mtrs. : 15-18 Mtr	4	Set
76	MR	Supply, assembly, erection, testing and commissioning of SS / CI submersible non-clog pumps, suitable to handle Pump room drainage having the following capacities with vortex impeller / grinder type, complete with 3 phase squirrel cage submersible motor of required HP for 415 ± 10% volts, 3 phase, 50 Hz. A.C. supply cooled by surrounding liquid, submersible cable upto main panel within the plant room, dry running preventor, G.I. guide pulling chain, all the necessary piping and accessories, valves, delivery header etc. as required complete in all respects. The rate will include electrical panel with cyclic operation as supplied by the manufacturers). (For Basement-1 Acadmic Sump pump)		
		Flow Rate : 300 LPM		
		1Set = 2 Nos. Pumps (1 Working + 1 standby) with control panel.		
		Head in Mtrs. : 15-18 Mtr	4	Set
77	MR	Supply, assembly, erection, testing and commissioning of SS / CI submersible non-clog pumps, suitable to handle Pump room drainage having the following capacities with vortex impeller / grinder type, complete with 3 phase squirrel cage submersible motor of required HP for 415 ± 10% volts, 3 phase, 50 Hz. A.C. supply cooled by surrounding liquid, submersible cable upto main panel within the plant room, dry running preventor, G.I. guide pulling chain, all the necessary piping and accessories, valves, delivery header etc. as required complete in all respects. The rate will include electrical panel with cyclic operation as supplied by the manufacturers) (For Basement-1 Admin Sump pump)		
		Flow Rate : 300 LPM		

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.				
TENDER BOQ PLUMBING				
ITEM NO.	DSR 2023	DESCRIPTION OF ITEM	TOTAL QTY	UNIT
		1Set = 2 Nos. Pumps (1 Working + 1 standby) with control panel.		
		Head in Mtrs. : 15-18 Mtr	2	Set
78	MR	Supply, assembly, erection, testing and commissioning of SS / CI submersible non-clog pumps, suitable to handle Pump room drainage having the following capacities with vortex impeller / grinder type, complete with 3 phase squirrel cage submersible motor of required HP for 415 ± 10% volts, 3 phase, 50 Hz. A.C. supply cooled by surrounding liquid, submersible cable upto main panel within the plant room, dry running preventor, G.I. guide pulling chain, all the necessary piping and accessories, valves, delivery header etc. as required complete in all respects. The rate will include electrical panel with cyclic operation as supplied by the manufacturers) (For STP Sump pump)		
		Flow Rate : 300 LPM		
		1Set = 2 Nos. Pumps (1 Working + 1 standby) with control panel.		
		Head in Mtrs. : 15-18 Mtr	2	Set
78	MR	Supply, Installation, testing & commissioning of package type skid mounted hydropneumatic system set (Horizontal / Vertical inline single/multistage centrifugal pumping set) complete. The rate shall include the cost of electrical panel and piping work complete.		
		Domestic Water Supply pumps :		
79		Pump Capacity 25m ³ /h.(Each Pump) at 70m head (2 Working + 1 Stand-by) Domestic Water Supply (Hospital Block)	1	Set
80		Pump Capacity 50m ³ /h.(Each Pump) at 250m head (3 Working + 1 Stand-by) Domestic Water Supply (Medical collage Block)	2	Set
81	MR	Supplying, assembly, erection, testing and commissioning of magnetic level sensors and controllers, CPVC probe tube, PP actuating float and all other equipment required for the performance of the system to the satisfaction of the engineer in charge complete including providing and fixing wiring from control junction box near the UG tank to probes of required length, interconnection wiring between level controller and the concerned contactor in the starter panel as required. The level controller will perform the following functions.		
		To switch on the pumps (including raw water pumps (Domestic Water Treatment, Softening Plant etc.) when the level of water in the supply water tank is low and to cut off the pump when the level in the receiving water tank is high and switch off the pumps when the level of water in the supply water tank is low.		
		To indicate 5 levels of water in all tanks through a control panel with LEDs		

PROJECT NAME : CONSTRUCTION OF AUTONOMOUS STATE MEDICAL COLLEGE AT BALLIA, U.P.				
TENDER BOQ PLUMBING				
ITEM NO.	DSR 2023	DESCRIPTION OF ITEM	TOTAL QTY	UNIT
		To start the pumps in a cyclic order.		
		The system shall be complete to ensure automatic quotation of pump in accordance to water level in respective tanks.		
		The Contractor will include all the under ground and over head tanks and all the pumps as required for level control in this item	2	Set
82	MR	Supply, installation, testing and commissioning of tanker inlet connection complete with 80 mm dia MS inlet piping, hose inlet connection, MS cabinet enclosure (epoxy painted after fabrication), pad locking arrangement, inlet flexible hose complete with all necessary arrangement.	2	Set
83	MR	Supply, installation, testing and commissioning of electronic/electro mechanical type chlorinating plant of 100 litres capacity suitable to Inject Bleaching powder solution upto 10 Kg. / cm ² pressure complete in all respect .(in pump House)	2	Set
84	MR	Supply, installation, testing and commissioning of Auto Water Softner including sand filter with Brine Tank ,working pressure 3.0 Kg. / cm ² & Test pressure 4.5 Kg. / cm ² complete in all respect.		
		Hardness-inlet-400 PPM(Approx)		
		Outlets-Less Than 90 PPM		
		Flow rate-20m ³ /hour		
		Mode of operation - Butterfly Valves / Multiport Valves	2	Set
85	MR	Providing & fixing in position Vane Type mechanical water flow meter for following pipe size		
		50 mm dia	2	Each
86	MR	Fabrication, Supplying, Installation, Testing & Commissioning of Electrical Plumbing Motor Control Panel of cubical construction, floor mounted type, fabricated out of 2mm. thick CRCA sheet, compartmentalized with hinged lockable doors, dust and vermin proof, powder coated of approved shade after 7 tank treatment process, cable alley, interconnection with solid aluminium strip / single core PVC insulated FRLS copper conductor cable, having suitable mountings for switchgears and accessories and internal control & power wiring with suitable rating PVC insulated FRLS copper conductor, earth terminals, numbering etc. complete in all respects, suitable for operation on 415 V, 3 phase 50 HZ AC supply with enclosure protection class IP 42 with 500 Amp aluminium bus bar etc complete as required with required incoming and out goings, cable, cable trays etc.	4	Set

MEDICAL COLLAGE BALLIA, U.P.
TENDER BOQ
(ELECTRICAL & MECHANICAL WORKS)

Sl.No.	DESCRIPTION	UNIT	QTY.
SUBHEAD I- WIRING POINTS			
1	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS/HFFR PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS/HFFR PVC insulated copper conductor single core cable etc. as required. Group C	Point	12174
2	Wiring for twin control light point with 1.5 sq.mm FRLS/HFFR PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, 2 way modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS/HFFR PVC insulated copper conductor single core cable etc. as required.	Each	319
3	Wiring for group controlled (looped) light point/fan point/exhaust fan point/ call bell point (without independent switch etc.) with 1.5 sq. mm FRLS/HFFR PVC insulated copper conductor single core cable in surface/ recessed PVC conduit, and earthing the point with 1.5 sq. mm FRLS/HFFR PVC insulated copper conductor single core cable etc. as required.		
	Group C	Each	13014
4	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS/HFFR PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required.		
	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Each	253902
	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Each	118046
	2 X 4 sq. mm + 1 X 4 sq. mm earth wire	Each	213356
	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Each	62236
	2 X 10 sq. mm + 1 X 6 sq. mm earth wire	Each	18969
	2 X 16 sq. mm + 1 X 6 sq. mm earth wire	Each	18593
	4 X 6 sq. mm + 2 X 6 sq. mm earth wire	Each	23503
	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Each	27625
	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Each	21728
5	Supplying and laying of aluminium conductor PVC insulated armoured served sheathed cable 1100 volts grade at the depth of 750 mm bellow ground level over a cushion of 75 mm thick sand all around and protected with burnt bricks on side and on top as directed by Engineer-Incharge ,complete in all respect including excavation and refilling. The armouring of the cable shall be properly connected with the earth conductor by clamps etc.		
	10 sqmm 4 core	Metre	955
	16 sqmm 4 core	Metre	173
	35 sqmm 3.5 core	Metre	1070
	50 sqmm 3.5 core	Metre	1003
	70 sqmm 3.5 core	Metre	1950
	95 sqmm 3.5 core	Metre	995
	120 sqmm 3.5 core	Metre	1895

	185 sqmm 3.5 core	Metre	330
	240 sqmm 3.5 core	Metre	1278
	300 sqmm 3.5 core	Metre	2185
6	Supplying & making end termination with brass compression gland and aluminium lugs for the following size of PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.		
	3.5 X 25 sqmm. (28mm)	Each	6
	3.5 X 35 sqmm. (32mm)	Each	43
	3.5 X 50 sqmm. (35mm)	Each	63
	3.5 X 70 sqmm. (45mm)	Each	90
	3.5 X 95 sqmm. (45mm)	Each	51
	3.5 X 120 sqmm. (45mm)	Each	100
	3.5 X 185 sqmm. (57mm)	Each	16
	3.5 X 240 sqmm. (62mm)	Each	54
	3.5 X 300 sqmm. (62mm)	Each	398
	4 X 10 sqmm. (25mm)	Each	16
	4 X 16 sqmm. (28mm)	Each	16
7	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	Each	2653
8	Supplying and fixing following modular switch / socket on existing modular plate and switch box including connections but excluding modular plate etc as required. 5/6 amps switch	Each	17598
9	Supplying and fixing following modular switch / socket on existing modular plate and switch box including connections but excluding modular plate etc as required. 3 pin 5/6 amp socket outlet	Each	6408
10	Supplying and fixing following modular switch / socket on existing modular plate and switch box including connections but excluding modular plate etc as required. 6 pin 15/16 amp socket outlet	Each	4410
11	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess including providing and fixing 3 pin 5/6 A modular socket outlet and 5/6 A modular switch,connection etc. as required.	Each	14
12	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess including providing and fixing 6 pin 5/6 & 15/16 A modular socket outlet and 15/16 A modular switch,connection etc. as required.	Each	8
13	Supplying and fixing 3 pin 5 A ceiling rose on the existing junction box/wooden block including connectionetc. as required.	Each	2
14	Supplying and fixing call bell/ buzzer suitable for single phase, 230 V, complete as required.	Each	310
15	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.		
16	TV antenna socket outlet	Each	425
17	Telephone socket outlet	Each	702
18	Data socket outlet	Each	621
19	Supplying, drawing, Installation, Testing and commissioning of CAT6 UTP LSZH 23AWG Twisted Pair Cable in existing conduit/ on surface, Category 6 Unshielded Twisted Pair, 4 pair should be complied as per UL/ETL verification program for compliance with ANSI/TIA-568.2-D standard. Outer diameter should be in the range of 6.1mm nominal with Operating Temperature Range : -5° to +60°C. Bending Radius : < 4 X Cable Diameter at -5°C ± 1°C and Pulling Force : 11.5Kg 1 Run of cable	Metre	48679
20	Supplying and drawing co-axial TV cable RG-6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/ recessed steel/ PVC conduit as required.	Metre	30187
21	Supplying & fixing suitable size GI box wih modular plate and cover in front on surface or in recess including providing and fixing 25 A modular socket outlet and 25 A modular SP MCB, "C" curve including connections, painting etc. as required.	Each	2036

22	Supplying and fixing DP sheet steel enclosure on surface/ recess along with 25/32 A 240 V "C" curve DP MCB complete with connections, testing and commissioning etc. as required.	Each	25
23	Supplying and fixing 30 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top along with 30 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	Each	49
24	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.		
	20 mm Dia	Metre	124552
	25 mm Dia	Metre	80998
	32 mm Dia	Metre	24216
	40 mm Dia	Metre	5680
	32 mm dia G.I Pipe (Medium class)	Metre	3596
25	Brush Less Direct Current (BLDC) Motor Supply, Installation, Testing and Commissioning of ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. metal(Aluminum alloy) blades, 30 cm long down rod, 2 nos. canopies, shackle kit, safety rope, copper winding, steel/Al bodyPower Factor not less than 0.9, Service Value (CM/M/W) minimum as below, 350 RPM (tolerance as per IS : 374-2019), THD (Total Harmonic Distortion) less than 10%, remote (prefreably mobile app based) for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Ceiling Fan compliant to IS 374:2019 fan Supply, earthing etc. complete as req.		
	1200mm, service value ≥ 6.0 CM/Min/Watt, air delivery 210 CM/Min (Minimum)	Each	3226
26	Supply and fixing hexagonal Round G.P.fan box approved make made up of 1.0 mm thick ISI Marked G.P.sheet spot welded Four to Eight holes for pipe entry of the box. Holes should be semi-shuttered type with 0.5 mm G.P. Sheet made upper & lower cover duly screwed. Fixing with wiring conduit laid in the R.C.C. roof before concreting alongwith supply of all material, labour, T&P etc. required for proper completion of the work.	Each	3225
27	Supplying and fixing two module stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	Each	3225

28	LED Down lighter (SMD Type) (System lumen efficacy $\geq 120 < 135$ lm/Watt) Supplying, installation, Testing & Commissioning of LED Recessed/surface Down lighter (Round/ square/ Rectangular) SMD type of following body material with PMMA and prismatic diffuser and construction as per IS : 10322 with driver as per the requirement with Driver efficiency $> 85\%$, Operating voltage AC 140-270 Volt, frequency 50/60 hz, Operating temp range -5 0C to 40 0C centigrade, internal surge protection of 2.5 KV with Short & Open circuit protection ,THD $< 10\%$, P. F. ≥ 0.95 , IP20, CRI > 80 , UGR (Unified GlareRating) < 19 , Flicker free (flicker should be below 5%), life time (LED, Driver & electrical circuitry), lifetime of minimum 50000 Burning Hours with 70%of initial Lumen maintained till life ends, CCT3000°K / 4000°K / 5700°K /6500°K (As per ANSI Bin), SDCM(Standard Deviation Color Matching) < 3 , Maximum power consumption should not more than the specified rating and Fixture shall be of relevant BIS standard. Manufactures Word Mark/ Name Engraved/ Embossing/ Screen printing on housing Complete in all respect i/c external connections with 1.5 sq mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy $\geq 120 < 135$ lm/Watt output . LM79 & LM80 Test report and all testing required for LED fixtures as per BIS shall be submitted.. Shape size and CCT shall be as approved by Engineer-inCharge as per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C). Powder coated die cast /Extruded aluminium Body including trim .		
	12-15 WATT	Each	10041
29	LED Batten light (System lumen efficacy $\geq 105 < 120$ lm/Watt) Supplying, installation, Testing & Commissioning of LED surface mounted Batten light of following body material and construction as per IS : 10322 with driver (Replaceable) as per the requirement with Driver efficiency $> 85\%$,Operating voltage AC 140-270 Volt, freq 50/60 hz, Operating temp range -5 deg to 40 deg centigrade, internal surge protection of 2.5 KV with Short & Open circuit protection ,THD $< 10\%$, P. F. ≥ 0.95 , IP20, CRI > 80 , Flicker free, (flicker should be below 5 %), life time (LED,Driver & electrical circuitary), of minimum 50000 Burning Hours with , 70% of initial Lumen maintained till life ends, CCT 3000°K / 4000°K / 5700°K /6500°K (As per ANSI Bin), SDCM(Standard Deviation Color Matching) < 3 , Maximum power consumption should not more than the specified rating and Fixture shall be of relevant BIS standard and trade mark certificate (T.C.). Manufactures Word Mark/ Name Engraved/ Embossing/ Screen printing on housing. complete in all respect i/c external connections with 1.5 sq mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy $\geq 105 < 120$ lm/Watt output . LM79 & LM80 Test report and all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C). Powder coated die cast /Extruded aluminium Body (Thickness > 1.20 mm)		
	18- 22 Watt	Each	3940
	18- 22 Watt	Each	16
30	Supply & fixing of water tight oblong "10 watt LED Bulkhead luminaire having pressure die cast housing with driver set confirming to IP65 and above protection, IK 08. High purity transmisivity UV Stabilized Non yellowish diffuser/ for uniform light distribuljon, delachable driver set, open, and short circuit protection, suitable for 24 1tr Continuous Operation, Complete in All respect. compelete in all respect 1200 System lumens, > 120 Lm/W, PF > 0.95 , CRI > 70 , 309V over voltage protection, 4 KV internal Surge Protection, metal housing with 5 years warrantee	Each	446

31	LED Panel light 2x2 ft. (System lumen efficacy ≥ 120 <135 lm/Watt) Supplying, installation, Testing & Commissioning of Panel light 2x2 ft., of following body material and construction as per IS : 10322 with driver as per the requirement with Driver efficiency >85%, Operating voltage AC 140-270 Volt, freq 50/60 hz, Operating temp range -5 deg to 40 deg centigrade, internal surge protection of 2.5 KV with Short & Open circuit protection, THD < 10% , P. F. ≥ 0.95 , IP20, CRI >80, UGR (Unified Glare Rating) < 19, Flicker free, (flicker should be below 5 %), life time (LED,Driver & electrical circuitary), of minimum 50000 Burning Hours with, 70% of initial Lumen maintained till life ends as per LM80 extrapolation IES TM-21-11 report, CCT 3000°K / 4000°K/ 5700°K /6500°K (As per ANSI Bin), SDCM(Standard Deviation Color Matching) <3, Maximum power consumption should not more than the specified rating and Fixture shall be of relevant BIS standard and trade mark certificate (T.C.). Manufactures Word Mark/ Name Engraved/ Embossing/ Screen printing on housing. complete in all respect i/c external connections with 1.5 sq mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy ≥ 105 <120 lm/Watt output . LM79 & LM80 Test report and all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C). Powder coated die cast /Extruded aluminium Body (Thickness > 1.20 mm)		
	36 watt	Each	4650
32	Installation ,Testing, Commissioning of wall bracket /ceiling fittings of all sizes and shapes containing upto two GLS/CFL/LED lamps per fitting, complete with all accessories including connections etc. as required.	Each	585
33	Supply and installing of following size of perforated pre-painted M.S. cable trays with perforation not more than 17.5%, in convenient sections, jointed with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.		
34	150mm width x 50mm depth x 1.6mm thickness	Metre	390
35	300mm width x 62.5mm depth x 2.0mm thickness	Metre	358
36	450mm width x 62.5mm depth x 2.0mm thickness	Metre	996
37	600mm width x 62.5mm depth x 2.0mm thickness	Metre	697
38	900mm width x 62.5mm depth x 2.0mm thickness	Metre	290
39	Supply of Mirror Light 10 Watt LED . complete in all respect (only for estimation)	Each	1134
40	Installation of exhaust fan in the existing opening, including making good the damage, connection, testing, commissioning etc. as required.		
	Upto 450 mm sweep	Each	910
41	Supply of exhaust fan 250mm (only for estimation)	Each	902
42	Supply of AC 230/250 Volts, 50 Hz 55w 1400 rpm exhaust fans including providing nuts, bolts, mounting frame and other accessories including connections etc. complete as required. 300 mm sweep	Each	8
43	Extra for fixing the louvers/ shutters complete with frame for a exhaust fan of all sizes.	Each	910
44	600 mm sweep.-Make: USHA Cat No. Dominaire	Each	260
45	LED Street light fixture, powder coated die cast alluminum body (System lumen efficacy ≥ 120<135 lm/Watt)		
	Supplying,installation, Testing & Commissioning of Street light LED fixture powder coated pressure die cast alluminum body with driver as per the requirement with Driver efficiency >85%, input voltage AC 140-270 Volt,frequency 50/60 hz, Operating temp range-15 deg to 50 deg centigrade, internal surge protection of 5 KV L,N,E, as per IEC 6100-4-5, Driver efficiency >85% THD<10% as per 6100-3-2 , P.F. ≥ 0.95 , IP66, CRI>80, under volatage and over voltage protection , EMI-EMC AS per CISPR-15, lences for beam angle as per IESNA type I/II/III as per the width of the road and the project requirement., suitable to fit in up to 65mm dia pie, life time(LED,Driver & electrical circuitary), of minimum 50000 Buring Hours with 70% of initial Lumen maintained till life ends, CCT 3000°K/4000°K/5700°K/6000°K/6500°K(As per ANSI Bim.)SDCM(Standard Deviation Colour Matching)<3, Maximum power consumption should not more than the specified rating and Fixture shall be confirming to relevant BIS standards.		

	Manufactures Word Mark/Name Engraved/Embossing/ Screen printing on housing. OEM must have its own in house NABL lab setup for testing facilities for LED fixtures. Complete in all respect i/c connection with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable and earthing etc. as required with minimum 5 year OEM warranty. System lumen efficacy $\geq 120 < 135$ lm/watt output. LM79 & LM 80 test report from NABL lab for all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in Charge as per requirement.(Thermal management: heat sink of aluminum housing such that LED junction temperature shall not rise above 90°C).		
	72 watt	Each	106
	100 watt	Each	7
46	LED Flood light, powder coated die cast aluminum body (System lumen efficacy $\geq 120 < 135$lm/Watt)		
	Supplying, installation, Testing & Commissioning of Flood light powder coated pressure die cast aluminum body with driver as per the requirement with Driver efficiency $> 85\%$, input voltage AC 140-270 Volt,frequency 50/60 hz, Operating temp range-15 deg to 50 deg centigrade, internal surge protection of 5 KV L,N,E, as per IEC 6100-4-5, Driver efficiency $> 85\%$ THD $< 10\%$ as per 6100-3-2 , P.F. ≥ 0.95 , IP66, CRI > 80 , under voltage and over voltage protection , EMI-EMC AS per CISPR-15, lenses for beam angle as per IESNA type I/II/III as per the width of the road and the project requirement., suitable to fit in up to 65mm dia pie, life time(LED,Driver & electrical circuitary), of minimum 50000 Buring Hours with 70% of initial Lumen maintained till life ends, CCT 3000°K/4000°K/5700°K/6000°K/6500°K(As per ANSI Bim.)SDCM(Standard Deviation Colour Matching) < 3 , Maximum power consumption should not more than the specified rating and Fixture shall be confirming to relevant BIS standards.		
	Manufactures Word Mark/Name Engraved/Embossing/ Screen printing on housing. OEM must have its own in house NABL lab setup for testing facilities for LED fixtures. Complete in all respect i/c connection with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable and earthing etc. as required with minimum 5 year OEM warranty. System lumen efficacy $\geq 120 < 135$ lm/watt output. LM79 & LM 80 test report from NABL lab for all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in Charge as per requirement.(Thermal management: heat sink of aluminum housing such that LED junction temperature shall not rise above 90°C).		
	150 watt	Each	20
47	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)		
	8 way, Double door	Each	2
	12 way, Double door	Each	65
	16 way, Double door	Each	
48	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)		
	4 way (4 + 12), Double door	Each	132
	6 way (4 + 18), Double door	Each	308
	8 way (4 + 24), Double door	Each	129
49	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.		
	Single pole	Each	5695
	Double pole	Each	4
50	Supplying and fixing following rating, four pole , 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.		

51	40 amp	Each	142
	63 amp	Each	290
	100 amp	Each	54
52	Supplying and fixing following rating, double pole , 240 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required		
	40 amp	Each	169
	63 amp	Each	103
53	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	2056
54	Supply and fixing following rating double pole , (single phase and neutral), 240 V, residual current circuit breaker (RCCB) having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.		
	40 A	Each	180
	63 A	Each	130
55	Supplying and fixing Cable End Box(Loose Wire Box) suitable for following triple pole and neutral, sheet steel, MCB distribution board, 415 Volts, on surface/recess, complete with testing and commissioning etc. as required.		
	For 4 way, Double Door TPNMCBDB	Each	178
	For 8 way, Double Door TPNMCBDB	Each	10
56	Supply and fixing 20 amp, 240 volts, SPN industrial Type , socket outlet ,With 2 pole and earth ,metal enclosed plug top along with 20 amp. 'C' series SPMCB , in sheet steel enclosure, on surface or in recess with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	Each	12
57	Supplying, installing on wall, testing and commissioning of following capacity rising mains made of 1.6 mm thick IP42 sheet steel enclosure duly painted with power coating, wall straps, fully PVC insulated 4 Nos.aluminium bus bars having current density of 130A/sq cm at nominal current rating in convenient sections and suitable for 415V, 3 phase, 4 wire, 50 Hz, A.C. supply with extension joints, fire proof barriers, expansion joints, thrust pads including jointing and earthing with 2 runs of galvanised iron strips etc. as required.(Rising mains conforming to IS 8623, TEC 439)		
	800 A(S.C. rating for 1 sec-50 kA)	Metre	110
58	Supplying, installing, testing and commissioning of following capacity TPN tap off box made of 1.6 mm thick sheet steel enclosure duly painted with power coating on existing rising mains complete with TPN disconnecter FSU and HRC fuses, connections, earthing etc. as required.		
	200 A TPN	Each	13
	400 A TPN	Each	1
59	Supplying, installing, testing and commissioning of following capacity End Feed Unit made of 1.6 mm thick sheet steel enclosure duly painted with power coating on existing rising mains complete with TPN disconnecter FSU and HRC fuses, mounting stands, cable end box, brass compression glands, connections, earthing etc. as required.		
	800 A TPN	Each	12
60	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray "bends" (galvanisation not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with two numbers GI Suspenders i/c base of suitable size GI angle, GI bolts & nuts, fastener etc as required.		
	100 mm width X 50 mm depth X 1.6 mm thickness		350
	300 mm width X 62.5 mm depth X 2.0 mm thickness		135
	450 mm width X 62.5 mm depth X 2.0 mm thickness		80
	600 mm width X 62.5 mm depth X 2.0 mm thickness		128
	900 mm width X 62.5 mm depth X 2.0 mm thickness		65
61	Providing, laying and fixing following dia G.I. pipe (medium class) in ground complete with G.I. fittings including trenching (75 cm deep) and refilling etc as required.		

	100 mm Dia	Metre	125
	150 mm Dia	Metre	100
62	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.		
	150 mm Dia	Metre	45
	250 mm Dia	Metre	35
63	Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required.	Each	230
64	Earthing with GI earth pipe, 600 mm X 600 mm X 6 mm thick including accessories and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc, with charcoal/coke and salt as required.	Set	73
65	Earthing with Copper earth pipe, 600 mm X 600 mm X 3 mm thick including accessories and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc, with charcoal/coke and salt as required.	Set	65
66	Supplying and Laying of 25 mm X 5 mm copper strip at 0.50 metre below ground as strip earth electrode, including connection / terminating with nut, bolt, spring, washer etc. as required.(jointing shall be done by overlapping and with 2 sets of brass nut bolt & spring washer spaced at 50mm)	Meter	1375
67	Supplying and Laying of 25 mm X 3 mm G.I strip at 0.50 metre below ground as strip earth electrode, including connection / terminating with nut, bolt, spring, washer etc. as required.(jointing shall be done by overlapping and with 2 sets of G.I. nut bolt & spring washer spaced at 50mm)	Meter	3695
68	Providing & fixing 25 mm x 5 mm. copper strip on surface or in recess for connection etc. as required.	Metre	465
69	Providing and fixing 25 mm x 5 mm G.I. strip on surface or in recess for connections etc. as required.	Metre	2804
70	Providing & fixing 6 SWG dia G.I. on surface or in recess for loop earthing as required.	Meter	7537
71	Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc. complete as required.	Each	23
72	Fixing of lightning conductor finial (single prong) with base plate including holes etc. complete as required.	Each	4
73	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or on surface of wall for lightning conductor and external lighting complete as required. (For Horizontal run)	Metre	1735
74	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or on surface of wall for lightning conductor complete as required. (For vertical run)	Metre	695
75	Providing and fixing testing joint, made of 20 mm X 3 mm thick G.I. strip, 125 mm long, with 4 Nos. of G.I. bolts, nuts, chuck nuts and spring washers etc. complete as required.	Each	427
76	SITC of safe Earthing Electrode T-39 Cu Copper Coated, Length 2000mm, outer pipe 76.3mm X 3.2 inner pipe 42.4mm X 2.6mm, terminal Dia 12mm, coating 80-100 micron filled with crystalline conductive mixture (CCM) having anti corrosive & conductive property with 50kgs activated soil (BFC) capable of reducing the soil resistivity with good mixture of retaining capacity along with 30cm square C.I. frame with hinged cover & masonry housing.(From electrode terminal to switch board, cost of 25x3 copper strip will be extra) As approved in U.P.P.W.D & C.P.R.I. all respects.	Each	13

77	Supply of single spike air terminals of 16/10 mm dia. & 2000 mm length as required and as per site conditions. The air terminal shall be manufactured with aluminium & shall be as per IEC 62561-2. The air terminal shall be fixed with base plate arrangement.	Nos	7
78	Roof Conductor : Supply of 8 mm dia aluminum conductor for air termination network shall meet the requirement of IEC 62561-2.	Nos	374
79	Supply of parapet Conductor holder for holding 8 mm dia. round conductor (for RCC parapet). The conductor holder should be installed at every 1 mtr. The conductor holder shall be made with clamp mounted on plastic base support & as per IEC 62561-4.	Rm	374
80	Supply of Universal Connector for making straight, Tee & Cross joint of 8-10 mm Dia. Round Conductor to 8-10 mm Dia. Round Conductor on parapet wall, roof and vertical facade of masonry / glass / metallic work.	Nos	96
81	Supply of Expansion piece made of Aluminium & as per IEC 62561-2 along with suitable connecting accessory. It shall be installed at every 20 mtr to maintain the flexibility to the conductor due to heat.	Nos	54
	Down Conductor :		
82	Down Conductor : Supply of 8 mm dia aluminum conductor for Down Conductor network shall meet the requirement of IEC 62561-2.	Rm	702
83	Supply of Wall Conductor holder for holding 8 mm dia. round conductor (for RCC wall). The conductor holder should be installed at every 1 mtr. The conductor holder shall be made with clamp mounted on plastic base support & as per IEC 62561-4.	Nos	702
84	Supply of Test Clamp to disconnect the down conductor from the earth termination network for regular checks of the earth termination resistance value. (with enclosure). It shall meet the requirements of IEC 62561-2.	Nos	13
85	Supply of Lightning Strike counter for counting the number of lightning strikes without any power supply. The Counter should be mounted on the Down Conductor. The Lightning Counter should be IP 68 rated enclosure suitable for external application.	Nos	1
86	Supply of 10 mm Copper Bonded Steel Round Conductor (250 Microns Copper Coating) laid below the ground, as Required and as per specification and code of practice with Tee and Straight joint.	Rm	850
	SUBHEAD VI- MISCELLANEOUS ITEMS		

	<p>Supply , Installation, Testing and Comissioning of Air Cooled Hi Wall split type Air conditioners complete with Indoor unit(IDU), Out door unit (ODU), surface / concealed copper Refrigerant piping with insulation (closed cell elastomeric nitrile rubber tubular pipe section) upto 3 Mtr (IDU to ODU), copper power cable upto 3.5 Mtr (IDU to ODU) i/c drain pipe R-32/R-410/ R-407 Green Refrigerant, wireless Remote control, suitable for working between 180-260V with low & high voltage cutoff and 50 hz ,1 phase AC supply capable of performing cooling, dehumidification, air circulation of following capacity with Scroll / rotary compressor. The system shall be able to deliver 100% of the rated capacity upto 42 Degree Celcius. Min 5 year Original Equipment Manufacturer (OEM) warranty both compressor and Printed Circuit Board (PCB). Must comply : Electrical cable IS 694 or IS 9968 temperature sensing control IS /International Electrotechnical Commission (IEC) 60730, hermetic compressor IS 10617, heat exchanger IS 11329, capacitor IS 2993 and motor IS 12615. Complete as per CPWD specification and IS : 1391 Part II 2023. The system shall be able to operate up to 50 0C (out door ambient temperature).</p>		
86	2.0 TR with 5 Star BEE Rating	Each	4
87	Supply and fixing of M.V. Danger Notic Plate (only for estimation)	Each	51
88	Supply and fixing of H.T Danger Notic Plate (only for estimation)	Each	51
	SUBHEAD VII L.T. PANELS		
	<p>Supply, Installation, Testing, Design, inspection,handling and Commissioning of cubical type L.T. Panel vermin & dust proof front operated encloser class- IP 52 (TTA-Type(IEC 61439) above 630 Amp floor mounting, M.S. Channel Base with bottom and Fabricated out of 2.0 mm thick CRCA sheet steel painted with powder coated paint of shade as per the direction of Engineer In charge after proper sheet treatment peocess of sheet steel with top/bottom removable gland plates, as required. The bus bar of panel shall be electrical grade high conductive alluminium alloy of appropriate cross section as per the rating. The main busbar shall be run throughout the panel of rating as main incomer rating. The Bus Bar shall be supported by non hygroscopic SMC/DMC Bus bar supports which shall be mounted on proper interval to ensure the bear the jerks of suport of short cuircuit of 50kA for panels having ACB as Incomer & 36 kA for panels having MCCB Incomers.</p>		
	<p>Panel shall be constructed in fully Segregated Compartment Design for each Feeder as per 3b construction Format. The panel shall be completed in all respect as per IS 8623 Part 2 & 3. There shall be Seperated metering Component for Incomer metering and Outgoing metering. The Panel feeders shall be suitable for terminationsuitable nos. 3.5/4 core armoured aluminium cable as required.</p>		
	<p>All Incomer Feeders shall be provided with Multifunctional metering along with phase Indicating lights and other associated components such as CT control MCB Terminal Blocks etc. and all outgoing Feeders 100 A & above shall be provided with 3 phase Ammeter along with phase Indicating lights and other associates components such as CT control MCB Terminal Blocks etc. The feeder above shall be provided ac accommodated all measuring instrument shall be digital type & all indicating lights shall be LED type. Small wiring shall be done from 1100V Grade PVC Insulated copper flexible wire(min. 2.5 sqmm). All ACB shall be electrically operated Draw out Type with microprossor based O/L, S/C & E/F Release off Breking/withstand capacity(ICU/ICs/Icw) 50 kA or more. All MCCB shall be thermal magnetics/microprossor with O/L & S/C protection along with required Spreders Extended rotary handle with pad locking facility of bracking capacity(ICU/ICS) 36 kA or more.</p>		
	<p>(To avoid heating necessary exhaust fans shall have to be provided along with top louvers. In L.T. Panel)</p>		

	The internal control wiring shall fuse less. All control wiring and metering protection by MCB's. shall be Thermal 10kA 'C'Curve .		
89	Incoming :		
	500Amp. FP MDO ACB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-1000A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.630 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	100 Amp. 4P MCCB- 01 No.		
	40 Amp. 4P MCB- 2 No.		
	63 Amp. 4P MCB- 20 No. Spare		
	40 Amp. 4P MCB- 2 No. Spare	Each	1
	With provision for meter space		
90	Incoming :		
	100Amp. MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-100A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.125 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	63 Amp. 4P MCB- 2 No.		
	63 Amp. 4P MCB- 1 No. Spare	Each	1
	With provision for meter space		
91	Supply and fixing of Single Unit LED aviation obstruction light complete with Transformer and LED spiral etc. complete in all respects.Make-Bajaj or Eq	Each	4
92	Incoming :		
	400Amp. FP MDO ACB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-1000A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.500 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		

	100 Amp. 4P MCCB- 01 No.		
	40 Amp. 4P MCB- 2 No.		
	63 Amp. 4P MCB- 20 No. Spare		
	40 Amp. 4P MCB- 2 No. Spare	Each	3
	With provision for meter space		
93	Incoming :		
	315Amp. FP MDO ACB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-1000A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.400 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	100 Amp. 4P MCCB- 01 No.		
	40 Amp. 4P MCB- 2 No.		
	63 Amp. 4P MCB- 20 No. Spare		
	40 Amp. 4P MCB- 2 No. Spare	Each	6
	With provision for meter space		
	EM-METER PANEL BOARD		
94	Incoming :		
	160Amp. MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-160A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.200 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	125 Amp. 4P MCCB- 1 No.		
	63 Amp. 4P MCB- 22 No.		
	25 Amp. SP MCB- 1 No.		
	63 Amp. 4P MCB- 1 No. Spare		
	40 Amp. 4P MCB- 1 No. Spare	Each	10
	With provision for meter space		
	LIFT PANEL		
95	Incoming :		
	125Amp. MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-125A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		

	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.150 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	100 Amp. 4P MCCB- 1 No.		
	63 Amp. 4P MCB- 1 No.		
	63 Amp. 4P MCB- 1 No. Spare	Each	2
	With provision for meter space		
96	Incoming :		
	315Amp. FP MDO ACB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-1000A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.400 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	100 Amp. 4P MCCB- 01 No.		
	40 Amp. 4P MCB- 2 No.		
	63 Amp. 4P MCB- 20 No. Spare		
	40 Amp. 4P MCB- 2 No. Spare		
	With provision for meter space		
	EM-METER PANEL BOARD		
97	Incoming :		
	160Amp. MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-160A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.200 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	125 Amp. 4P MCCB- 1 No.		
	63 Amp. 4P MCB- 22 No.		
	25 Amp. SP MCB- 1 No.		
	63 Amp. 4P MCB- 1 No. Spare		
	40 Amp. 4P MCB- 1 No. Spare		
	With provision for meter space		
	LIFT PANEL		

98	Incoming :		
	125Amp. MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-125A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.150 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	100 Amp. 4P MCCB- 1 No.		
	63 Amp. 4P MCB- 1 No.		
	63 Amp. 4P MCB- 1 No. Spare		
	With provision for meter space		
	Incoming :		
	125Amp. MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-200A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.200 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	63 Amp. 4P MCB- 04 No.		
	63 Amp. 4P MCB- 2 No. Spare		
	40 Amp. 4P MCB- 2 No. Spare		
	With provision for meter space	Each	1
99	Supplying and fixing of Three phase electronic energy meter complete in all respects.	Each	1
100	Incoming :		
	400Amp. FP MDO ACB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-1000A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.500 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	100 Amp. 4P MCCB- 01 No.		
	40 Amp. 4P MCB- 2 No.		
	63 Amp. 4P MCB- 20 No. Spare		
	40 Amp. 4P MCB- 2 No. Spare	Each	1
	With provision for meter space		
	EM-METER PANEL BOARD		
101	Incoming :		

	160Amp. MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-160A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.200 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	125 Amp. 4P MCCB- 1 No.		
	63 Amp. 4P MCB- 22 No.		
	25 Amp. SP MCB- 1 No.		
	63 Amp. 4P MCB- 1 No. Spare		
	40 Amp. 4P MCB- 1 No. Spare	Each	1
	With provision for meter space		
	LIFT PANEL		
102	Incoming :		
	125Amp. MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-125A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.150 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	100 Amp. 4P MCCB- 1 No.		
	63 Amp. 4P MCB- 1 No.		
	63 Amp. 4P MCB- 1 No. Spare	Each	1
	With provision for meter space		
103	Incoming :		
	200Amp. FP MDO ACB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-1000A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.315 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	150 Amp. 4P MCCB- 00 No.		
	100 Amp. 4P MCB- 2 No.		
	63 Amp. 4P MCB- 4 No.		

	40 Amp. 4P MCB- 4 No.	Each	1
	With provision for meter space		
	EM-METER PANEL BOARD		
104	Incoming :		
	125Amp. FP MDO ACB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-1000A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.200 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	150 Amp. 4P MCCB- 00 No.		
	100 Amp. 4P MCB- 2 No.		
	63 Amp. 4P MCB- 4 No.		
	40 Amp. 4P MCB- 4 No.		
	40 Amp. 4P MCB- 1 No. Spare	Each	1
	With provision for meter space		
105	Incoming :		
	400Amp. FP MDO ACB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-1000A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.500 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	150 Amp. 4P MCCB- 02 No.		
	100 Amp. 4P MCB- 2 No.		
	63 Amp. 4P MCB- 8 No.		
	40 Amp. 4P MCB- 8 No.	Each	1
	With provision for meter space		
	EM-METER PANEL BOARD		
106	Incoming :		
	315Amp. FP MDO ACB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-1000A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		

	Bus Bar :		
	One (1) No.400 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	150 Amp. 4P MCCB- 01 No.		
	100 Amp. 4P MCB- 2 No.		
	63 Amp. 4P MCB- 6 No.		
	40 Amp. 4P MCB- 6 No.		
	40 Amp. 4P MCB- 1 No. Spare	Each	1
107	Incoming :		
	1250Amp. ACB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-200A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.1600 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	630 Amp. 4P MCB- 05 No.		
	315 Amp. 4P MCB- 02 No.		
	200 Amp. 4P MCB- 3 No.		
	150 Amp. 4P MCB- 6 No.		
	100 Amp. 4P MCB- 4 No.		
	63 Amp. 4P MCB- 5 No.		
	40 Amp. 4P MCB- 5 No.		
	With provision for meter space	Each	2
	EM-METER PANEL BOARD		
108	Incoming :		
	1000Amp. MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-160A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.1250 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	630 Amp. 4P MCB- 05 No.		
	315 Amp. 4P MCB- 02 No.		
	200 Amp. 4P MCB- 3 No.		
	150 Amp. 4P MCB- 6 No.		
	100 Amp. 4P MCB- 4 No.	Each	2
	63 Amp. 4P MCB- 5 No.		
	40 Amp. 4P MCB- 5 No.		
	With provision for meter space		
	AC PANEL		
109	Incoming :		
	1000Amp. ACB - 1No		
	Metering :		

	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-160A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.1250 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	630 Amp. 4P MCB- 04 No.		
	315 Amp. 4P MCB- 02 No.		
	200 Amp. 4P MCB- 3 No.		
	150 Amp. 4P MCB- 6 No.		
	100 Amp. 4P MCB- 4 No.		
	63 Amp. 4P MCB- 5 No.		
	40 Amp. 4P MCB- 5 No.		
	With provision for meter space	Each	2
	OR outgoing as per site requirement(AS/SLD)		
	L.T. PANEL-1		
110	Incoming :		
	2500 Amp. FP MDO ACB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-2500A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.3200 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	1000Amp FP MCCB - 6Nos.		
	800Amp FP MCCB - 4Nos.		
	630Amp FP MCCB - 4Nos.		
	315Amp 4P MCCB - 5Nos.		
	200Amp 4P MCCB - 5Nos.		
	125Amp 4P MCCB - 4Nos.		
	100Amp 4P MCB - 4Nos.		
	63Amp 4P MCB - 4Nos.		
	200 Amp. 4P MCCB- 1 No. Spare		
	125 Amp. 4P MCCB- 1 No. Spare		
	63 Amp. 4P MCB- 1 No. Spare		
	40 Amp. 4P MCB- 1 No. Spare	Each	1
	OR outgoing as per site requirement(AS/SLD)		
	L.T. PANEL-2		
111	Incoming :		
	1250 Amp. FP MDO ACB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-2500A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		

	Bus Bar :		
	One (1) No.1600 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	630Amp 4P MCCB - 5Nos.		
	315Amp 4P MCCB - 5Nos.		
	200Amp 4P MCCB - 5Nos.		
	125Amp 4P MCCB - 3Nos.		
	100Amp 4P MCB - 2Nos.		
	63Amp 4P MCB - 2Nos.		
	200 Amp. 4P MCCB- 1 No. Spare		
	125 Amp. 4P MCCB- 1 No. Spare		
	63 Amp. 4P MCB- 1 No. Spare		
	40 Amp. 4P MCB- 1 No. Spare	Each	1
	OR outgoing as per site requirement(AS/SLD)		
	SUB PANEL-1		
112	LOCATION- BASEMENT-2		
	630 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-200) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.800A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	315 Amp. 4P MCCB- 4 No.		
	250 Amp. 4P MCCB- 6 No.		
	125 Amp. 4P MCCB- 5 No.		
	63 Amp. 4P MCB- 3 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
	SUB PANEL-2		
113	LOCATION- BASEMENT-1		
	630 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-200) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.800A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	315 Amp. 4P MCCB- 4 No.		
	250 Amp. 4P MCCB- 3 No.		
	125 Amp. 4P MCCB- 4 No.		
	63 Amp. 4P MCB- 3 No.		

	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirment(AS/SLD)	Each	1
114	<u>LOCATION- BASEMENT-3</u>		
	400 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-125) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.150 A, TPN aluminimum bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	200 Amp. 4P MCB- 4 No.		
	125 Amp. 4P MCB- 4 No.		
	80 Amp. 4P MCB- 3 No.		
	63 Amp. 4P MCB- 4 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirment(AS/SLD)	Each	1
115	<u>M.D.B.-1</u>		
	<u>LOCATION- GROUND FLOOR</u>		
	200 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-200) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.250 A, TPN aluminimum bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	63 Amp. 4P MCB- 2 No.		
	40 Amp. 4P MCB- 6 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 2 No. -Spare		
	OR outgoing as per site requirment(AS/SLD)	Each	1
116	<u>M.D.B.-2</u>		
	<u>LOCATION- GROUND FLOOR</u>		
	200 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-200) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		

	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.250 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	63 Amp. 4P MCB- 7 No.		
	40 Amp. 4P MCB- 3 No.		
	63 Amp. 4P MCB- 2 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
117	<u>M.D.B.-3</u>		
	<u>LOCATION- FIRST FLOOR</u>		
	160 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-160) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.200 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	63 Amp. 4P MCB- 5 No.		
	40 Amp. 4P MCB- 1 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 2 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
118	<u>M.D.B.-4</u>		
	<u>LOCATION- FIRST FLOOR</u>		
	200 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-200) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.250 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	63 Amp. 4P MCB- 6 No.		
	40 Amp. 4P MCB- 3 No.		
	63 Amp. 4P MCB- 2 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
119	<u>M.D.B.-5</u>		

	<u>LOCATION- SECOND FLOOR</u>		
	160 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-160) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.200 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	40 Amp. 4P MCB- 6 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 2 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
120	<u>M.D.B.-6</u>		
	<u>LOCATION- SECOND FLOOR</u>		
	200 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-200) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.250 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	63 Amp. 4P MCB- 6 No.		
	40 Amp. 4P MCB- 3 No.		
	63 Amp. 4P MCB- 2 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
121	<u>M.D.B.-7</u>		
	<u>LOCATION- THIRD FLOOR</u>		
	200 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-200) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.250 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	63 Amp. 4P MCB- 1 No.		

	40 Amp. 4P MCB- 6 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 2 No. -Spare		
	OR outgoing as per site requirment(AS/SLD)	Each	1
122	<u>M.D.B.-8</u>		
	<u>LOCATION- THIRD FLOOR</u>		
	200 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-200) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.250 A, TPN aluminimum bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	63 Amp. 4P MCB- 6 No.		
	40 Amp. 4P MCB- 3 No.		
	63 Amp. 4P MCB- 2 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirment(AS/SLD)	Each	1
123	<u>M.D.B.-9</u>		
	<u>LOCATION- FOURTH FLOOR</u>		
	125 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-125) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.150 A, TPN aluminimum bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	40 Amp. 4P MCB- 5 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 2 No. -Spare		
	OR outgoing as per site requirment(AS/SLD)	Each	1
124	<u>M.D.B.-10</u>		
	<u>LOCATION- FIFTH FLOOR</u>		
	200 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-200) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		

	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.250 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	63 Amp. 4P MCB- 5 No.		
	40 Amp. 4P MCB- 3 No.		
	63 Amp. 4P MCB- 2 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
125	<u>M.D.B.-11</u>		
	<u>LOCATION- SIXTH FLOOR</u>		
	160 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-160) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.200 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	40 Amp. 4P MCB- 6 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 2 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
126	<u>M.D.B.-12</u>		
	<u>LOCATION- SEVENTH FLOOR</u>		
	200 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-200) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.250 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	63 Amp. 4P MCB- 6 No.		
	40 Amp. 4P MCB- 3 No.		
	63 Amp. 4P MCB- 2 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
127	<u>M.D.B.-13</u>		
	<u>LOCATION- EIGHTH FLOOR</u>		

	400 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-400) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.630 A, TPN aluminimum bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	250 Amp. 4P MCCB- 1 No.		
	40 Amp. 4P MCB- 4 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 2 No. -Spare		
	OR outgoing as per site requirment(AS/SLD)	Each	1
128	<u>M.D.B.-14</u>		
	<u>LOCATION- NINTH FLOOR</u>		
	200 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-200) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.250 A, TPN aluminimum bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	63 Amp. 4P MCB- 6 No.		
	40 Amp. 4P MCB- 2 No.		
	63 Amp. 4P MCB- 2 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirment(AS/SLD)	Each	1
129	<u>M.D.B.-15</u>		
	<u>LOCATION- TENTH FLOOR</u>		
	200 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-200) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.250 A, TPN aluminimum bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		

	63 Amp. 4P MCB- 6 No.		
	40 Amp. 4P MCB- 2 No.		
	63 Amp. 4P MCB- 2 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirment(AS/SLD)	Each	1
130	<u>U.P.S PANEL</u>		
	<u>LOCATION- GROUND FLOOR</u>		
	630 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-630) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.800 A, TPN aluminimum bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	400 Amp. 4P MCCB- 1 No.		
	160 Amp. 4P MCCB- 1 No.		
	100 Amp. 4P MCCB- 6 No.		
	100 Amp. 4P MCCB- 1 No. -Spare		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirment(AS/SLD)	Each	1
131	<u>U.P.S SUB PANEL-1</u>		
	<u>LOCATION- GROUND FLOOR</u>		
	100 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-100) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.125 A, TPN aluminimum bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	63 Amp. 4P MCB- 1 No.		
	40 Amp. 4P MCB- 4 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirment(AS/SLD)	Each	1
132	<u>U.P.S SUB PANEL-2</u>		
	<u>LOCATION- FIRST FLOOR</u>		
	100 Amp. 4P MCCB - 1No		
	Metering :		

	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-100) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.125 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	40 Amp. 4P MCB- 4 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
133	<u>U.P.S SUB PANEL-3</u>		
	<u>LOCATION- SECOND FLOOR</u>		
	100 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-100) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.125 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	40 Amp. 4P MCB- 4 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
134	<u>U.P.S SUB PANEL-4</u>		
	<u>LOCATION- THIRD FLOOR</u>		
	100 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-100) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.125 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	40 Amp. 4P MCB- 5 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
135	<u>U.P.S SUB PANEL-5</u>		

	<u>LOCATION- FOURTH FLOOR</u>		
	160 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-160) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.200 A, TPN aluminimum bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	125 Amp. 4P MCCB- 1 No.		
	63 Amp. 4P MCB- 1 No.		
	40 Amp. 4P MCB- 2 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirment(AS/SLD)	Each	1
136	<u>U.P.S SUB PANEL-7</u>		
	<u>LOCATION- FIFTH FLOOR</u>		
	125 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-125) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.150 A, TPN aluminimum bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	63 Amp. 4P MCB- 4 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirment(AS/SLD)	Each	1
137	<u>U.P.S SUB PANEL-6</u>		
	<u>LOCATION- SIXTH FLOOR</u>		
	100 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-100) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.125 A, TPN aluminimum bus bar of suitable length.		
	Outgoing :		

	Phase indication lamps on each outgoing to be provided.		
	40 Amp. 4P MCB- 3 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
138	<u>U.P.S SUB PANEL-7</u>		
	<u>LOCATION- SEVENTH FLOOR</u>		
	100 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-100) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.125 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	40 Amp. 4P MCB- 3 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
139	<u>U.P.S SUB PANEL-8</u>		
	<u>LOCATION- EIGHTH FLOOR</u>		
	100 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-100) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.125 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	40 Amp. 4P MCB- 3 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
140	<u>U.P.S SUB PANEL-9</u>		
	<u>LOCATION- NINTH FLOOR</u>		
	100 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-100) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		

	Bus Bar :		
	One (1) No.125 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	40 Amp. 4P MCB- 3 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
141	<u>U.P.S SUB PANEL-10</u>		
	<u>LOCATION- TENTH FLOOR</u>		
	100 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-100) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.125 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	40 Amp. 4P MCB- 3 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
142	<u>LIFT PANEL</u>		
	<u>LOCATION- GROUND FLOOR</u>		
	630 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-630) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.800 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	200 Amp. 4P MCCB- 1 No.		
	125 Amp. 4P MCCB- 2 No.		
	63 Amp. 4P MCB- 3 No.		
	125 Amp. 4P MCCB- 1 No. -Spare		
	63 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
143	<u>LIFT M.D.B.-1</u>		
	<u>LOCATION-MACHINE ROOM-TERRACE FLOOR</u>		
	200 Amp. 4P MCCB - 1No		
	Metering :		

	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-200) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.250 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	63 Amp. 4P MCB- 4 No.		
	16 Amp. SP MCB- 4 No.		
	10 Amp. SP MCB- 4 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
144	<u>LIFT M.D.B.-2</u>		
	<u>LOCATION-MACHINE ROOM-TERRACE FLOOR</u>		
	125 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-125) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.150 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	63 Amp. 4P MCB- 2 No.		
	16 Amp. SP MCB- 2 No.		
	10 Amp. SP MCB- 2 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
145	<u>LIFT M.D.B.-3</u>		
	<u>LOCATION-MACHINE ROOM-TERRACE FLOOR</u>		
	125 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-125) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.200 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	63 Amp. 4P MCB- 2 No.		
	16 Amp. SP MCB- 2 No.		
	10 Amp. SP MCB- 2 No.		

	63 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
146	<u>LIFT M.D.B.-4</u>		
	<u>LOCATION-MACHINE ROOM-TERRACE FLOOR</u>		
	125 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-125) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.200 A, TPN aluminimum bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	63 Amp. 4P MCB- 2 No.		
	16 Amp. SP MCB- 2 No.		
	10 Amp. SP MCB- 2 No.		
	63 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)	Each	1
147	<u>A.C. PANEL-1, & 2 (TERRACE FLOOR)</u>		
	400 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-630) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.630 A, TPN aluminimum bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	400 Amp. 4P MCB- 34 No.		
	315 Amp. 4P MCB- 34 No.		
	200 Amp. 4P MCB- 34 No.		
	125Amp. 4P MCB- 34 No.		
	100 Amp. 4P MCCB- 1 No.		
	63 Amp. 4P MCB- 1 No.		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)/VENDOR	Each	2
148	<u>VENTILATION PANEL (BASEMENT FLOOR)</u>		
	315 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-200) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		

	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.400 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	200 Amp. 4P MCCB- 1 No.		
	125 Amp. 4P MCCB- 1 No.		
	100 Amp. 4P MCCB- 1 No.		
	63 Amp. 4P MCB- 2 No.		
	40 Amp. 4P MCB- 2 No.		
	100 Amp. 4P MCCB- 1 No. -Spare		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)/VENDOR	Each	2
149	<u>CSSD PANEL (SIXTH FLOOR)</u>		
	250 Amp. 4P MCCB - 1No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-250) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.320 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	160 Amp. 4P MCCB- 1 No.		
	100 Amp. 4P MCCB- 2 No.		
	63 Amp. 4P MCB- 2 No.		
	40 Amp. 4P MCB- 2 No.		
	100 Amp. 4P MCCB- 1 No. -Spare		
	63 Amp. 4P MCB- 1 No. -Spare		
	40 Amp. 4P MCB- 1 No. -Spare		
	OR outgoing as per site requirement(AS/SLD)/VENDOR	Each	1
150	DG SYNK Panel		
	1 Nos. 1600A FP Electrically operated horizontal drawout type Air Circuit Breaker microprocessor based releases for O/C,S/C & earth fault protection with instantaneous. 65KA		
	One set of Generator control relay for Each D.G. Set with accessories for AMF, Load Management, Synchronizing and Interlocking through micro PLC. (Make of relay - Woodward / Dief).		
	1 No. Load Manager EM 6400 with RS 485 port		
	1x (Emergency Push buttons, auto/manual switch. as required)		
	1 Nos. annunciation panel.		
	Provision of Bus DUCT ENTRY		
	Metering :		
	1 Nos. Set of Phase Indication Lamp.		

	1 Set 27,32,49,59 CT's control.		
	1 Set of CT's one of 2500/ 5Amp ratio for MFM.		
	Annunciation window to cover LLOP, HWT, OIL Pressure, O/V, O/F shall be provided.		
	Engine should trip on LLOP, HWT, oil temp, O/V, O/F and breaker should trip on other faults.		
	Initially U/V & U/F will be by passed till oil pressure is picked up.		
	Indicating lights for MCCB ON / OFF, MCCB trip, neutral contactor ON, D.G. on mains, D.G. fails to start.		
	Generator start /stop facility through push button from panel, necessary cranking relay shall be provided.		
	Suitable battery charger for 24V 360 AH with d.c voltmeter & d.c ammeter. D.C voltmeter and ammeter will be analouge type.		
	Whenever D.G. stop through PB, load shall be disconnected first.		
	1 Nos. 2 window annunciator with hooter, accept & reset push button.		
	BATTERY & BATTERY CHARGER		
	1 No. 24V, 72AH SMF Battery with suitable battery charger for control supply.		
	Provision of Bus DUCT ENTRY		
	Bus coupler :		
	1 x 1600 A, 65kA, ACB EDO Type with On, Off, Trip indication and o/l, s/c , e/f & LSIG protection with microprocessor based release.		
	BUSBARS:		
	2000A, 415V, FP, 65 kA/1sec, Aluminium busbar.		
	LOGIC:		
	AUTO OPERATION OF INCOMER MCCB's.		
	Auto changeover.		
	Micro PLC shall be provided to achieve the Changeover, Interlocking and and following functions.		
	Load Manager for Load Management		
	Synchronizing of D.G. Set through synchronizing relay OR Synchronizing of D.G. Set through PCC 3.3 controller in case of Cummins Make D.G. Set.		
	Necessary hardware shall be provided to achieve above functions including micro PLC with real time clock, digital inputs/outputs, MMI with 2 line display, power supply, auxillary relays, PB's indication etc. & software for the above.		
	Automatic system shall be user friendly and shall have manual override.		
	Operation logic, control & interlocking scheme shall be prepared by panel manufacturer with coordination of consultants.		
	OUTGOING		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	Provision of Bus DUCT ENTRY		
	02 No.500 Amp 4P ACB. (65 KA)		
	01 No.400 Amp 4P MCCB. (36 KA)		
	04 No.315 Amp 4P MCCB. (25 KA)		
	02 No.250 Amp 4P MCCB. (25 KA)		
	04 No.125 Amp 4P MCCB. (25 KA)		
	04 No.100 Amp 4P MCCB. (25 KA)		
	05 No.63 Amp 4P MCCB. (25 KA)		
	Panel described as above	Each	1
151	CAPACITOR PANEL-1200 KVAR		

	SITC APFC Panel of 1200KVAR capacity suitable for operation on 415 + 5% Volt, 3 Phase, 50Hz, AC supply, having MPP type, resin bounded, static 25,50,100 KVAR capacitors (without oil) in tier formation complete with following TPN MCCB as incomer of the panel, 15 step microprocessor based power factor controller relay capable to select the rating from 1 KVAR to multiples thereon up to max rating of the panel, current limiting contactors for each capacitors protected with MCBs, Ammeter (Analogue type) with CTs, Voltmeter (Analogue type) selector switches indicating lights, cooling fans for panel, earthing the panel with 2 Nos. 25mm x 5mm thick GI steel flat from existing earth bar, connection of APFC panel with suitable size 3.5 core aluminium conductor armoured XLPE cable from main LT panel (maximum length of cable 10 mtrs.) and compression glands etc. as reqd. The panel should have provision of timer based circuit in APFC relay to switch ON and OFF the static part automatically as and when required. Capacity of Static capacitors should be accommodated from the overall rating of the panel and should be designed to switch in independently. The panel should be manufactured with 1.6mm thick CRCA sheet duly powder coated.		
	Incoming		
	1 Nos 1600 Amp. 4P ACB of (50 KA) EDOType Breaking capacity		
	1 Set of CT's one of 1600/ 5Amp ratio for Multifunction Meter		
	1 Set of CT's one of 1600/ 5Amp ratio 55		
	1 Nos. Set of Phase Indication Lamp.		
	1 x (Emergency Push buttons, auto/manual switch. as required)		
	1 Nos. annunciation panel.		
	BUS BAR		
	2000A, 415V, FP, 50 kA/1sec, Aluminium busbar.		
	OUT GOING		
	08 No. 160 Amps. TP MCCB (25 KA)		
	08 No. 100 Amps. TP MCCB (25 KA)		
	08 No. 100 KVAR Capacitor Bank		
	08 No. 50 KVAR Capacitor Bank		
	08 No. 100 KVAR 7% Duty Reactor		
	08 No. 50 KVAR 7% Duty Reactor		
	08 No. 100 KVAR TSM		
	08 No. 50 KVAR TSM		
	Panel described as above	Each	1
152	Plumbing Panel		
	The minimum clearances between bus bars shall be as follows :		
	Phase to phase - minimum 20mm		
	Phase to neutral-minimum 15mm		
	Incoming :		
	1 x 200 A, FP, 25kA, MCCB with On, Off, Trip indication and o/l, s/c & e/f protection with TM based release.		
	1 x (Emergency Push buttons, auto/manual switch. as required)		
	1 Nos. annunciation panel.		
	Metering :		

	1 x (0-200A, 0-500V,multifunction meter with 3 x 200/5A, CL-1, 15VA, Ring type CTs)		
	1 Nos. Set of Phase Indication Lamp.		
	1 Nos. of class-III Type SPD		
	Bus Bar :		
	300 Amp.TPN aluminium bus bar of suitable length.25KA		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	04 No. 100 Amp 3P MCCB. (25 KA)		
	04 No. 63 Amp 3P MCCB. (25 KA)		
	04 No. 40 Amp 3P MCCB. (25 KA)		
	04 No. 25 Amp 3P MCCB. (25 KA)		
	3Nos. Motor Soft Starter -25-30HP 3PHASE		
	3Nos. Motor Soft Starter -5-7.5HP 3PHASE		
	3Nos. Motor Soft Starter -10-12.5HP 3PHASE		
	2Nos. Motor Soft Starter -1.5HP 3PHASE		
	Panel described as above	Each	1
153	<u>OUTDOOR FEEDER PILLER</u>		
	Supplying assembling erecting connecting, testing and commissioning of feeder pillar with over voltage and under voltage relay with auto re-setting, manufactured using 2.0 mm thick CRCA sheet steel with power coated paint double door (front operated)with canopy base channel and cable gland entry from bottom for cable using, suitable aluminium busbar with provision of incoming & outgoing MCCB/MCB of L&T/Schneider/GE/ABB or Eq. make. Installation of feeder pillar of suitable c.c. foundation etc complete in all respect.		
	Incoming :		
	1No. Of 630 Amps 4P MCCB of 36 KA service breaking capacity and 630 Amp trip setting.		
	Metering : Voltmeter, Ammeter, Indication		
	Bus Bar :		
	1 Set of 800 Amps TPN Aluminium Bus Bars of suitable length and of cross section . Bus bar shall be insulated by heat shrinkable sleeves & clip on shrouds for joints. Bus bar shall be designed to with stand a fault level of 36 KA at 415 volts.		
	3Nos. Phase indicating lamp each lamp shall have one toggle switch .		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	400 Amp. 4P MCCB- 2 No.		
	315 Amp. 4P MCCB- 2 No.		
	200 Amp. 4P MCCB- 3 No.		
	125 Amp. 4P MCCB- 4 No.		
	63 Amp. 4P MCB- 3 No.		
	40 Amp. 4P MCB- 2 No.	Each	1
154	SITC of Flexible LED strip with wide viewing angle for good light distribution & IP 65,3000k, linkable and easy to install, complete with separate replaceable electronic driver complete in all respects(provide as option) Make: LedLum	Mtr.	175
155	Supply of Wall Fan AC 230/250 Volts, 50 Hz 50w 1350 rpm including nuts, bolts, mounting frame and other accessorieswith connections etc. complete as required.- Make: Havells-STANDARD -SUPER 5 LEAF-SW-12		
	300 mm sweep.	Each	60

156	Supply & erection of High speed Air Circulator Wall Fan AC 230/250 Volts, 50 Hz 100w 1400 rpm Air Delivery 150CMM wall mount, noise level-60-65 db,including nuts, bolts, mounting frame and other accessories with connections etc. complete as required. Make: Havells-Turbo force air circulator. Model no. FHACWSTSL18		
	450 mm sweep.	Each	19
157	Supply and fixing of Single Unit LED aviation obstruction light complete with Transformer and LED spiral etc. complete in all respects. Make-Bajaj or Eq	Each	1
	40 A,4P MCB-Bracking Capacity-10 kA, C-Curve-Make-Havells	Each	
	LIGHTING ARRESTER		
158	Supply & fixing of level-I tested accordance with NFC-17-102 for advance triggering time 22 micro seconds, temperature with stand test of -40 to +120 degree centigrate, CE marked, short circuit test for 100KA etc. inculding the following: Make Liva/ESE(kalre)-50mtr.	Each	2
159	SITC 5m GI mast with adaptor head and base plate for raising the lighting rod by 5 m above the surface to protected including insulator between lighting rod and GI mast.	Each	2
160	SITC Copper cable 70 sqmm flexible copper single core multi-strand.	Mtr.	250
161	SITC 6 digits IP 67 lighting counter with hole for cable/strip LEC-D	Each	1
162	SITC Eathing set(2 Nos.) consisting of copper bounded rod 17.2mm dia 10ft long 250 microns UL marked, 30kg earth enhancing chemical compound with resistivity of <0.1 Ohm-m NABL lab tested, clamp for connecting rod to cable/strip including civil work with pit cover complete.	Set	4
163	SITC stay wire,lugs, U clam, base plate fastener, hook fasteners, Test link/clamp ect. As required complete.	Each	4
	SUBHEAD I- SOLAR		

164	<p>Supply, Installation, Testing and Commissioning of on-grid Solar Photovoltaic Power Plant conforming to various applicable standards BIS, IEC, MNRE guidelines, the Central Electricity Authority Regulations and CPWD Specifications as amended up to date, consisting of Mono/Poly Crystalline silicon solar cells module, net metering facility, necessary control, protections, earthing, cabling, mounting structure, junction boxes, power conditioning units, Real time online web interfaced Data Monitoring System, Distribution panels, grid connecting arrangement, conduits, pipes, cable trays and other accessories etc. as required. a) High Energy Efficiency Solar Photovoltaic Module of capacity 330 Wp or above, manufactured in India, conforming to IS 14286/IEC 61215, IS/IEC 61730-Part-1, IS/IEC 61730-Part-2. Solar Photovoltaic Module conversion efficiency shall not be less than 23% at STC with temperature coefficient of Pmax better than -0.30% per degree Celsius. PV modules used in solar power plants/ systems must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years. Solar Modules shall be designed to operate in relative humidity upto 100% with temperature between -10 Deg C and +85 Deg C. Further, each PV module used in any solar power project must have Radio frequency identification tag with information such as name of manufacturer, month and year of manufacturing, country of origin (separately for Solar cell and module), I-V curve, Unique Serial No and Model No of the module, Wattage, Im, Vm and FF, name of test lab issuing IEC certificate. b)Power Conditioning Unit (PCU) of 350-800 V DC Input voltage range and 415 V AC, three phase, 4 wire, 50Hz +/- 2.5 Hz, output voltage suitable to generate AC with a variation of 10% at nominal voltage. Power with efficiency not less than 97%, total harmonic distortion less than 3% and suitable for ambient temperature from 0 to 50 degree C , Minimum IP-65 for outdoor and Minimum IP 21 for indoor, Built-in meter and data logger, MPPT, switching devices IGBT/MOSFETs and controller Microprocessor /DSP . PCU/inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown. The PCU shall be able to withstand unbalanced load conforming to IEC standard with shutdown/standby mode.It must be provided with grid islanding</p>		
	<p>along with manual disconnect pole isolation switch besides automatic disconnection. Minimum protections: Mains Under / Over Voltage, Over current, Over/Under grid frequency, Over temperature, Surge voltage induced at output due to external source, Shortcircuit, Lightening, Anti Islanding (for grid synch. Mode) and other protections as per applicable standards. LCD/LED display of minimum parameters: DC input voltage, DC current, AC Voltage and current (all 3 phases, in case of 3 phase), Instantaneous & cumulative AC output power, Daily DC energy produced and other parameters applicable standard. Communication interface RS 485 / RS 232.</p> <p>c) Module mounting structure: The roof top solar plant generation units shall be installed by using supporting Aluminium/Galvanized MS structure (mass of zinc coating shall be as per IS4759) having minimum head room clearance of 2.4 meter above the terrace level / ground level. The mounting structure would be designed to sustain wind load and seismic parameter of the site of installation. All the structure shall be design as per applicable BIS code and the material shall also confirm the applicable BIS Code. Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts. The suitable arrangements for maintenance and cleaning shall be provided.</p> <p>d) Real time online web interfaced Data Monitoring System complete with accessories for various parameters such as Solar</p>		

	g) Cables: Connections & Interconnections by required size IR/UV protected XLPE insulated copper conductor 1.1 kV grade armored power and control cables (ISI Marked) along with supplying & fixing of necessary channel/conduit, GI cable trays, supports, lugs, thimble and other accessories etc. as required. h) DC Distribution Board And AC Distribution Panel Board: IP65, free standing, metal clad, having copper bus bar, having required protection and control gears, connection interconnection, etc. as required	kWp	310
	SUBHEAD I- UNINTERRUPTED POWER SUPPLY (UPS)		
165	Online UPS - Input supply: Single Phase, Output Supply : Single Phase Supplying, installation, Testing & Commissioning of following capacity at full load (Unity Power Factor) ON LINE Uninterrupted Power Supply (UPS) system suitable for Single Phase input, Single Phase output AC Supply. The UPS shall include a Rectifier, inverter, battery bank suitable for 30 minutes back up (Battery VAH capacity shall not be less than 1600 VAH per KVA of UPS rating per Hour backup time) on full load (Battery shall be VRLA, SMF in ABS Container) and Static Bypass switch along with provision for manual bypass, suitable isolation transformer for additional protection against neutral faults etc. The UPS systems shall be Microprocessor based Digital Control, using Insulated Gate Bipolar Transistor (IGBT)'s both for the rectifier & inverter with PWM (Pulse Width Modulation) Technology. The quality of design, manufacturing and inspection process should confirm to the relevant International standards such as IEC/EN/VDE. The operating efficiency of the UPS systems shall be >95% at 100% non-linear loads. Current total harmonic distortion (THD)/ total demand distortion (TDD) on the input grid shall be < 5% at 100 % load. (The required LC filters shall be included in UPS cost), extreme power factor kit to be included to limit the input pf to 0.99 and output power factor shall be unity (i.e. kw rating of the UPS shall be kva rating x 1) however UPS shall be suitable to take load at 0.7 lagging to 0.7 leading power factor loads. UPS shall be suitable for incoming supply AC single phase 160-270V 50 Hz and delivering output AC supply true sine wave single phase 220/230/240 Volt, 50 Hz +/- 0.2Hz, Overload capacity of 120% for 10 mins and 150%		
	RS232/RS485/SNMP port open protocol for BMS integration as per approved by Engineering in charge. Required battery racks, DC breaker of suitable rating and interconnecting copper conductor cable of suitable size and connectors and all required accessories are inclusive in the cost. The UPS should have QR code which should contain drawing, test report OEM manual, Geo- Tag of manufacturing location etc		
	350KVA	Each	370
	LIFT WORKS		
166	Supply Installation , Testing & Commissioning of LIFTS with power operated centre opening doors and AC variable voltage & variable frequency control, car safety & Governor, Guides, guide rails, ropes, car platform, cabin finishes (stainless steel), car & landing doors (stainless steel), hoist motors, braking system, Automatic Rescue Device (ARD) etc. complete as per the CPWD Specifications and related IS standards upto date.		
	8 Passenger, 1.0 mps, 02 stops , 02 Openings	SET	2
	Extra for each additional floor	PER FLOOR	
	8 Passenger, 1.5 mps, 5 stops , 5 Openings	SET	1
	Extra for each additional floor	PER FLOOR	
	8 Passenger, 1.5 mps, 7 stops , 7 Openings	SET	1

	Extra for each additional floor	PER FLOOR	1
	8 Passenger,1.5 mps,8 stops , 8 Openings	SET	1
	Extra for each additional floor	PER FLOOR	2
	8 Passenger,1.5 mps,10 stops , 10 Openings	SET	1
	Extra for each additional floor	PER FLOOR	4
	8 Passenger,1.5 mps,6 stops , 6 Openings	SET	2
	Extra for each additional floor	PER FLOOR	
	8 Passenger,1.5 mps,6 stops , 6 Openings	SET	1
	Extra for each additional floor	PER FLOOR	
	8 Passenger,1.5 mps,9 stops , 9 Openings	SET	1
	Extra for each additional floor	PER FLOOR	3
	20 Passenger,1.5 mps,14 stops ,14 Openings	SET	10
	Extra for each additional floor	PER FLOOR	70
	13 Passenger,1.5 mps,11 stops , 11 Openings	SET	6
	Extra for each additional floor	PER FLOOR	30
	13 Passenger,1.5 mps, 5 stops , 5 Openings	SET	1
	Extra for each additional floor	PER FLOOR	
	13 Passenger,1.5 mps, 7 stops , 7 Openings	SET	1
	Extra for each additional floor	PER FLOOR	1
	13 Passenger,1.5 mps,8 stops , 8 Openings	SET	1
	Extra for each additional floor	PER FLOOR	2
	13 Passenger,1.5 mps,10 stops , 10 Openings	SET	1
	Extra for each additional floor	PER FLOOR	4
	13 Passenger,1.5 mps, 6 stops , 6 Openings	SET	4
	Extra for each additional floor	PER FLOOR	
	13 Passenger,1.5 mps, 6 stops , 6 Openings	SET	1
	Extra for each additional floor	PER FLOOR	
	13 Passenger,1.5 mps, 9 stops , 9 Openings	SET	1
	Extra for each additional floor	PER FLOOR	3
	13 Passenger,1.5 mps, 8 stops , 8 Openings	SET	4
	Extra for each additional floor	PER FLOOR	8
	13 Passenger,1.5 mps,6 stops , 6 Openings	SET	4
	Extra for each additional floor	PER FLOOR	
	Dumb waiter Lift (11 Opening & 11 Stops)	SET	1
	PRESSURIZED MECHANICAL VENTILATION		
167	Pressurized mechanical ventilation system in the basements with supply duct of exhaust blowers (on areas where mechanical ventilation is required).	SQM.	18169
	UNINTERRUPTED POWER SUPPLY		
168	Supplying, installation, testing and commissioning of online 3 phase UPS system with 30 minutes back up including batteries, interconnecting cables, battery racks etc.	KVA	250
	VRV/ VRF AC System		
169	Supplying, installation, testing and commissioning of VRV/VRF system including indoor /outdoor units, piping, electrical power distribution/wiring, electrical panel, treated fresh air system etc.	HP	2982
	CCTV SYSTEM		
170	Supplying, installation, testing and commissioning of IP based CCTV system for building security comprising of PTZ / fixed camera, cabling, recording, display system and hard ware software support — for indoors only (Rate applicable on total plinth area).	SQM.	49235
	Note: Rate includes peripheral IP based PTZ camera besides indoor camera at reception, corridors, lift lobby etc., wiring upto CCTV room and setting up monitoring unit/units, as required. It will not cover in sides office room/labs, special video walls etc.		
	IBMS: INTEGRATED BUILDING MANAGEMENT SYSTEM		

171	Supplying, installation, testing and commissioning of integrated building management system for digital/electronic display and monitoring of all E&M systems like substation, DG sets, UPS, solar power, lifts, AC plants, ventilation systems, fire protection systems, pumps etc. to include cabling, monitors, recording, display system, hardware, software support (upto 10,000 sq m) (Rate applicable on total plinth area)	SQM.	72684
172	Add extra for built up area above 10,000 sq m (Rate applicable on total plinth area)	SQM.	70068
	LAN SYSTEM		
173	Supplying, installation, testing and commissioning of LAN system comprising of core switches & L2 switches with 10 G, 10 giga SFP modules, WIFI access points, WIFI controller, network management software, racks, CAT 6A cable, patch panels, OFC etc. (Rate applicable on plinth area excluding service/ common areas).	SQM.	43617
	IP BASED EPABX SYSTEM		
174	Supplying, installation, testing and commissioning of IP based EPABX system comprising of core switches & L2 switches with 10 G, 10 giga SFP modules, industry standard appliance server, cloud-based, enterprise-grade UC solution, MID/ENTRY level IP/SIP phone with, dual 1 gig ports, racks, CAT 6A cable, patch panels, OFC etc. (Rate applicable on plinth area excluding service/common areas).	SQM.	43617
	NOTE: It will be economical to use common infrastructure of switches, OFC, CAT 6A cable for both voice and networking.		
175	Conference hall: supplying, installation, testing and commissioning of audio visual/conference system (Rate applicable on carpet area of Hall only)	SQM.	2449
	MODULAR OPERATION THEATER		
	MOT comprising of walls & ceiling system for operating area, steel framework, static dissipative flooring, laminar flow, double dome OT light, touch screen surgeon's control panel, scrub station, X-Ray viewing screen, hatch box, automatic sliding doors, anesthesia pendent, surgeon pendent etc.		
176	With SMS technology	PER OT	8
	Note: The above rates are based on OT size of 50 sqm		
	EMERGENCY LIGHT & ILLUMINATED SIGNAGES		
177	Illuminated signages (Rate applicable on total plinth area)	SQM.	70068
	MEDICAL GAS PIPELINE SYSTEM		
178	Medical Gas pipeline system (as per international standards) comprising of oxygen, carbon dioxide, nitrous oxide, AGSS, Air-4, Air-7, Vacuum outlets, manifolds, pressure alarms, fully automatic gas control system, Bed head panels, copper piping, cylinder banks, plant equipment such as compressors, Vacuum pumps etc.	PER BED	248
	NURSING CALL SYSTEM		
179	Nursing call system (INDIAN) comprising of System Switch for de-centralized communications, Nurse Station Terminal, Patient Handset, Event Database Software, Nurse Call Server, Cabling etc.	PER BED	248
180	Central Sterile Supply Department (CSSD) and LAUNDRY specifications with three-zone layout (Red/Dirty, Blue/Clean, Green/Sterile) to prevent cross-contamination, adhering to strict environmental, structural, and equipment standards. which include 6–10 air changes/hour, stainless steel fixtures, positive pressure in storage areas, and specialized sterilization equipment.	SET	1

181	Supplying , Installation, Testing and Commissioning of Air Cooled Hi Wall split type Air conditioners complete with Indoor unit(IDU), Out door unit (ODU), surface / concealed copper Refrigerant piping with insulation (closed cell elastomeric nitrile rubber tubular pipe section) upto 3 Mtr (IDU to ODU), copper power cable upto 3.5 Mtr (IDU to ODU) i/c drain pipe R-32/R-410/ R-407 Green Refrigerant, wireless Remote control, suitable for working between 180- 260V with low & high voltage cutoff and 50 hz ,1 phase AC supply capable of performing cooling, dehumidification, air circulation of following capacity with Scroll / rotary compressor. The system shall be able to deliver 100% of the rated capacity upto 42 OC. Min 5 year Original Equipment Manufacturer (OEM) warranty both compressor and Printed Circuit Board (PCB). Must comply : Electrical cable IS 694 or IS 9968 temperature sensing control IS /International Electrotechnical Commission (IEC) 60730, hermetic compressor IS 10617, heat exchanger IS 11329, capacitor IS 2993 and motor IS 12615. Complete as per CPWD specification and IS : 1391 Part II 2023. The system shall be able to operate up to 50 OC (out door ambient temperature).		
	1.5 TR with 5 Star BEE Rating	EACH	6
	2.0 TR with 5 Star BEE Rating	EACH	13
	PART (A) SUB-HEAD-I (HT CABLES)		
182	Supplying, laying, testing and commissioning of 3C x 300 sqmm A2XFY, 33KV/33KV (unearthed) grade, heavy duty XLPE insulated, FRLS type, armoured cables suitable for 33kV, 50Hz, AC system with inner and outer PVC sheath, outer sheath provided with FRLS insulation, galvanised steel flat armouring and with all components as mentioned in BOQ, specifications and schedule, complete as required.		
	240 sq. mm 3 Core	Mtrs.	650
183	Supplying and making indoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for 3C x 300 sqmm A2XFY , 33KV/33KV (unearthed) grade, heavy duty XLPE insulated, FRLS type, armoured cable as required.	Each	16
184	Supplying and making outdoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for 3C x 300 sqmm A2XFY , 33KV/33KV (unearthed) grade, heavy duty XLPE insulated, FRLS type, armoured cable as required.	Each	16
185	Supply and burring of safe Earthing Electrode T-39 Cu Copper Coated, Length 2000mm, outer pipe 76.3mm X 3.2 inner pipe 42.4mm X 2.6mm, terminal Dia 12mm, coating 80-100 micron filled with crystalline conductive mixture (CCM) having anti corrosive & conductive property with 50kgs activated soil (BFC) capable of reucing the soil resistivity with good mixture of retaining capacity along with 30cm square C.I. frame withhinged cover & mansony housing.(From electrode terminal to switch board, cost of 25x3 copper strip will be extra) Make: <u>As approved in U.P.P.W.D & C.P.R.I. all respects.</u>	Each	28
186	Supply, installation, connections,testing & commissioning of 17.2 mm dia. rod of 3 meter length having copper bonding of 250 micron, along with 25 kg of maintenance free ground enhancing compound with fused rod to tape clamp for interconnection of strip from earth pit to equipment.	Each	32
187	Supply & Laying of following Tinned copper earth wire/earth strip, GI earth wire/strip fixed on wall/side of trench/slab /column /beam/ shaft, connection to panel/DBs/SFU's etc. with 5mm thick G.I./Cu. Spacers & 2mm thick G.I./ Cu. Saddle including connection/termination with suitable GI/Cu. thimble & nut bolts etc as required to do the job in all respect in accordance with laid specification, drawing or upto the satisfaction of engineer in charge.		
188	50X6 mm Cu. Strip (PVC insulated heat shrinkable sleeves)	Meter	180
189	50x6 mm G.I. Strip	Meter	650
	SUBHEAD II- SAFETY EQUIPMENTS		
190	Providing and fixing MV danger notice plate of 200 mm x 150 mm made of mild steel at least 2mm thick & vitreous enamelled white on both sides and with inscription in signal red colour on front side as required.	Each	2
191	Providing and fixing HT danger notice plate 250 mm x 200 mm made of mild steel at least 2mm thick & vitreous enamelled white on both sides and with inscription in signal red colour on front side as required.	Each	2
192	Supplying and Fixing of Fire buckets, round bottom made of G.I. Sheet 9-11 litres capacity duly painted as per fire brigade design, supported on hanging bracket chained and locked, initially filled with fine river sand, water as per directions of Engineer-in-charge.	Sets	4
193	Supplying & Laying of 1800 mm x 900 mm X 12 mm thick chequered rubber matting of tested quality	Nos.	2

194	Supply and fixing danger board fabricated from 10 gauge MS sheet as per IE Rules	Nos.	2
195	S/F of shock treatment chart (prescribed under I.E.rules) duly framed with glass and supported from back with hard board or soft board with supply of all material labour T & P for proper completion of work.	Nos.	2
196	Providing & fixing in position 1000 mm wide, Electrical Insulating Mats, 2mm thick, suitable upto 1.1 KV grade including cutting to required length complete as required per specifications or upto the satisfaction of engineer-in-charge.	Metre	5
197	Supplying and Laying of Rubber mat 1000 mm. Wide to withstand 11 KV dielectric strength as per latest IS 15652-2006 etc. as reqd.	Metre	5
198	Supply of Tool & First Aid Box with all necessary tools for maintenance of electrical installation & First aid.	Each	2
SUBHEAD III-EXTERNAL LIGHTING			
199	Supplying, installation, testing & commissioning of Astronomical time switch of following configuration to be mounted in feeder pillars/lighting DBs for automatic switching On & Off of street lights at sunset & sun rise or twilight(Auto On, Auto Off, Auto modes) with manual override facility with 12/24 hour display format with suitable battery and indication for relay status i/c programming at site complete required.		
	03 output (01 output per phase)and suitable for three phase supply	Each	2
200	Supplying and fixing cable route marker with 10 cm X 10 cm X 5 mm thick G.I. plate with inscription there on, bolted /welded to 35 mm X 35 mm X 6 mm angle iron, 60 cm long and fixing the same in ground as required.	Each	25
201	Supplying and embedding following dia G.I. pipe (medium class) in pole collar/ foundation (during casting) for cable entry including bending the pipe to the required shape complete as required.		
	40mm dia	Metre	45
202	Supplying & laying of following size DWC HDPE pipe ISI marked alongwith all accessories like socket, bend, couplers etc. confirming to IS : 14930 Part-II complete with fitting, cutting & jointing etc. direct in ground (75cm below ground level) including excavation & refilling the trench but excluding sand cushioning & protective covering etc. as required.		
	63 mm dia (OD - 63 mm & ID - 51 mm nominal)	Metre	349
	90 mm dia (OD - 90 mm & ID - 76 mm nominal)	Metre	63
	160 mm dia (OD -160 mm & ID - 135 mm nominal)	Metre	63
	200 mm dia (OD - 200 mm & ID - 175 mm nominal)	Metre	70
203	Constructing brick masonry manhole in cement mortar 1:4 (1 cement :4 coarse sand) RCC top slab with 1:2:4 mix (1 cement :2 coarse sand :4 graded stone aggregate 20mm 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		
	Inside size 90x80cms and 45cms deep including CI cover with frame (light duty) 455x610mm internal diamensions total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15kg).With FPS bricks of class designation 75 for cable passing.	Each	8
204	Supply & fixing of 7 mtr GI Octagonal Pole of approved make (top dia 70mm, Bottom dia 130mm and base plate 12mm thick) having 3mm thickness with single arm bracket length of 1 mtr. length in 1:2:4 RCC foundation bolt including the cost of foundation, excavation & back filling and Required T&P complete in all respect.	Each	106
205	Supply & fixing of 9 mtr GI Octagonal Pole of approved make (top dia 70mm, Bottom dia 155mm and base plate 16mm thick) having 3mm thickness with single arm bracket length of 1 mtr. length in 1:2:4 RCC foundation bolt including the cost of foundation, excavation & back filling and Required T&P complete in all respect.	Each	5
206	Supply and fixing of decorative 8 to 16 Watt LED bollard luminaire with base plate made of power coated die cast aluminium and extruded Al. housing with UV stabilised PC diffuser, SMD LEDs, Electronic driver set, Confirming to IP65/ 66, and IK07 an above protection, 600-800mm height, complete in all respects.		
	960-1920 system lumens, >120 lm/W, PF>.95, THD<10%, at full load, >300V Over Voltage protection, 4 KV internal Surge protection with 5 years Warrantee. CAT. - AAA	Each	25
207	Supply and fixing of decorative 40 Watt to 45 Watt LED post top indirect light luminaire having Pressure die cast aluminium body and UV stabilised PC Clear/frosted glass cover, with driver set, Confirming to IP 66, and IK08 protection, potted driver(not circuitory) complete in all respects.		

	4800-5400 system lumens, >120 lm/W, PF>.95, THD<10%, at full load, CRI>70, >300V Over Voltage protection and auto restart feature, 4 KV internal Surge protection with 5 years Warrantee. CAT. - AAA	Each	10
	FEEDER PILLERS		
	Supplying assembling erecting connecting, testing and commissioning of feeder pillar with over voltage and under voltage relay with auto re-setting, manufactured using 2.0 mm thick CRCA sheet steel with power coated paint double door (front operated) with canopy base channel and cable gland entry from bottom for cable using, suitable aluminium busbar with provision of incoming & outgoing MCCB/MCB of L&T/Schneider/GE/ABB or Eq. make. Installation of feeder pillar of suitable c.c. foundation etc complete in all respect.		
208	L.T. FEEDER PILLER-01		
	Incoming :		
	1No. Of 800 Amps 4P FP MDO ACB of 50 KA service breaking capacity and 1000 Amp trip setting.		
	Metering : Voltmeter, Ammeter, Indication		
	Bus Bar :		
	1 Set of 1250 Amps TPN Aluminium Bus Bars of suitable length and of cross section . Bus bar shall be insulated by heat shrinkable sleeves & clip on shrouds for joints. Bus bar shall be designed to with stand a fault level of 36 KA at 415 volts.		
	3Nos. Phase indicating lamp each lamp shall have one toggle switch .		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	630Amp 4P MCCB (36kA) - 1 Nos.		
	400Amp 4P MCCB (36kA) - 1 Nos.		
	315Amp 4P MCCB (36kA) - 1 Nos.		
	200Amp 4P MCCB (36kA) - 1 Nos.		
	63Amp 4P MCB (10kA) - 1 Nos.	Set	1
209	EM-L.T. FEEDER PILLER-01		
	Incoming :		
	1No. Of 200 Amps 4P MCCB of 36 KA service breaking capacity and 200 Amp trip setting.		
	Metering : Voltmeter, Ammeter, Indication		
	Bus Bar :		
	1 Set of 250 Amps TPN Aluminium Bus Bars of suitable length and of cross section . Bus bar shall be insulated by heat shrinkable sleeves & clip on shrouds for joints. Bus bar shall be designed to with stand a fault level of 36 KA at 415 volts.		
	3Nos. Phase indicating lamp each lamp shall have one toggle switch .		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	160Amp 4P MCCB (36kA) - 1 Nos.		
	100Amp 4P MCCB (36kA) - 1 Nos.		
	40Amp 4P MCB (10kA) - 1 Nos.	Set	1
210	Providing and fixing M.V. danger notice plate of 200 mmx150 mm, made of mild steel, at least 2 mm thick, and viterous enameled white on both sides, and with incription in single red colour on front side as required.	Each	6
211	Providing and fixing H.T.danger notice plate of 200 mmx150 mm, made of mild steel, at least 2 mm thick, and viterous enameled white on both sides, and with incription in single red colour on front side as required.	Each	2
212	supplying and making indoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required.		
	240 sq. mm	Each	6
213	Supplying and making outdoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required.		

	240 sq. mm	Each	6
214	11/0.433KV, 3 Phase, 50 Hz outdoor/indoor mounting		
	Supply, installation, testing and commissioning of following capacity (continuous loading) BEE 5 Star rated (Corresponding Level as per BIS amended upto date of receipt of tender) , 11/0.433 KV step down, 3 Phase, 50 Hz, Dyn 11 vector group, KNAN [K(K-Class insulating liquid) Natural Air Natural] copper wound transformer (Electrolytic grade 99.9% pure copper, Core made of first grade Cold Rolled Grain Oriented (CRGO) Core grade MOH or better), Dielectric material shall be type -A, suitable for out door/indoor applications with On Load Tap Changer (OLTC) on HV side having AVR relay and Remote Tap Changer Control (RTCC) for automatic sensing of incoming voltage, automatic operation of OLTC and facility for remote and manual operation of OLTC HV side in range of +5% to -15% in steps of 2.5%, having cable end boxes on HV side suitable for 3x300 sqmm XLPE cable of 11 KV grade, including bus trunking arrangement on LV side including supplying and laying of copper conductor multicore control cable from transformer to HT breaker /panel for safety tripping		
	complete with all accessories and safety provisions as per relevant IS 1180 (Part-3) including first filling of filtered dehydrated Synthetic organic Ester oil, i/c supplying and grouting of suitable M.S. Channel with all accessories and transformer shall be conforming to IS : 2026 (Part 1 to Part 5), IS : 1180 (Part-3) and as per CPWD specifications complete in all respects etc as required at site. The maximum flux density in any part of the core and yoke at rated voltage and frequency shall be such that the flux density with +12.5 percent combined voltage and frequency variation from rated voltage and frequency does not exceed 1.9 Tesla. The permissible temperature-rise shall not exceed 40 dg.°C for oil and 45 dg.°C for winding up to 200 KVA and 45 dg.°C for oil and 50 dg.°C for winding for above 200 KVA. Inside of tank shall be painted with varnish or liquid resistant paint. For external surfaces one coat of thermo setting powder paint or one coat of epoxy primer followed by two coats of polyurethane base paint shall be used. IS: 1180 (Part 3) shall be referred for paint thickness for normal to medium corrosive atmosphere.		
	For highly polluted atmosphere and special application external paint work shall be as per direction of Engineer-in-Charge. Design ambient condition : a) air temperature 50 dg.°C, b) Relative Humidity 90 % Max, c) Seismic Zone as per location of site, d) Altitude as per location/site. Noise level Shall not exceed limits as per NEMA TR-1 with all accessories running measured as per IEC 551 / NEMA standard. The transformer should have QR code which should contain drawing, test report OEM manual, Geo- Tag of manufacturing location etc. Marking Each transformer shall be provided with rating plate made of anodized aluminum/ stainless steel material securely fixed on the outer body, easily accessible, as per IS: 1180 Part-3. The entries on the rating plate shall be indelibly marked.		
	Fitting and Accessories : The following fittings shall be provided:- a) Two earthing terminals with the earthing symbol b) Oil level gauge indicating oil level at minimum, 30°C and maximum operating temperature; c) Air release device (for non-sealed type transformers) d) Rating and terminal marking plates; e) Silica gel breather f) Drain-cum-sampling valve (¾" nominal size thread, IS 554) preferably steel with plug for three phase transformers; g) Thermometer pocket with cap. h) Oil filling holes having (1¼" nominal size thread) with cover (for sealed type transformers without conservator); i) Lifting lugs for the complete transformer as well as for core and winding assembly;		
	j) Pressure relief device or explosion vent above 200 kVA; k) One filter valve on the upper side of the tank (for transformers above 200 kVA); l) Unidirectional flat rollers (for transformers above 200 kVA); m) Inspection hole (for transformers above 200 kVA); n) HV side neutral grounding strip (where one of the HV bushing terminal is connected to earth); o) Buchholz relay for transformers above 800 kVA.		
	p) Arcing horns or suitable rating lightning arrestors for HT side – 3 Nos. q) Bird guard; r) Oil temperature indicator and winding temperature indicators for transformers above 200 kVA with suitable tripping mechanism above permissible limit s) Jacking pads (for transformer above 1600 kVA); t) Additional Neutral separately brought out on bushing for earthing. u) Magnetic oil level gauge (for transformer above 1600 kVA) with low oil level alarm contact; v) Non return valve (for conducting pressure test); w) Pressure relief device or explosion vent		
	x). Monogram Plate y) Inspection cover z). Detachable type radiators with top and bottom shutoff valve. aa) Oil Conservator with Oil level indicator, minimum level marking and drain plug for all transformers of capacity 50 KVA and above. bb) Necessary hardware, clamps, lugs etc. for termination on HV/MV etc. for all transformers.		
	1250 KVA	Each	5
	TOTAL (SCHEDULED ITEMS-DSR E & M-2025)		
	<u>PART (B): NON - SCHEDULED ITEMS (AS PER MARKET RATES)</u>		

215	<p>Supplying and laying of 3 core stranded aluminium conductor(Cross linked polyethylene) insulated PVC bedded, galvanized flat steel strip armoured cable confirming to I.S. 7098(Part II with latest amendments) 11 KV grade at the depth of 900 mm bellow ground level over a cushion of 100 mm thick fine river sand all around and protected with well burnt bricks on side and on top put across as directed by Engineer-Incharge , complete in all respect including excavation and refilling. The armouring of the cable shall be properly connected with the earth conductor by clamps etc.</p> <p>240 sqmm 3 core</p>	Metre	80
	L.T. PANELS		
	<p>Supply, Installation, Testing, Design, inspection, handling and Commissioning of cubical type L.T. Panel vermin & dust proof front operated enclosure class- IP 52 (TTA-Type(IEC 61439)) floor mounting, M.S. Channel Base with bottom and Fabricated out of 2.0 mm thick CRCA sheet steel painted with powder coated paint of shade as per the direction of Engineer In charge after proper sheet treatment process of sheet steel with top/bottom removable gland plates, as required. The bus bar of panel shall be electrical grade high conductive aluminium alloy of appropriate cross section as per the rating. The main busbar shall be run throughout the panel of rating as main incoming rating. The Bus Bar shall be supported by non hygroscopic SMC/DMC Bus bar supports which shall be mounted on proper interval to ensure they bear the jerks of support of short circuit of 50kA for panels having ACB as Incoming & 36 kA for panels having MCCB Incoming.</p>		
	<p>Panel shall be constructed in fully Segregated Compartment Design for each Feeder as per 3b construction Format. The panel shall be completed in all respect as per IS 8623 Part 2 & 3. There shall be Separated metering Component for Incoming metering and Outgoing metering. The Panel feeders shall be suitable for terminations suitable nos. 3.5/4 core armoured aluminium cable as required.</p>		
	<p>All Incoming Feeders shall be provided with Multifunctional metering along with phase Indicating lights and other associated components such as CT control MCB Terminal Blocks etc. and all outgoing Feeders 100 A & above shall be provided with 3 phase Ammeter along with phase Indicating lights and other associated components such as CT control MCB Terminal Blocks etc. The feeder above shall be provided and accommodated all measuring instrument shall be digital type & all indicating lights shall be LED type. Small wiring shall be done from 1100V Grade PVC Insulated copper flexible wire(min. 2.5 sqmm). All ACB shall be electrically operated Draw out Type with microprocessor based O/L, S/C & E/F Release off Breaking/withstand capacity(ICU/ICs/Icw) 50 kA or more. All MCCB shall be thermal magnetics/microprocessor with O/L & S/C protection along with required Spreaders Extended rotary handle with pad locking facility of bracking capacity(ICU/ICS) 36 kA or more.</p>		
	(To avoid heating necessary exhaust fans shall have to be provided along with top louvers. In L.T. Panel)		
	The internal control wiring shall be fuse less. All control wiring and metering protection by MCB's. shall be Thermal 10kA 'C' Curve .		
216	MAIN L.T. PANEL		
	Incoming from Transformers		
	Transformer Supply-1,2 & 3		
	3200 Amp. FP EDO ACB - 3No		
	Incoming from D.G. SET		
	D.G. Supply-1,2 & 3		
	2000 Amp. FP EDO ACB - 2No		
	Incoming from Solar Power		
	250Amp. 4P MCCB- 1 No.		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-3200A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.4000 A, TPN aluminium bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		

	2500 Amp. FP MDO ACB - 1Nos. -L.T. Panel-1(Hospital Block)		
	200Amp. 4P MCCB- 1 No.-EM-FEEDER PILLAR-1		
	1250Amp FP MDO ACB - 1Nos. -Capacitor Panel		
	1250Amp FP MDO ACB - 1Nos.- 1 No. Spare		
	400 Amp. 4P MCCB- 1 No. Spare		
	BUS COUPLER		
	3200 Amp. FP EDO ACB - 1No		
	2500 Amp. FP MDO ACB - 1Nos. -L.T. Panel-2(Hospital Block)		
	200Amp. 4P MCCB- 1 No.-EM-PANEL(TYPE-IV)		
	40Amp. 4P MCB- 1 No.-EXTERNAL LIGHTING		
	1250Amp FP MDO ACB - 1Nos. -Capacitor Panel		
	1250Amp FP MDO ACB - 1Nos.- 1 No. Spare		
	400 Amp. 4P MCCB- 1 No. Spare		
	BUS COUPLER		
	3200 Amp. FP EDO ACB - 1No		
	1000 Amp. FP MDO ACB - 1Nos. L.T.PANEL(TYPE-IV)		
	1000 Amp. FP MDO ACB - 1Nos. FEEDER PILLAR-1		
	1250Amp FP MDO ACB - 1Nos. -Capacitor Panel		
	400 Amp. 4P MCCB- 1 No. Spare	Each	1
	PLC Based with electrical & mechanical interlocking		
	OR outgoing as per site requirment(AS/SLD)		
217	<u>D.G SYNC. PANEL</u>		
	Incoming from D.G. SET		
	D.G. Supply-1,2 & 3		
	1250 Amp. FP EDO ACB - 3No		
	Metering :		
	One (1) No. (0-500V) 96 x 96 Sqmm voltmeter with control fuse & selector switch.		
	One (1) No. (0-1250A) 96 x 96 Sqmm CT operated Ammeter with selector switch, CTs etc.		
	One (1) Set of Phase Indication Lamp.		
	Bus Bar :		
	One (1) No.3200 A, TPN aluminimum bus bar of suitable length.		
	Outgoing :		
	Phase indication lamps on each outgoing to be provided.		
	2000 Amp. FP MDO ACB - 1Nos. -TO MAIN L.T. Panel		
	BUS COUPLER		
	1250 Amp. FP EDO ACB - 1No		
	2000 Amp. FP MDO ACB - 1Nos. -TO MAIN L.T. Panel		
	BUS COUPLER		
	2000 Amp. FP MDO ACB - 1Nos. -Spare	Each	1
	PLC Based AMF cum LMS with electrical & mechanical interlocking		
	OR outgoing as per site requirment(AS/SLD)		

218	Supply, Installation, testing and commissioning of Automatic Power Factor Correction (APFC) panel , indoor type floor mounted free standing totally enclosed, extendable, IP 42, of following capacity for 3 phase, 415 V + 10 %, 50 Hz AC System for Ambient temperature -5°C to +40°C, fabricated in compartmentalized designed made of CRCA sheet steel of 2.0mm thick for framework & covers, 3 mm thick for gland plate i/c cleaning & finishing complete with 9 tank process for powder coated of approved shade (RAL 7032-Siemens gray or as approved by Engineer-in-Charge), having front section (switch gear and control accessories) and rear section capacitor and reactor, front and rear access, having suitable current carrying capacity, extensible TPN Aluminum alloy bus bar of high conductivity, DMC/SMC bus bar supports, bottom base channel of MS Section, fabrication shall be done in transportable section, entire panel shall have common copper earth bar of minimum size of 25mm x 5mm with 2 nos. earth studs, the earth terminals provided on the body of capacitor bank shall also be bonded to the main capacitor panel earth bus with 2 nos. 8 SWG or 6 SWG GI earth wires/ equivalent size of copper conductor cable, forced ventilation for maintaining temperature rise not more than 5°C from ambient, interconnections, connections with 14% detuned reactor and heavy duty 525 V ISI marked Impregnated MPP(Metalized Polypropylene) Capacitor (IS 13340 Part -1 & 2) APFC Panel shall be in compliance with IS :16636 & CPWD Specifications etc. as per below details		
	<p>(A) Incomers Suitable capacity MCCB Microprocessor base with O/C, S/C, E/L release of TPN 50KA breaking capacity (Ics=Icu), ON, OFF, Trip, R, Y, B - LED Indicating Lamp set along with required Instruments and accessories with extended rotary handle and door interlocking arrangement. Current rating of the Incomer in ampere shall be APFC Panel rating in KVAR x 1.4 x 1.5 or Nearest higher standards rating.</p> <p>(B) Instruments & Indications i) 3-Phase current sensing APFC microprocessor relay/controller, advance 8/12 stages (8 stages for capacity below 100 KVAR and 12 stages 100 KVAR & above) with Communication Ethernet/RS485/SNMP port open protocol for BMS integration as per approved by Engineering in charge and having display of Phase wise V, A, PF, Cos-Phi, Kw, KVA, KVAR, THD-V, THD-I, harmonics up to 31 level. 3 nos of dual core CT's accuracy class 1, 15VA at incomer of PCC Panel for APFC relay. ii) Auto Manual Selector switch, auxiliary contactors with timer for delay in manual mode. iii) Digital Multi function meter with LED Display for V, A, PF, KW, KVA, KVAR, THD-V & I, Frequency. iv) Suitable rating control transformer shall be provided for control and indication circuit. v) All components like control transformer, meter, relay and indicating lamp shall be protected by using suitable rating individual MCB's. vi) Wiring of the control circuit shall be done by using 2.5 sq mm, FRLS 1100 V grade, PVC insulated multi stranded copper control wire.</p>		
	<p>(C) Bus Bars 1.3 Amp per Sq.mm, TPN, Electrolytic grade Aluminum bus bar of capacity 1.25 times of incomer rating as per CPWD specification.</p> <p>(D) Outgoings (APFC Section) Selection of the capacitors combinations shall be for continuous rating and each capacitor bank shall have suitable capacity Heavy Duty ISI Marked Capacitor, capacitor duty contactor, the capacitor shall be mounted on channel with base of perforated M S Powder coated sheet, connections inter connections etc. and other features as per CPWD Specifications and relevant IS Code having following: (i) Capacitor bank ratings & stages shall be as per the technical specifications sheet of NIT. (ii) Capacitor will be MPP self healing type with discharge resistor, pressure release mechanism. (iii) Since Capacitor Voltage is 525 Volts, thus higher KVAR has to be considered to get rated output at 415 Volts. (iv) 14% Detuned Reactor of class H insulation & 150% linearity in series with Capacitor. (Note: Technical specifications sheet for selection of the capacitors combinations shall be provided by the NIT Approving Authority with due consideration of number of capacitors i.e. 1 KVAR, 2 KVAR, 3 KVAR, 5 KVAR, 10 KVAR. for smooth correction).</p>		
	600 KVAR	Set	3
	H.T. PANEL (11KV)		

219	Supply, installation, testing Design & commissioning of indoor type floor mounted metal clad, IP 52, 11 KV VCB panel with 1 incomer and 3 out goings, totally enclosed & fully interlocked, horizontal drawout, horizontal isolation type breaker as per IS : 13118, as ammended upto date and additional specifications, having capacities as mentioned below, single break, trip free mechanism, motorised charged and auto closing breaker suitable for use on 11 KV, 3 Phase, 50 Hz A. C. supply with short circuit fault level of 350 MVA, complete with self contained, fully interlocked, rack in and rack out mechanism, air insulated but encapsulated Aluminium alloy bus bars of suitable fault level, G.I. earth bar, earth bar, breaker featured with mechanical ON / OFF indicator with hand trip device, spring release coil, shunt trip coil, control voltage of 24 Volt DC, TNC, LED type indicating lamps for phases and trip conditions and auxiliary switch of 6 NO + 6 NC and equipped with following switchgears and accessories.		
	The panel should be suitable for connections for up to 3 x 300 sq.mm XLPE 11 KV cable (cable entry from bottom), end termination with heat shrinkable jointing material etc. as required. (The Cost of end termination are included in this item)		
	power pack (1 working & 1 standby) with 220 Volt AC input & 24 Volt DC continuous output suitable for indicating lights & closing / tripping / indication of 3 Nos. HT panel boards with 2 Nos. 12 Volts each maintenance free batteries of suitable AH each, charging unit, capacitor bank for emergency delivering for trip system complete with suitable capacity of Ammeter & Voltmeter i/c connections with 2.5 sq.mm FRLS insulated copper conductor cable etc. including DC DB consisting of 8 nos 32 Amp DP MCB's for DC supply distribution to panels as required with eatrthing and complete in all respect..		
	Incoming - 1 No. 800 Amp. VCB with followings		
	(a) 1 set (2 nos) 11 KV / v3 / 110 / v3 Volts drawout type PT Class 0.5 accuracy and 100 VA burden with 1 No. Voltmeter (0-15 KV), analog type, selector switch for voltmeter and protection fuses/MCB for HT metering.		
	(b) 2 nos. dual core dual ratio CTs of ratio 200/100/5/5A of 15 VA burden and accuracy class-0.5 for metering and class 5P10 for protection.		
	(c) 1 No. - (0-200A) Ammeter, analog type with selector switches.		
	(d) Master trip relay		
	(e) Trip circuit supervision relay		
	(f) Microprocessor based numerical relay with IDMT setting for O/L, E/F and S/C protection.		
	(g) Restricted earth fault relay		
	(h) Over and Under voltage relay.		
	(i) Timer and TNC switch		
	Outgoing - 3 Nos. - 630 A VCB with followings		
	(a) 1 No.- set of dual core dual ratio 3 CTs of 100/50/5/5 Amps of 15 VA burden and accuracy Class 1.0 for metering and class 5 P 10 for protection.		
	(b) (0-200A) Ammeters, dual scale analog type & selector switches for ammeters.		
	(c) Microprocessor based numerical relay with IDMT & instantaneous element for O/L, E/F and S/C protection.		
	(d) Master trip relay		
	(e) Trip circuit supervision relay		
	etc. complete in all respect.		
	Make:- ABB/C&S or UPPCL approved make.	Each	1
220	TWO POLE STRUCTURE:		
	Supply, erection and commissioning of 2 pole structure for terminating 11 KV O.H. supply from State Electricity Boards as per specifications. The 2-pole structure shall comprise of:		
	MS tubular swaged pole 11 mtrs high (410 SP 24 as per latest IS), in cement concrete foundation 1:3:6 (1 cement : 3 coarse sand : 6 graded aggregate 40mm nominal size) including excavation and refilling etc. as required. The rate shall be inclusive of painting with 2 coats of aluminium paint (on red oxide). The portion of pole under the ground shall be provided with 2 coats of bituminous paint - 2 Nos.		
	Steel sections, channels angles, flats, clamps, GI nuts, bolts and required hardware etc of different sizes for cross arms, bracings, supports etc. for pole GOD etc. including anticlimbing barbed wires (conforming to latest IS) having 4 points barbs spaced 75 ±12mm apart. All steel structure shall be given 2 coats of red oxide primer and 2 finishing coats of aluminium paint as required as per drawings and direction of Engineer-in-Charge. - Lot		

	Supply, installation, testing and commissioning of 11 KV class disc/pin/support insulators complete with clamps and fixing hardware etc. complete as required as per drawings and direction of Engineer-in-Charge-Lot		
	Supply, installation, testing and commissioning of 11 KV station class thyrite type lightning arrestors complete with mounting arrangement (on all phases) - 3 Nos.		
	Supply, installation, testing and commissioning of drop out - lock out (DOLO) fuse, gang operating device (Air Break Switch) with pad locking arrangement (operating rod to be supported properly), complete with operating handle and locking arrangement-1 Set		
	Supply, installation, testing and commissioning of GI stay set complete with 20mm dia 1.8 M long stay rod with 450 x 450 x 7.5 mm anchor plate with thimbles, stay clamps, 7/4.00 mm dia GI stay wire, turn buckle (20mm x 600mm) strain insulator bow tightner in cement concrete 1:3:6 foundation as excavation and refilling - 2 Set	Set	3
221	Supply, erection, testing and commissioning of 11 KV, 3 phase, 630 Amps central post racking type gang operated switch with earth switch complete with hardware, arcing horns, arcing contacts, vertical drop out fuses, down rod operating with locking devices, necessary MS channel/angle iron brackets, clamps insulators & connections etc. as required for earthed system and conforming to IS: 19813.	Set	3
222	Supply, erection, testing and commissioning of three piece nonlinear resistor type lightning arrestor suitable for 3 wire, 11 KV overhead lines with rated voltage 30 KV (rms) with a nominal discharge current rating of 10 KA and complete with galvanised clamping arrangement, G.I. bolts, nuts, washers etc. as required.	Set	3
223	Supplying and fixing of 1200x1200x12mm GI plate, vertically earthing complete with 20mm dia GI pipe, a funnel for watering with hinged cover masonry housing alternate layer of coke and salt atleast 100mm thick all-around etc. complete as required confirming IS-3043	Set	3
224	Supply & fixing of fire extinguisher, ABC Type 6.00 kg. capacity (ISI Marked IS:15683 & TAC approved) complete with initial charge and wall bracket, along with supply of all materials and labour for proper completion of work.	Each	1
225	Supply and laying of 1800mm x 900mm x 12mm thick chequered rubber matting of tested quality.	Each	4
226	Supply and fixing of shock treatment chart (Prescribed under I.E. rules) duly framed with glass and supported from back with hard board or soft board with supply of all material labour T&P for proper completion of work.	Each	2
227	Supplying and installing at approved location approved make Fire Buckets of 24 gauge galvanized steel sheet, standard of round bottom shape, painted white inside and red outside and black on the bottom, inscribed with letter "FIRE" in black and gold. Cost shall be inclusive of providing MS stand duly painted over a coat of primer (one stand shall be suitable for hanging 5 buckets without Canopy).	Each	2
228	Supply, installation, Testing & Commissioning of ' Silent Type Diesel Generating set as per CPCB IV + or better norms along with having Prime Power Rating of KVA as below, 415 volts at 1500 RPM, 0.8 lagging power factor at 415 V suitable for 50 Hz, 3 phase system & for 0.85 Load Factor, including testing at factory and site with fuel, load for test and other necessary arrangements Complete as per CPWD specifications, should have QR code which should contain drawing, test report OEM manual, Geo- Tag of manufacturing location, rating plate as per relevant IS Code etc. and consisting of the followings: (A) Diesel Engine: Turbocharged Diesel engine 4 stroke water cooled, multi cylinder, dynamically balanced fly wheel, electric start of suitable BHP at 1500 RPM suitable for above output of alternator at 40 Degree C, 50% RH & at 1000 Meter MSL, capable of taking 10% over loading for one hour after 12 hours of continuous operation. The engine will be with Electronic governor, Dry type Air filter with service indicator, first filling of engine fuel (after commissioning) lubricating Oil, Coolant and other consumables complete with all the required accessories		

	<p>the Electronic governor shall be as per ISO 8528. The engine shall comply to the latest CPCB norms (CPCB IV + or better) and Conforming to BS 5514, BS 649, IS 10000, IS 10002, IS 13018 and as per CPWD specifications.</p> <p>(B) Engine mounted Instrument Panel fitted with and having digital display for following:</p> <p>(i) Start-stop switch with key (ii) Water temperature indication (iii) Lubrication oil pressure indication (iv) Lubrication oil temperature indication (v) Battery charging indication and Voltage indication (vi) RPM indication (vii) Over speed indication (viii) Low lubrication Oil trip indication (ix) Engine Running Hours indication (x) Fuel Level</p> <p>(C) Alternator: Synchronous alternator rated of appropriate KVA, 415 volts at 1500 RPM, 3 phase 50 Hz, AC supply with 0.8 lagging power factor at 40 Degree C, 50% RH & at 1000 Meter MSL. The alternator shall be having Screen Protected Drip Proof (SPDP) enclosure IP23, brushless, continuous duty, dynamically balanced rotor, capable of taking 10% over loading for one hour after 12 hours of continuous operation, self cooled, self-excited and self-regulated through AVR conforming to IS13364(Part 2)/IS: 4722/BS 2613 suitable for tropical conditions and with class H insulation.</p>		
	<p>(D) Base Frame & Foundation: Both the engine and alternator shall be mounted on suitable base frame made of MS channel with necessary reinforcement which shall be installed on suitable cement concrete foundation and vibration isolation arrangement as per recommendations of manufacturer.</p> <p>(E) FUEL TANK: Daily service fuel tank of suitable liters capacity as per CPWD Specifications, fabricated out of 3 mm 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 indications & accessories as required as per specifications.</p> <p>(F) Exhaust System: Dry exhaust manifold with hospital type exhaust silencer and catalytic convertor.</p>		
	<p>(G) Starting System: 12V/24V DC starting system comprising of starter motors: voltage regulator and arrangement for initial excitation complete with suitable numbers of batteries (180 AH capacity lead acid SMF type) as required as per specifications. The battery shall be housed inside the acoustic enclosure of DG Set.</p> <p>(H) Acoustic and weather proof enclosure with arrangement for fresh air intake for cooling of the engine & alternator, extraction, discharging hot air in to the atmosphere and the temperature rise inside the enclosure, noise level outside enclosure. The acoustic enclosure should be suitable for cable connection/connection through bus-trunking. Such arrangements on acoustic enclosure should be water proof & dust-proof conforming to IP-65 protection. The enclosure shall be as per CPCB IV + or better norms etc. and as per CPWD specifications.</p>		
	<p>(I) AMF Panel: Free standing floor mounted IP 42 automatic mains failure control panel including auto by-pass, suitable for KVA as below for silent type DG set complete with relays, timers, set of CTs for metering & protection and energy analyser to indicate currents, phase and line voltages, frequency, power factor, KWH, Kilo Volt Ampere Reactive Hour (KVARH), KVA (Phase & Total), KW & provision for overload, short circuit, restricted earth fault, under frequency, power (aluminum) and control (copper) cabling of suitable size upto 15 meter between AMF panel, LT Panel and DG Set including connection interconnection etc. as required, all complete and inter locking and communication/ Ethernet /RS485/SNMP port open protocol for BMS integration including suitable software, the panel shall be of DG Set OEM make etc. as per approved by Engineering in charge and including the following:</p> <ol style="list-style-type: none"> 1. Suitable numbers and appropriate capacity 4 pole motorised electrically operated draw out with cradle type 3 position ACB/ MCCB with electronic release for O/C & E/F and shunt trip. 2. Auto/Manual/Test/Off selector switch 3. Protection for under and over voltage phase reversal (2 nos Over voltage relay, 2 Nos. reverse power relay and 2 Nos. under voltage relay). 4. 3 Sets of current transformers 15 P 10 accuracy for protection and 15 VA class-I for metering 5. Energy analyser unit to indicate current, Voltage(L-N & L-L), kW, kVA (Phase & Total), Frequency, KWH, PF. 		

	6. LED Indicating lamps for load on mains and load on set. 7. Fuse/ MCB for instruments. 8. Battery charger, complete with transformer/ rectifier, D.C. voltmeter and ammeter, selector switch for trickle, off and boost and current adjustment. 9. Main supply failure monitor. 10. Supply failure timer. 11. Restoration timer 12. Control unit with three impulse automatic engine start/stop and failure to start lockout. 13. Impulse counter with locking and reset facility. 14. ON/OFF/Control circuit switch with indicator		
	15. Audio/Video annunciation for (i) High water temperature (ii) Low lubricating oil pressure (iii) Engine over speed (iv) Engine fails to start (v) Full load/maximum load warning 16. Protection for over/under Frequency, Loss of AC sensing, Over Current, Unbalancing load with suitable number of relays and accessories 17. Maintenance notification based on Engine Run Hour & due date. 18. Load Management through PLC to achieve auto opening and closing of incomer breakers, bus coupler switching of essential panel, interlocking providing signal to AMF Panel for load status and AMF shall give command to DG Set to auto start / auto stop depending upon load status and requirement etc. and necessary hardware and software required to perform the operation shall be provided by the contractor including all control wiring		
	750 KVA	Each	3
	Online UPS- Input supply: Three Phase, Output supply: Three Phase		
229	Supplying, installation, Testing & Commissioning of of following capacity at full load (Unity Power Factor) at operating temperature 0 to 40 deg C, Relative humidity 0 to 95%, Online double conversion true sine wave Uninterrupted hot swappable (allow for the replacement or addition of battery modules without shutting down the entire system) modular Power Supply (UPS) system with N+1 modules (N denotes total number of moduels requird for rated capacity). The UPS shall include a Rectifier, inverter, battery bank suitable for 30 minutes back up (Battery VAH capacity shall not be less than 1600 VAH per KVA of UPS rating per Hour backup time) on full load (Battery shall be VRLA, SMF in ABS Container) and Static Bypass switch alongwith provision for manual bypass, suitable isolation transformer for additional protection against neutral faults etc.		
	UPS shall have inbuilt phase sequence correction. The UPS systems offered are to be of the latest technology with Digital Control Microprocessor based for reliable operation using Insulated Gate Bipolar Transistor (IGBT)'s both for the rectifier & inverter (3 Level) with PWM (Pulse Width Modulation). The quality of design, manufacturing and inspection process should confirm to the relevant Inter- national standards such as IEC/EN/VDE. The operating efficiency of the UPS systems shall be >96% while operating on battery mode and delivering quality power to the 100% non-linear loads. Current total harmonic effect(ITHD) on the input grid shall be < 5% at 50 %load. (The required LC (inductor (L) and a capacitor (C)) filters shall be included in UPS cost), extreme power factor kit to be included to limit the input power factor (PF) to 0.99 and output power factor shall be unity (i.e. kw rating of the UPS shall be kva rating x 1), however UPS shall be suitable to take load at 0.7 lagging to 0.7 leading power factor loads. UPS shall be suitable for incoming supply AC : 3Phase 400V +/-20%, 50 Hz +/-5 Hz, AC Output voltage: 3Phase 415 Volt, 50 Hz +/- 0.2Hz, Overload capacity of 120% for 10 mins, Sine wave output. Non condensing, noise level less than 60db at 1 meter distance, protections: Input Under voltage over voltage, abnormal out voltage, battery over charging, output over current, short circuit protection, battery deep discharge protection, 10KV surge. UPS must comply with low voltage electromagnetic compatibility (EMC) achieved as per EN 6204, EN6204 Part I and Part 2, it shall be a Voltage and Frequency Independent (VFI)-type UPS.		
	Communication RS232/RS485/SNMP port open protocol for BMS integration, all hardware & software for IoT Communication as per approved by Engineering in charge. Required battery racks and interconnecting copper conductor cables of suitable size and connectors and all required accoseries are inclusive of the cost). This system must provide a means for logging and alarming of all monitored points plus email notification. Forced air-cooling with integral inbuilt fans with redundancy (if one fan fail UPS should be able to handle at least 80% of the load, Noise Level 65 DB at 1 meter distance. The system shall be in compliance IEC 62040- 1,2 & 3, IS: 16242 and CPWD Specification.		

	Display Panel (minimum) (In-build 5 inch or more LC Display / LED) to display : a) Input: Voltage, current, Frequency. b) Bypass: Voltage, Frequency. c) Output: Voltage, frequency, Current. d) Battery: Voltage, Capacity. e) Load: KVA, KW, Percentage. f)Temperature: STS, Inverter, PFC. g) Event Logging & Statistical Data (On LCD/LED): UPS should capture and display up to 3000 events like: Over temperature / DC Bus Fail / Fan Fail / Fuse Fail / Overload / Short-circuit / Device Fail / Inverter Fail / Rectifier Fail / Bypass Fail, etc. h) Statistical Data: No. of power failures / Transfers to Bypass / Total Running time, etc. i) Mains Mode of Operation /Battery Mode of Operation / Bypass feeding the load / UPS Fault /Battery charging and discharging, overload, battery voltage and battery capacity. j) Audible Alarms : Mains Failure, Battery Low Alarm, UPS Overload, Fault, Shutdown, Input Over, Under Voltage, Output Over, Under Voltage, Battery Over, Under Voltage, Over Load and short circuit, Over Temperature. The UPS should have QR code which should contain drawing, test report OEM manual,Geo- Tag of manufacturing location etc.		
	160 KVA		
	160 KVA (Each Power module shall be ≤25 KVA)	Each	1
	CCTV SYSTEM		
230	For external surveillance (Rate applicable on total plot area minus plinth area at ground floor)	SQM.	68009
	Note: Rate includes peripheral IP based PTZ camera besides indoor camera at reception, corridors, lift lobby etc., wiring upto CCTV room and setting up monitoring unit/units, as required. It will not cover in sides office room/labs, special video walls etc.		
	EMERGENCY LIGHT & ILLUMINATED SIGNAGES		
231	Illuminated signages (Rate applicable on total plinth area)	SQM.	68009
232	BOOM BARRIER		
	Electromechanical boom barrier with all accessories upto 6 metre length.	EACH	3

TENDER BOQ (FIRE FIGHTING & FIRE ALARM WORKS)

S. No.	Description of Item	Unit	Total Qty
	FIRE FIGHTING WORKS:		
A)	SUB HEAD - I - (HYDRANTS SYSTEM)		
1	Supplying and fixing single headed internal hydrant valve with instantaneous Gunmetal/Stainless Steel coupling of 63 mm dia with cast iron wheel ISI marked conforming to IS 5290 (Type -A) with blank Gunmetal/Stainless Steel cap and chain as required : Single headed Gunmetal	Each	177.00
2	Supplying and fixing Single headed external yard hydrant valve with 1 No. 63 mm dia instantaneous FM Gunmetal/Stainless Steel coupling and cast iron wheel, ISI marked, conforming to IS 5290 (type A) with blank Gunmetal/Stainless Steel cap and chain as required : Single headed Gunmetal	Each	74.00
3	Supplying and fixing 63 mm dia, 15 m long RRL hose pipe with 63 mm dia male and female couplings duly bound with GI wire, rivets etc. conforming to IS 636 (type-A) as required: Gun Metal	Each	201.00
4	Supplying & fixing 63 mm dia gun metal short branch pipe with 20 mm nominal internal diameter size nozzle conforming to IS 903 suitable for instantaneous connection to interconnect hose pipe coupling as required: required : Gun metal	Each	225.00
5	Supplying 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) 20 mm nominal internal dia water hose thermoplastic (Textile reinforced) type -2 as per IS: 12585 (b) 20 mm nominal internal dia gun metal globe valve & nozzle. (c) Drum and brackets for fixing the equipments on wall. (d) Connections from riser with 25 mm dia stop gun metal valve & M.S. Pipe and socket. 40M	Each	177.00
6	Supplying, installation, testing and commissioning of weather proof M.S door and glass fire door size 2100 mm x 900mm fabricated from 1.6mm thick M.S. sheets and M.S angle 40mmx40mmx6mm complete with glass, locking arrangements to accommodate the following: - (only for estimation)	Each	201.00
7	Supplying and fixing of fire brigade connection of cast iron body with gun metal male instantaneous inlet couplings complete with cap and chain as reqd. for suitable dia MS pipe connection conforming to IS 904 as required: : 2 way -100 mm dia M.S. Pipe	Each	14.00
8	Supplying and fixing of fire brigade connection of cast iron body with gun metal male instantaneous inlet couplings complete with cap and chain as reqd. for suitable dia MS pipe connection conforming to IS 904 as required: : 4 way -150 mm dia M.S. Pipe	Each	4.00
	TOTAL		
B)	SUB HEAD - II - (PIPING, VALVES AND ACCESSORIES)		
	SLTC of M.S. pipe on surface		
9	Providing laying, testing & commissioning of 'C' class heavy duty MS Pipe conforming to IS 1239/3589 i/c fittings like elbows, tees, flanges, tapers, nuts bolts, gaskets etc. in ground including welding, excavation & providing cement concrete blocks as supports, anticorrosive treatment with coaltar/asphalt tape as per IS 10221, refilling the trench etc. of following sizes complete as required.		
	150 mm. Dia	Metre	2,780.00

	200 mm. Dia	Metre	25.00
10	Providing, laying, testing & commissioning of 'C' class heavy duty MS pipe conforming to IS 3589/IS 1239 including Welding, fittings like elbows, tees, flanges, tapers, nuts bolts, gaskets etc. and fixing the pipe on the wall/ceiling with suitable clamp/support frame and painting with two or more coats of synthetic enamel paint of required shade complete as required :		
	25 mm Dia	Metre	16,888.00
	32 mm Dia	Metre	3,213.00
	40 mm Dia	Metre	10,430.00
	50 mm Dia	Metre	8,599.00
	65 mm Dia	Metre	6,122.00
	80 mm Dia	Metre	6,278.00
	100 mm Dia	Metre	5,024.00
	150 mm Dia	Metre	4,494.00
	200 mm Dia	Metre	905.00
	250 mm Dia	Metre	25.00
	300 mm Dia	Metre	10.00
11	Supplying, fixing, testing and commissioning of butterfly valve of PN 1.6 rating with bronze/gunmetal seat duly ISI marked complete with nuts, bolts, washers, gaskets conforming to IS 13095 of following sizes as required 80mm dia	Each	13.00
12	Supplying, fixing, testing and commissioning of butterfly valve of PN 1.6 rating with bronze/gunmetal seat duly ISI marked complete with nuts, bolts, washers, gaskets conforming to IS 13095 of following sizes as required 100 mm dia	Each	210.00
13	Supplying, fixing, testing and commissioning of Butterfly valve of PN 1.6 rating with bronze/gunmetal seat duly ISI marked complete with nuts, bolts, washers, gaskets conforming to IS 13095 of following sizes as required 150 mm dia	Each	87.00
14	Supplying, fixing, testing and commissioning of Butterfly valve of PN 1.6 rating with bronze/gunmetal seat duly ISI marked complete with nuts, bolts, washers, gaskets conforming to IS 13095 of following sizes as required 200 mm dia	Each	3.00
15	Supplying, fixing, testing and commissioning of Butterfly valve of PN 1.6 rating with bronze/gunmetal seat duly ISI marked complete with nuts, bolts, washers, gaskets conforming to IS 13095 of following sizes as required 250 mm dia	Each	-
15	Supplying, fixing, testing and commissioning of Butterfly valve of PN 1.6 rating with bronze/gunmetal seat duly ISI marked complete with nuts, bolts, washers, gaskets conforming to IS 13095 of following sizes as required 300 mm dia	Each	39.00
16	Providing, installation, testing and commissioning of non-return valve of following sizes confirming to IS: 5312 complete with rubber gasket, GI bolts, nuts, washers etc.as required 80 mm dia	Each	61.00
17	Providing, installation, testing and commissioning of non-return valve of following sizes confirming to IS: 5312 complete with rubber gasket, GI bolts, nuts, washers etc.as required 100 mm dia	Each	74.00
18	Providing, installation, testing and commissioning of non-return valve of following sizes confirming to IS: 5312 complete with rubber gasket, GI bolts, nuts, washers etc.as required 150 mm dia	Each	64.00
19	Providing, installation, testing and commissioning of non-return valve of following sizes confirming to IS: 5312 complete with rubber gasket, GI bolts, nuts, washers etc.as required 200 mm dia	Each	6.00
20	Providing, installation, testing and commissioning of non-return valve of following sizes confirming to IS: 5312 complete with rubber gasket, GI bolts, nuts, washers etc.as required 250 mm dia	Each	3.00
21	Providing, installation, testing and commissioning of non-return valve of following sizes confirming to IS: 5312 complete with rubber gasket, GI bolts, nuts, washers etc.as required 300 mm dia	Each	2.00
22	Supplying and fixing orifice plate made out of 6 mm thick stainless steel (Grade 304) with orifice of required size to be fitted between flange & landing valve of external and internal hydrants to reduce pressure at the outlet to the level of 3.5 kg/cm2 complete as required.	Each	3.00

23	Providing, installation, testing and commissioning of stainless steel Y-strainer fabricated out of 1.6 mm thick stainless steel, Grade 304, sheet with 3 mm dia holes with stainless steel flange 100 mm dia	Each	13.00
24	Providing, installation, testing and commissioning of stainless steel Y-strainer fabricated out of 1.6 mm thick stainless steel, Grade 304, sheet with 3 mm dia holes with stainless steel flange 150 mm dia	Each	4.00
25	Providing, installation, testing and commissioning of stainless steel Y-strainer fabricated out of 1.6 mm thick stainless steel, Grade 304, sheet with 3 mm dia holes with stainless steel flange 200 mm dia	Each	5.00
26	Providing, installation, testing and commissioning of stainless steel Y-strainer fabricated out of 1.6 mm thick stainless steel, Grade 304, sheet with 3 mm dia holes with stainless steel flange 250 mm dia	Each	6.00
27	Providing, installation, testing and commissioning of stainless steel Y-strainer fabricated out of 1.6 mm thick stainless steel, Grade 304, sheet with 3 mm dia holes with stainless steel flange 300 mm dia	Each	2.00
			-
28	Providing & fixing of pressure switch in M.S. pipe line including connection etc. as required.	Each	170.00
29	Providing & fixing flow switch in following sizes M.S. pipe including connection etc as required.		-
	100mm dia	Each	45.00
	150mm dia	Each	27.00
	Supplying and fixing air vessel made of 250 mm dia, 8 mm thick MS sheet, 1200 mm in height with air release valve on top and flanged connection to riser, drain arrangement with 25 mm dia gun metal wheel valve with required accessories, pressure gauge and painting with synthetic enamel paint of approved shade as required.	Each	3.00
30	Providing, fixing, testing & commissioning of 15mm dia quartzoid bulb type sprinklers of rating 68 degree centigrade with required accessories :	Each	3.00
	Pendent Sprinkler	Each	5,037.00
	Upright Sprinkler	Each	5,037.00
31	Supplying, installation, testing & commissioning of sprinkler flexible pipe (UL Listed) of stainless steel complete with 15 NPT on reducer thread with maximum working pressure of 175 PSI test pressure of 875 PSI (Burst) with branch line (Inlet) 25mm NPT male thread to sprinkler head (Outlet) 15mm NPT female thread with reducer, nipple, 2 side brackets, center bracket, stockbar of following sizes complete as required.		-
	700mm	Each	4,625.00
	1000mm	Each	4,131.00
32	Providing and fixing in position the industrial type pressure gauges with gun metal / brass valves complete as required.	Each	60.00
33	Providing & fixing Providing & Fixing of Double Flanged Metallic Expansion Joint (M.S. Fixed Flanges, PN-1.6, Complete in All Respects) for Flexible Connection at pump inlet and outlet etc. as required.		-
	200 mm dia.	Nos.	4.00
	150 mm dia.	Nos.	16.00
	100 mm dia.	Nos.	8.00
	80 mm dia.	Nos.	4.00
34	Providing and fixing standard fire mans axe with heavy duty insulated rubber handle.	Set	60.00
35	Providing, fixing, testing & commissioning of installation control valve of cast iron body, brass/bronze working parts comprising of water motor alarm, bronze seat clapper, clapper arm and hydraulically driven mechanical gong bell to sound continuous alarm when the wet riser/sprinkler system activates, pressure gauges, emergency releases, strainer, pressure switch, cock valve complete with drain valve and bypass, test control box, ball valves, MS pipe of required size, flanges, orifice plate, gasket etc of following sizes as required :		-
	150mm dia	Set	5.00
			-

36	<p>(a) Supplying, installation, testing and commissioning of Electric driven Main Fire Pump conforming to IS 12469: 2019 suitable for automatic operation and consisting of following, complete in all respects, as required :</p> <p>(b) Horizontal type, multistage, centrifugal, split casing pump of cast iron body & bronze impeller with stainless steel shaft, mechanical seal as required.</p> <p>(c) Suitable HP Squirrel cage induction motor, TEFC, synchronous speed 1500 RPM, suitable for operation on 415 volts, 3 phase 50 Hz, AC supply with IP 55 protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS-12615: 2018.</p> <p>(d) M.S. fabricated Common base plate, coupling, coupling guard, foundation bolts etc. as required.</p> <p>(e) Suitable cement concrete foundation duly plastered with anti vibration pads</p>		
	2850 lpm at 88 m Head	Each	4.00
	1620 lpm at 70 m Head	Each	2.00
37	<p>(a) Supplying, installation, testing and commissioning of diesel engine driven main fire pump conforming to IS 12469: 2019 suitable for automatic operation and consisting of following, complete in all respects, as required : (Diesel Driven Pump) (b) Horizontal type, multistage, centrifugal pump of cast of iron body and bronze impeller with stainless steel shaft, mechanical seal as required.</p> <p>(c) Suitable HP, 1500 RPM water cooled with radiator, diesel engine conforming to relevant IS standard complete with auto starting mechanism, 12 /24 volts electric starting equipment, diesel tank, exhaust pipe extended upto 10 m outside pump house duly insulated with 50 mm thick glass wool with 1.0 mm thick aluminium sheet cladding, residential silencer, instruments and protection as per standard specification, stop solenoid for auto stop in the event of fault with audio indications, painted with post office red colour etc. as required.</p> <p>(d) M.S fabricated, common base plate, coupling, coupling guard, foundation bolts etc. as required.</p> <p>(e) Suitable cement concrete foundation duly plastered and with anti vibration pads</p>		
	2850 lpm at 88 m Head	Each	4.00
	1620 lpm at 70 m Head	Each	2.00
38	<p>(a) Supplying, installation, testing and commissioning of electric driven pressurisation pump conforming to IS 12469: 2019 suitable for automatic operation and consisting of following, complete in all respects, as required : (Jockey Pump)</p> <p>(b) Horizontal type, multistage, centrifugal pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal as required. (c) Suitable HP squirell cage induction motor TEFC type suitable for operation on 415 volts, 3 phase 50 Hz AC supply with IP 55 class of protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS-12615: 2018.</p> <p>(d) M.S.fabricated Common base plate, coupling, coupling guard, foundation bolts etc. as required.</p> <p>(e) Suitable cement concrete foundation duly plastered and with anti vibration pads.</p>		
	300 lpm at 88 m Head	Each	4.00
	180 lpm at 70 m Head	Each	1.00

39	<p>(a) Supplying, installation, testing and commissioning of electric driven terrace pump conforming to IS 12469: 2019 suitable for automatic operation and consisting of following, complete in all respects, as required: (Terrace Pump)</p> <p>(b) Horizontal type, multistage, centrifugal, split casing pump of cast iron body & bronze impeller with stainless steel shaft, mechanical seal as required.</p> <p>(c) Suitable HP squirrel cage induction motor TEFC type suitable for operation on 415 volts, 3 phase, 50 Hz, AC supply with IP55 class of protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS-12615: 2018.</p> <p>(d) M.S.fabricated common base plate, coupling, coupling guard, foundation bolts etc.as required.</p> <p>(e) Suitable cement concrete foundation duly plastered and with anti vibration pads.</p>		
	900 lpm at 35 m Head		12.00
	450 lpm at 35 m Head		
40	<p>INCOMING</p> <p>125A, 50kA 4 Pole MCCB, Ics=100% Icu rating</p> <p>Digital Voltmeter 0-500V with selector switch</p> <p>Digital Ammeter (0-250 A) with selector switch & CTs etc.</p> <p>LED type RYB phase indicating lamps, ON, OFF, trip indicating lamps Set of Copper Bus Bar 300A</p> <p>OUTGOING</p> <p>(Note : All outgoing feeders for pumps should have digital Ammeter with selector switches, and LED type ON, OFF, trip indicating lamps)</p> <p>Terrace Fire Pump</p> <p>80 A, 50kA TPN MCCB, Ics=100% Icu, with fully automatic Star/Delta starter suitable for 60 HP pump with overload protection, current sensing type single phase preventor complete with all accessories and internal wiring required for automatic operation, selector switch for local/remote, auto/manual/OFF operation.</p>		12.00

39	<p>Incomings 800A, 50kA 4 Pole MCCB, Ics=100% Icu Rating Digital Voltmeter 0-500V with selector switch Ammeter (0-800 A) with selector switch & CTs etc. LED type RYB phase indicating lamps, ON, OFF, trip indicating lamps Set of Copper Bus Bar 1000Amps</p> <p>Outgoings (Note : All outgoing feeders for pumps should have digital Ammeter with selector switches, and LED type ON, OFF, trip indicating lamps)</p> <p>Main Fire Pump 250 Amp, 50kA TPN MCCB, Ics=100% Icu, with fully automatic Star/Delta starter suitable for 100 hp pump with overload protection, current sensing type single phase preventor complete with all accessories and internal wiring required for automatic operation, selector switch for local/remote, auto/manual/OFF operation. - 2 sets</p> <p>Jockey Pump 125 Amp, 50kA TPN MCCB, Ics=100% Icu, with Suitable HP fully automatic Star/Delta starter with overload protection, current sensing type single phase preventor complete with all accessories and internal wiring required for automatic operation, selector switch for local/remote, auto/manual/OFF operation. - 2 sets Diesel Engine Control Control for diesel engine comprising - Automatic/Manual selector switch & 3 attempts starting device, timers and relays as required, push buttons, start/stop in manual mode Indicating lamp for high/ Low Lub. Oil pressure, High Water</p>		
40	Battery charger suitable for 12V/24 V DC with boost and trickle selector switch, 0-30 V DC volt meter, and 0-20 A DC Ammeter	Each	2.00
41	Supplying and fixing air vessel made of 250 mm dia, 8 mm thick MS sheet, 1200 mm in height with air release valve on top and flanged connection to riser, drain arrangement with 25 mm dia gun metal wheel valve with required accessories, pressure gauge and painting with synthetic enamel paint of approved shade as required	Each	5.00
	TOTAL		
C)	SUB HEAD - III- (FIRE EXTINGUISHERS)		
42	Supply and fixing of CO2 type fire extinguisher 4.5 kg. capacity (ISI Marked IS : 2878 & TAC approved) complete with initial charge and wall bracket, along with supply of all materials and labour for proper completion of work	Each	288.00
43	Supply and fixing of fire extinguisher, ABC Type 4.00 kg. capacity (ISI Marked IS : 15683 & TAC approved) complete with initial charge and wall bracket, along with supply of all materials and labour for proper completion of work.	Each	288.00
	TOTAL		
D)	SUB HEAD - IV- WATER CURTAIN INSTALLATION WORK		
44	Providing, installation, testing and commissioning of stainless steel Y-strainer fabricated out of 1.6 mm thick stainless steel, Grade 304, sheet with 3 mm dia holes with stainless steel flange.		
	250mm dia	Set	4.00

45	Providing, installation, testing & commissioning of water curtain nozzle 15mm dia nickel chrome plated brass, BSPT, K-factor as per design consideration complete as required. (FM approved type standard response standard coverage type, including threadolets / Grooved mechanical tee for tapping from branches of following K Factor and temperature rating. K-58 Water curtain)	Each	462.00
46	Providing, laying, testing & commissioning of 'C' class heavy duty MS pipe conforming to IS 3589/IS 1239 including Welding, fittings like elbows, tees, flanges, tapers, nuts bolts, gaskets etc. and fixing the pipe on the wall/ceiling with suitable clamp/support frame and painting with two or more coats of synthetic enamel paint of required shade complete as required :		
	200mm dia (Wall Thickness =6.3 mm)	Metre	403.00
	250mm dia (Wall Thickness =6.3 mm)	Metre	120.00
	300mm dia (Wall Thickness =7.1 mm)	Metre	55.00
47	Providing & fixing CI double flanged type Sluice Valve OS & Y (rising spindle) conforming to IS 14846 PN 16 of the following size complete with bolts, flanges (Test pressure 24Kg/cm2), washers and inserted rubber gaskets complete as per OEM recommendation		
	200 mm dia	Set	3.00
	250 mm dia	Set	3.00
48	Providing & fixing butterfly valve conforming to IS 13095 PN 16 (Body : Grey Cast Iron, Shaft : SS, Disc : SS, Liner : HT - EPDM) (upto 150mm dia with hand lever operation & above with gear box operation). Including rubber gasket, flanges nuts, bolts, washers & painting complete as required as per specification.(suitable for test pressure of 24 kg / sqcm)		
	200MM (GEAR OPERATED)	Set	54.00
49	Providing, fixing, testing & commissioning of dial type (100 mm) pressure gauge (glycerin filled) with isolation ball valve suitable for working pressure of 250 PSI with no Syphon. Cost shall be inclusive of providing any short pieces, nipples, elbows etc as required. (Range 0-16 kg/cm2)	Set	69.00
50	Providing, fixing, testing & commissioning of automatic Air release valve with 15mm dia stop cock, flanged inlet connection, pressure gauge with gun metal stop cock complete with all accessories as required and conforming to IS IS : 12992 (Part 1).	Set	19.00
10	Supply, installation, testing, and commissioning of a 200mm dia Deluge Valve Assembly of size (specify), pressure rating PN16 / 175 psi, UL-listed and FM-approved, suitable for automatic or manual actuation for water-based fire protection systems. The assembly shall include: Deluge Valve body with hand-reset type / latch-type mechanism Manual Release Valve Emergency Release Valve Priming line and Strainer Pressure Gauge (Water & Air, as applicable) Drain Valve Pressure Switch / Solenoid Valve (Normally Closed / Normally Open as per system) Trim piping and accessories (galvanized) Inlet and outlet pressure gauges Clapper and seat assembly Test line and system side isolation valve <u>All required fittings, fasteners, and supports</u>		
51	20mm PRV set at 12 bar for sprinkler riser with isolation valve & fittings for releasing excess pressure .	Each	4.00
52	Interlocking with FAS & Water curtain system	Lot	22.00
53	Providing and fixing structural steel supports for pipes of any size including cutting, welding and fixing at site at any height and including painting compele as required. All welding works, drilling and nuts, bolts are included in this item.	kg	5,014.00

TOTAL			
E)	SUB HEAD - V - (FIRE ALARM)		
54	Supplying, installation, testing and commissioning of micro processor based intelligent addressable main fire alarm panel, central processing unit with the following loop modules and capable of supporting not less than 240 devices (including detectors) and minimum 120 detectors per loop and loop length up to 2 km, network communication card, minimum 320 character graphics/ LCD display with touch screen or other keypad and minimum 4000 events history log in the non volatile memory (EPROM), power supply unit (230 ± 5 % V, 50 hz), 48 hrs back-up with 24 volt sealed maintenance free batteries with automatic charger. The panel shall have facility to connect printer to printout log and facility to have seamless integration with analog/digital voice evacuation system (which is part of the schedule of work under SH: PA System) and shall be complete with all accessories . The panel shall be compatible for IBMS		
	two Loop Panel	Each	12.00
55	Ten Loop Panel.	Each	2.00
	10 zone	Rach	3.00
56	Supplying, installation, testing & commissioning of intelligent analog addressable photothermal detector complete with mounting base complete as required	Each	1,093.00
57	Supplying, installation, testing & commissioning of response indicator on surface/recessed MS Box having two LED, metallic cover complete with all connections etc as required.	Each	1,093.00
58	Supplying, installation, testing & commissioning of intelligent addressable thermal detector with rate of rise cum fixed tempreature thermistor complete with base as required.	Each	80.00
59	Supplying, installation, testing & commissioning of addressable fire control module complete as required.	Each	180.00
60	Supplying, installation, testing & commissioning of addressable phone control module complete as required.	Each	131.00
61	Supplying, installation, testing & commissioning of addressable manual call point complete as required.	Each	197.00
62	Supplying, installation, testing & commissioning of addressable horn cum strobe complete as required	Each	197.00
63	Supplying, installation, testing & commissioning of fault isolator complete with base as required.	Each	58.00
64	Supplying, installation, testing & commissioning of 6 zone, voice alarm controller with USB, MP3 player (including 6 zone button paging station) with seamless integration facility with main fire alarm panel for voice evacuation complete as required.	Each	26.00
65	Supplying, installation, testing & commissioning of 1.5/3/6W ceiling speaker complete as required.	Each	838.00
66	Supplying, installation, testing & commissioning of ceiling/wall mounted loud speaker, 3/1.5 Watt in ABS enclosure complete as required.	Each	184.00
67	Supplying, installation, testing & commissioning of digital audio amplifier 50 Watt, 25V rms operating at 240 volt AC supply complete as required	Each	19.00
68	Supplying, installation, testing & commissioning of exit point directional sound speaker with voice and integral audio amplifier with selectable sound pulse patterns complete as required.	Each	1,155.00
69	Supplying, installation, testing & commissioning of Voice command keypad 6 zone, with microphone assembly complete as required.	Each	54.00

70	Supplying & laying of 2x1.5 sqmm fire alarm armoured cable, 600/1000V rated with annealed copper conductor having glass mica fire barrier tape covered by an extruded layer of cross linkable Ethylene Propylene Runner (EPR) insulation and LSZH inner bedding, steel wire armouring & FRLS outer sheath complete as required.	Metre	39,420.00
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