

# GUJARAT BIOTECHNOLOGY UNIVERSITY



## BILL OF QUANTITIES

GBU Gujrat Detailed estimate for Construction of Basement, Animal Housing Green House & Ext. dev .

**Architect:**  
Suresh Goel & Associates  
C-85, Shivalik,  
New Delhi – 110017



## Abstract of Cost

### GBU Gujrat - Detailed estimate for Construction of Basement, Animal Housing Green House & Ext. dev .

Sl. No.	Description	Total
1	Earth Work	4074909
2	Concrete Work	2449107
3	R.C.C. Work	95909107
4	Brick Work	13948132
5	Marble Work	1679100
6	Wood Work & PVC Work	4017173
7	Steel Work	33794404
8	Flooring	15019631
9	Roofing	9991050
10	Finishing	9497109
11	Aluminium Work	17155007
12	Waterproofing	11061267
13	Ext development	4484454
14	Sanitary Installation	871958
15	Water Supply	7393240
16	Drainage	6118618
17	Rain Water Harvesting	800028
18	Fire Fighting Work	1066204
19	HVAC work	73145873
20	BMS	4984262
21	EQUIPMENT	9212461
22	CAOMS	0
23	Electrical	52451766
24	Maintenance	0
25	Running and operation for HVAC	10081503
26	Fire Fighting Operation and day to day Complaint	3534696
	<b>Total</b>	<b>392741059</b>
	<b>Add GST 18%</b>	<b>70693391</b>
	<b>Total</b>	<b>463434450</b>
	<b>add 1% Labour Cess</b>	<b>3927411</b>
	<b>Total amount</b>	<b>467361860</b>
	<b>Total amount in cr</b>	<b>46.74</b>



**Bill Of Quantities**

**GBU Gujrat - Construction of Basement, Animal Housing Green House & Ext. dev .**

S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
		<b>Sub- Head - I , Earth Work</b>				
1	26117D	Clearing and grubbing road including uprooting rank vegetation grass bushes, shrubs , sapling and trees girth upto 300mm removal stumps of trees cut earlier and disposal of unserviceable (D) By mechanical means in area of thorny jungle.	9	Hectare	34451.77	325741
2	MR	Excavation for foundation upto 1.5m depth including sorting out and stacking of useful materials , back filling in sides of fsides of foundations etc. in layers not exceeding 20cm .in depth consolidating each deposited layer by ramming and watering etc and disposing off the excavated stuff upto any lead and lift. Dense or hard soft soil	6573	cum	174.00	1143702
3	MR	Excavation for foundation for a depth from 1.5m to 3.0m depth including sorting out and stacking of useful materials back filling in sides of fsides of foundations etc. in layers not exceeding 20cm .in depth consolidating each deposited layer by ramming and watering etc and disposing off the excavated stuff upto any lead . (D)Dense or hard soft soil . Quantity for excavation shall be paid based on actual dimensions in the drawings	6573	cum	186.58	1226390
4	MR	Excavation for foundation for a depth from 3.0m to 5.0m depth including sorting out and stacking of useful materials back filling in sides of fsides of foundations etc. in layers not exceeding 20cm .in depth consolidating each deposited layer by ramming and watering etc and disposing off the excavated stuff upto any lead . (D)Dense or hard soft soil . Quantity for excavation shall be paid based on actual dimensions in the drawings	2799	cum	198.31	555070
5	04007A	Filling in plinth with (good quality) sand under floors including watering, ramming, consolidating and dressing etc. complete.	609	cum	455.53	277418
6	22007	Carring out plinth treatment to post construction / during construction by spraying chemical solution for termite control treatment including labour and material consistment with I.S.I specification. Using Chlordene and Chiorpurfiles 20 EC. As Per 6131_paret-II Consentrarion Weight one percent is recommended i.e one litre 20EC chemical emulsion with 19 liter give 1% concentration inclusive of one litre chemical emulsion appication at the rate of 5Litre chemical / Sqm of surface is recommended as per I.S. Plinth area only shall be measured for payment purpose.	5211	sqm	104.90	546588
		<b>TOTAL</b>				<b>4074909</b>
		<b>Sub - Head - II , Concrete Work</b>				
7	05003A	Providing & laying cement concrete 1:3:6 (1: cement: 3 coarse sand: 6 machine crust stone aggregates 40 mm nominal size) for all depths below and up to plinth level in foundations and curing etc. complete including cost of formwork in Footings & Ground, Plinth Beams & below Floors	326	cum	2966.24	966994
8	05004A	Providing and laying cement concrete 1:4:8 (1-Cement : 4- coarsesand : 8- hand broken stone aggregates 40 mm nominal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth	379	cum	2643.91	1002042



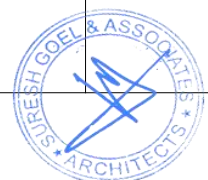
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
9	05010AA	Providing and laying cement concrete 1:2:4 (1 Cement :2-coarse sand :4-crushed stone aggregates 20 mm nominal size) In Foundation & plinth and curing complete including cost of form work, dewatering etc. Rates are incl. shoring & strutting and dewatering. No extra payment will be made for Shoring, Strutting and dewatering	6	cum	3616.90	21701
10	05021A	Providing and laying damp proof course <b>100 mm thick</b> cement concrete 1:2:4 (1- Cement: 2coarse sand: 4stone aggregate 10 mm nominal size) and curing complete including providing and mixing water proofing material in cement concrete in mix proportion recommended by the manufacturers.	0	sqm	778.22	0
11	MR	Providing and filling in Aereated block bats (broken pieces ) in single or multiple layers in super structure , filling the joints with sand mortar ( not more than 20%)20mm thick cement sand mortar screed in proportion of 1:6 shall be laid asper drawing. Crushing strength of aerated concrete block /bats shall not be less than 40 kg/sqcm, minimum density in dry oven condition between 651 to 750 kg /cum, thermal conductivity shall not exceed 0.3W / mk, fire resistance 4 hours , in line and plumb , cleaning the surface with tools and tackles , at all level, all height , all floors including curing , scaffolding , complete as per specifications , drawings and directed by engineer in charge.	0	cum	1675.00	0
12	MR	Making plinth protection 50mm thick of cement concrete 1:3:6 ( 1cement:3 coarse sand:6 graded stone aggregate 20mm nominal size over 75mm thick bed of dry brick ballast 40mm nominal size , well rammed and consolidated and grouted with fine sand , including necessary excavation, levelling and dressing & finishing the top smooth, including toe wall 230mm wide and 450mm deep on the edge to plinth protection with common burnt clay bricks including grouted with cement mortar 1:4 (1cement:4 fine sand)	581	sqm	788.93	458370
		<b>TOTAL</b>				<b>2449107</b>
		<b>Sub - Head - III , RCC Work</b>				
13	RA	Providing TMT Bar FE 500D reinforcement for RCC work including bending, binding with G.I Binding wire and placing in position complete <b>at all heights, all lifts and all levels</b> as shown in the drawing	714287	kg	81.25	58035855
14	RA	Providing and laying in position machine batched and machine mixed design mix M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant including the cost of centering shuttering finishing and excluding reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (Min cement level as per latest IS 456 shall be maintained) (Cement level 410 kg ) for Footing/Raft /grade slab upto plinth level.	1772	cum	4693.71	8317247



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
15	RA	Providing and laying in position machine batched and machine mixed design mix M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant including the cost of centering shuttering finishing and excluding reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (Min cement level as per latest IS 456 shall be maintained) (Cement level 410 kg ) for plinth beam / beam upto Plinth level	874	cum	6907.33	6037008
16	RA	Providing and laying in position machine batched and machine mixed design mix M-350 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant including the cost of centering shuttering finishing and excluding reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (Min cement level as per latest IS 456 shall be maintained) (Cement level 425 kg ) for Columns, pillars Post Struts upto Plinth level	205	cum	7461.94	1529698
17		Providing and laying in position machine batched and machine mixed design mix M-350 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant including the cost of centering shuttering finishing and excluding reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (Min cement level as per latest IS 456 shall be maintained) (Cement level 425 kg ) for Wall / shear wall upto Plinth level	506	cum	6537.34	3307914
18		Providing and laying in position machine batched and machine mixed design mix M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant including the cost of centering shuttering (height upto 4.2M) finishing and excluding reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (Min cement level as per latest IS 456 shall be maintained) (Cement level 410 kg ) for Lintels/beams/Cantilevers Girders Bressumers at <b>Ground Floor</b>	800	cum	6907.33	5522995



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
19		Providing and laying in position machine batched and machine mixed design mix M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant including the cost of centering shuttering (height upto 4.2M) finishing and excluding reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (Min cement level as per latest IS 456 shall be maintained) (Cement level 410 kg ) for Lintels/beams/Cantilevers Girders Bressumers at <b>First Floor</b>	147	cum	6941.87	1020225
20		Providing and laying in position machine batched and machine mixed design mix M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant including the cost of centering shuttering (height upto 4.2M) finishing and excluding reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (Min cement level as per latest IS 456 shall be maintained) (Cement level 410 kg ) for Lintels/beams/Cantilevers Girders Bressumers at <b>Second Floor</b>	146	cum	6976.58	1016747
21		Providing and laying in position machine batched and machine mixed design mix M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant including the cost of centering shuttering (height upto 4.2M) finishing and excluding reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (Min cement level as per latest IS 456 shall be maintained) (Cement level 410 kg ) for Lintels/beams/Cantilevers Girders Bressumers at <b>Terrace Floor</b>	35	cum	7011.46	245350
22		Providing and laying in position machine batched and machine mixed design mix M-400 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant including the cost of centering shuttering finishing and excluding reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (Min cement level as per latest IS 456 shall be maintained) (Cement level 440kg ) for Columns, pillars Post Struts at <b>Ground Floor Level</b>	169	cum	7461.94	1263441



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
23		Providing and laying in position machine batched and machine mixed design mix M-400 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant including the cost of centering shuttering finishing and excluding reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (Min cement level as per latest IS 456 shall be maintained) (Cement level 440kg ) for Columns, pillars Post Struts at <b>First Floor Level</b>	87	cum	7499.25	654819
24		Providing and laying in position machine batched and machine mixed design mix M-400 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant including the cost of centering shuttering finishing and excluding reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (Min cement level as per latest IS 456 shall be maintained) (Cement level 440kg ) for Columns, pillars Post Struts at <b>Second Floor Level</b>	87	cum	7536.75	658094
25		Providing and laying in position machine batched and machine mixed design mix M-400 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant including the cost of centering shuttering finishing and excluding reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (Min cement level as per latest IS 456 shall be maintained) (Cement level 440kg ) for Columns, pillars Post Struts at <b>Terrace Floor Level</b>	13	cum	7574.43	96529
26		Providing and laying in position machine batched and machine mixed design mix M-400 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant including the cost of centering shuttering finishing and excluding reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (Min cement level as per latest IS 456 shall be maintained) (Cement level 440kg ) for Wall / shear wall <b>Ground Floor level</b>	31	cum	6537.34	205014

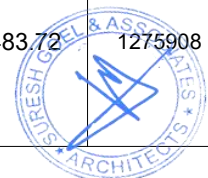


S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
27		Providing and laying in position machine batched and machine mixed design mix M-400 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant including the cost of centering shuttering finishing and excluding reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (Min cement level as per latest IS 456 shall be maintained) (Cement level 440kg ) for Wall / shear wall <b>First Floor level</b>	31	cum	6570.03	206039
28		Providing and laying in position machine batched and machine mixed design mix M-400 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant including the cost of centering shuttering finishing and excluding reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (Min cement level as per latest IS 456 shall be maintained) (Cement level 440kg ) for Wall / shear wall <b>Second Floor level</b>	31	cum	6602.88	207069
29		Providing and laying in position machine batched and machine mixed design mix M-400 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant including the cost of centering shuttering finishing and excluding reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (Min cement level as per latest IS 456 shall be maintained) (Cement level 440kg ) for Wall / shear wall <b>Third Floor level</b>	28	cum	6635.89	188656
30	MR	Providing and laying in position machine batched and machine mixed design mix M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant including the cost of centering shuttering(height upto 4.2M) finishing and excluding reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (Min cement level as per latest IS 456 shall be maintained) (Cement level 410 kg ) for Slab /Shelves/ landing balconies, access platform , staircase at <b>Ground Floor Level</b>	165	cum	6335.17	1044545

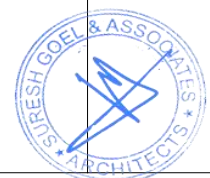




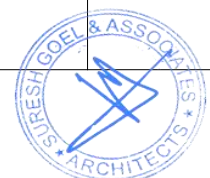
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
31		Providing and laying in position machine batched and machine mixed design mix M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant including the cost of centering shuttering(height upto 4.2M) finishing and excluding reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (Min cement level as per latest IS 456 shall be maintained) (Cement level 410 kg ) for Slab /Shelves/ landing balconies, access platform , staircase at <b>First Floor Level</b>	155	cum	6366.85	988901
32		Providing and laying in position machine batched and machine mixed design mix M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant including the cost of centering shuttering (height upto 4.2M) finishing and excluding reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (Min cement level as per latest IS 456 shall be maintained) (Cement level 410 kg ) for Slab /Shelves/ landing balconies, access platform , staircase at <b>Second Floor Level</b>	155	cum	6398.68	993845
33		Providing and laying in position machine batched and machine mixed design mix M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant including the cost of centering shuttering (height upto 4.2M) finishing and excluding reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Without Fly Ash (Min cement level as per latest IS 456 shall be maintained) (Cement level 410 kg ) for Slab /Shelves/ landing balconies, access platform , staircase at <b>Third Floor Level</b>	62	cum	6430.67	399587
34	RA	Extra for Additional height of propping and centering where the height of propping and centering exceeds 4.2 m between supporting floor to ceiling upto 8.4 M.	6924	sqm	573.30	3969529
		<b>TOTAL</b>				<b>95909107</b>
		<b>Sub- Head IV - Brick Work</b>				
35	06002BA	Brick work using common burnt clay building bricks having minimum crushing strength not less than 35 kg/ sq cm in foundation and plinth in cement mortar 1 : 6 (1 cement : 6 fine sand)	146	cum	3980.99	581225
36	RA	Masonry work using Aerated light weight concrete block having crushing strength not less than 35 kg/sqcm for super structure above plinth level laid with approved block laying polymer modified adhesive mortar all complete as per direction of engineer in charge and Technical Specification . <b>Ground Floor</b>	285	cum	4483.72	1275908



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
37	RA	Masonry work using Aerated light weight concrete block having crushing strength not less than 35 kg/sqcm for super structure above plinth level laid with approved block laying polymer modified adhesive mortar all complete as per direction of engineer in charge and Technical Specification. <b>1st Floor</b>	129	cum	4528.56	583588
38	RA	Masonry work using Aerated light weight concrete block having crushing strength not less than 35 kg/sqcm for super structure above plinth level laid with approved block laying polymer modified adhesive mortar all complete as per direction of engineer in charge and Technical Specification. <b>2nd Floor</b>	108	cum	4573.84	492619
39	RA	Masonry work using Aerated light weight concrete block having crushing strength not less than 35 kg/sqcm for super structure above plinth level laid with approved block laying polymer modified adhesive mortar all complete as per direction of engineer in charge and Technical Specification. <b>3rd Floor</b>	74	cum	4619.58	340047
40	MR	Double skin modular wall panel system made of 0.8 mm thick epoxy polyster Powder coated (NLT 60 microns) GPSP sheets on both sides with PUF as infill of density 40 ± 2 kg /m3 and floor track to accommodate the Epoxy floor flush with the wall panel.	2009	sqm	3930.00	7895370
41	MR	46 mm thick flush doors made of 0.8 mm thick powder Coated GPSP sheet with honeycomb kraft paper as infill, 1.2 mm thick GPSP powder coated door frames, with double glazing glass and hardwares like SS push plate, IHMS make Std arm door closure, SS D handle, SS ball bearing butt hinges, concealed tower bolt for the double doors, Automatic door bottom drop seal, 1.2mm thick SS 304 kick plate of height 300mm, both side operated lock and key etc	130	sqm	20647.00	2675851
42	NS	Providing and fixing chicken wire mesh of gauge 0.18mm and 200 mm wide with necessary screws and nail at joints cracks of brick work R.C.C work as per drawing and specification and direction of Engineer incharge.	477	sqm	217.15	103524
		<b>TOTAL</b>				<b>13948132</b>
		<b>Sub Head - V Marble/stone Work</b>				
43	RA	Providing and fixing 18mm thick gang saw cut mirror polished premoulded and prepolished) Granite of any colour and shade as per selection of client for wall lining (veneer work), /bands 200mm wide backing filled with a grout of average 12 mm thick in polymer modified adhesive mortar including secured to the backing by means of cramps, hold fasteners ,copper pins 7.5 cm long 6 mm diameter for securing adjacent stones in stone wall lining in adhesive mortar including making the necessary chases complete in all respect.	80	sqm	5500	440000
44	MR /DSR 8.2	Providing and fixing 18mm thick gang saw cut mirror polished premoulded and prepolished) machine cut Granite of any colour and shade as per selection of client for kitchen platforms, vanity counters, window sills , facias and similar locations of required size of approved shade, colour and texture laid over 20mm thick base cement mortar 1:4 (1 cement : 4 coarse sand) with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish, providing opening of required size & shape for wash basin/sink etc. complete at all levels.	341	sqm	3100	1057100



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
45	NS	Design,manufacture,supply and installation at site Glass Fiber Reinforced concrete (GRC)screens/jali, produced in accordance with Pre Cast Institute( U S A) Manual 128 EDN 4,conforming to size & Thickness as per drawing.Product manufactured using composition of alkali Resistant Glass Fiber of Make NES Japan or CEMFIL or equivalent,High silica sand and white cement as raw materials conforming to relevant Indian and ASTM Standards,fixing with 6 inch Hilti Fastner with every 2 feet gap as required.(M S frame if required is considered in relevant item))	65	sqm	2800.00	182000
		<b>TOTAL</b>				<b>1679100</b>
		<b>Sub- Head - VI Wood Work &amp; PVC Work</b>				
46	MR	Flush Door (Laminated ) Providing and fixing of 35mm solid cored flush door with 1mm thick laminate in approved shade as per selection on both side as shown in the drg. All exposed edges covered with wooden liping of min 4mm th duly painted and finished matching shade of laminate. Rate shall Include Frame of WPC 125x65mm size comprising of virgin PVC polymer of K value 58- 60 (Suspension Grade), , SS Handle, Lock , Door Stopper, Door Closer, S.S. heavy duty hinges etc. all materials and labour etc. complete as per detail drawing and instruction of engineer-in charge and consultant.	182	sqm	6000.00	1092000
47	NS	Providing and fixing Hollow metal fire rated doors shutter with frame and hardware fittings etc complete as per specifications.Door frame shall be double rebate profile of minimum size 154mm X 77 mm made out of 1.60mm minimum thick galvanized steel sheet. The frames should be finished with Thermosetting Powder Coating in desired RAL Shade. All provision should be mortised, drilled and tapped for receiving appropriate hardware. Frames should be provided with back plate bracket and anchor fasteners for installation on a finished plastered masonry wall opening. Door leaf shall be minimum 49mm thick fully flush double skin door with or without vision lite. All doors NSD 12049 shall be factory prepped for receiving appropriate hardware and provided with necessary reinforcement for hinges, locks, and door closers. For pair of doors astragals has to be provided on the meeting stile for both active and inactive leaf.	22	sqm	10476.00	230472
48	NS	Providing and fixing Hollow metal doors shutter with frame and hardware fittings etc complete as per specifications.Door frame shall be double rebate profile of minimum size 100mm X 58 mm made out of 1.20mm minimum thick galvanized steel sheet. The frames should be finished with Thermosetting Powder Coating in desired RAL Shade. All provision should be mortised, drilled and tapped for receiving appropriate hardware. Frames should be provided with back plate bracket and anchor fasteners for installation on a finished plastered masonry wall opening. Door leaf shall be minimum 47mm thick fully flush double skin door with or without vision lite. All doors NSD 12049 shall be factory prepped for receiving appropriate hardware and provided with necessary reinforcement for hinges, locks, and door closers.	302	sqm	8292.85	2504441



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
49	NS	Restroom Cubical: providing and installing ZMS SS Series Restroom Cubicles with all necessary tools hardware, labour, as per the company specs. Providing & Fixing BESCO Cubicle partition system for toilet by using following Materials 12mm thick compact laminate with core of phenol resin treat papers with black color top layer treated with special melamine resin. Adjustable legs with bottom cap of SS 316, door lock with, gravity hinges with cover – combination of mild steel and Nylon PA6. And used following Accessories Accessories Include: 1. Aluminium Top Rail (Stainless Steel Grade 304 with Satin Finish) 2. SS Coat Hook with Door Stopper Option (Stainless Steel Grade 304 with Satin Finish) 3. SS Gravity Hinges (Stainless Steel Grade 304 with Satin Finish) 4. SS Latch cum Occupancy Indicator (Stainless Steel Grade 304 with Satin Finish) 5. SS "U" Channel (Stainless Steel Grade 304 with Satin Finish) 6. SS "F" Channel (Stainless Steel Grade 304 with Satin Finish) 7. SS Palm Design Adjustable Foot (Stainless Steel Grade 304 with Satin Finish) 8. SS Screws & Inserts (Stainless Steel Grade 304 with Satin Finish) 9. Rubber Lining for Door Stopper Brand.	21	sqm	9060.00	190260
		<b>TOTAL</b>				<b>4017173</b>
		<b>Sub- Head - VII , Steel Work</b>				
50	11002AA	Providing, supplying, fixing, fabricating, erecting, aligning the structural steel like pivot ,tubular 'T','I' section, angle, plate ,beam, channel section, Bar , hollow box or Z purlins , for built up purlins, roof trusses, columns, side runners, tie beams, sag rods, base plates gusset plates, cap plates, bearing bracing, gantry girders, rails, require support, pipes, including all welded or bolted steel structures of various types with approved I.S.I. mark electrodes, bolts, anchor bolts including cost of thread, Anchor plate cleats etc. in RCC or masonry work, including cutting, bending, welding ,fixing, supplying , Fabricating Decorative fevisted section or any structured member required to complete the job for Trusses, Canopy, doors, Frame, Railing, Entrance gate, pergola, Decorative hanging light , for Electrical, water supply and HVAC structure New window, parking shed or space frame or any other required specified area as shown on drawing and detailed specification or as per design incl. three coats of approved brand primer and two coats of paints, necessary scaffolding, tools tolerance etc. complete as directed by Engineer In Charge. (Payment will be made for weight of metal used in the work) (Work for all the floors/all heights)	250750	kg	83.33	20894998



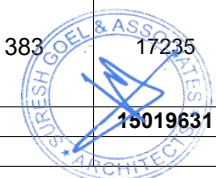
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
51	NS	Design, manufacture and installation of 12 mm dpi system, a complete assembly of extruded Multi / Micro cellular profile UV extruded/protected polycarbonate panels incorporated into a complete system. The Polycarbonate panel system consists coextruded UV protected Multi / Micro cellular structure polycarbonate panel with width of 1040 mm to ensure best performance for wind uplift, vibration, oil canning and visual appearance. Panels shall be manufactured with vertical standing seam with standing seam height of 10 - 15mm at both sides of the panel. Panels shall be fixed on Purlins with the Z - Type Stainless Steel Fastener/retention clips and connectors. Each fastener shall be min 1mm thick of SS 304 Grade and secured to supporting frame/structure with min 3 numbers of self - drilling screws so that the Pull Out Load of Fastener exceeds 7000 N (7 KN) when tested as per ISO 6892: 1998 and IS 1608: 2005. Snap-on connectors to interlock the panels shall have 2 - 4 teeth grip - lock locking mechanism to ensure maximum uplift capability. Panel shall be fixed with additional End cap/Aluminum U / F Profile / Glazing Bar (mill finish) for ends as required. Panel shall be fixed over structural steel / MS purlin (paid separately) by trained & factory authorised installer under direct supervision to complete entire project installation according to the detail technical specifications as per approved architectural drawings.	5198	sqm	2255.00	11721490
52	DSR 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-in charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.	1435	kg	655	940135
53	DSR 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/mm <sup>2</sup> ), counter sunk head, comprising of 10 m dia polyamide PA 6 grade sleeve, including drilling of hole in frame , concrete/ masonry, etc. as per direction of Engineer-in-charge.				
54	10.27.2	10 x120 mm	2392	each	99.41	237781
		<b>TOTAL</b>				<b>33794404</b>
		<b>Sub- Head - VIII Flooring</b>				
55	DSR 11.3	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. 11.3.1- 40 mm thick with 20 mm nominal size stone aggregate 11.13.1 Providing and fixing glass strips in joints of terrazo/cement concrete floors.- 40 mm wide and 4 mm thick	450	sqm	363.86	163735



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
56	14012AA	Providing and laying mirror polished Kota stone slab flooring over 20mm (Average ) thick base of cement mortar 1:6 (1-cement:6-coarse sand) laid over and jointed with grey cement slurry mixed with pigment to match the shade of slab including rubbing and mirror polishing etc. complete. (A) 25mm thick (work for all the floors)	432	sqm	982.83	424583
57	14013A	Providing and laying mirror polished kota stone slab 25mm thick in risers of steps, skirting Dado and pillars laid on 10mm thick cement mortar 1:3 (1-Cement :3 coarses and) and jointed with gray cement slurry mixed with pigment to match the shade of slab including rubbing and mirror polishing etc. complete. (work for all the floors)	65	sqm	1176.03	76442
58	DSR 11.25	Extra for marble stone flooring in treads of steps and risers using single length up to 2.00 metre.	36	sqm	594.49	21402
59	NS	Providing & laying Light & Dark Colored Polished Granite slab (16-18mm thick) flooring For Staircase Tread, Landing over 20 mm (average) thick base of Cement Mortar (1 - Cement : 6 - Sand) using cementitious Adhesive Materials as per EIC instruction. Granite slab shall be laid and jointed with grey cement slurry. The size of granite should be in full length of Riser and Tread as per design. Rates are including rubbing, polishing Moulding /Rounding of edges, making two lines of Grooves on each tread for antislip, laying and removing of floor protection sheet etc. complete. (work for all the floor Staircase	1188	sqm	2603.00	3092364
60	NS	Providing & laying Granite slab (16-18mm thick - river wash) in riser of steps dedo, Skirting and pillars laid 15 mm thick Cement Mortar 1:3 (1Cement:3 Coarse Sand) using cementitious Adhesive Materials as per EIC instruction. Granite slab shall be jointed with the Grey Cement Slurry Rates are including rubbing, polishing Moulding / Rounding of edges, laying and removing of floor protection sheet etc. complete. (work for all the floors)	137	sqm	2603.00	356611
61	NS	Providing and laying Glazed Vitrified tiles Matt/Antiskid finish of size 600mmx600mm in floor / skirting (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 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 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.	186	sqm	1421	264306



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
62	NS	Providing and laying Glazed Vitrified tiles Matt/Antiskid finish of size 800mmx800mm in floor / skirting (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 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 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.	24	sqm	1587	38088
63	14008AA	Providing and laying Ceramic tiles 6mm thick in flooring treads of steps and landing laid on a bed of 12mm thick cement mortar 1:3 (1- cement : 3-coarse sand ) finishing with flush pointing in white cement.	34	sqm	908.17	30878
64	14009AA	Providing and laying Ceramic tiles 6mm thick in skirting risers of steps and dedo on 10mm thick cement plaster 1:3 (1-cement : 3- coarse sand) and jointed with white cement slurry	804	sqm	1063.27	854869
65	NS	Providing and laying under floor screeding Cement mortar 1:4 (1cement : 4 coarse sand)	12	cum	5027.00	61329
66	NS	Providing and laying C.C. pavement of mix M-25 with ready mixed concrete from batching plant. The ready mixed concrete shall be laid in panels 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.Cement content considered in this item is @ 380 kg/cum.	638	cum	8325.00	5311350
67	NS	Providing and fixing conductive vinyl flooring of 2mm thick homogeneous flooring with veined surface pattern and non directional ship texture as per EN649. The tile size should be 615mm x615mm. The floor should be residual indentation of 0.035mm as per EN 433, the light fastness>6 as per ISO105-B02 and electrical resistance should be $5 \times 10^4 < R < 10^6 \Omega$ as per EN1081 for EC. The product should also confirm to Class Bfl-s1 in flammability test as per EN13501-1,slip resistance of R9as per DIN 51130, dynamic coefficient of friction with class DS as per EN13893. The wear group of sheet is M as per EN 660-2. Flooring should have excellent chemical resistanceas per EN423.The joints to be welded with hot welding coils.	1124	sqm	2289.32	2573192
68	NS	Providing and application of self levelling compound in the average thickness 3-4mm with two coats of primer of approved manufacturer in the packaging of 25 kg bags,The work shall be carried out as per manufacturers specifications and as per direction of Engineer in charge.	1124	sqm	586.56	659291
69	NS	Providing and application of Epoxy Flooring in the average thickness 3-4mm with prime finish of approved manufacturer catalogue ,The work shall be carried out as per manufacturers specifications and as per direction of Engineer in charge.	988	sqm	1087.00	1073956
70	NS /DSR 18.77	Cutting holes in RCC wall , slab by diamond core cutting machine upto 150mm dia for passing drain pipes etc and repairing the hole after insertion of drain pipe etc with GP2 grout.	45	nos	383	17235
		<b>TOTAL</b>				
		<b>Sub- Head - IX Roofing</b>				



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
71	12.41	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes. 12.41.2) 110 mm diameter	260	Metre	285.49	74228
72	12.42	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion. 12.42.2)Single Push Fit Coupler. 12.42.2.2) 110 mm dia	66	Each	98.75	6518
73	12.42	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion. 12.42.4)Single tee without door. 12.42.4.1) 75x75x75 mm	13	Each	110.89	1442
74	12.42	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion. 12.42.5)Plain bend 87.5 deg. 12.42.5.2) 110 mm dia	28	Each	117.86	3300
75	12.42	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion. 12.42.6)Shoe (Plain) 87.5 deg. 12.42.6.2) 110 mm dia	28	Each	103.53	2899
76	12.43	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.12.43.2) 110 mm	294	each	276.34	81244
77	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.	28	Each	42.77	1198

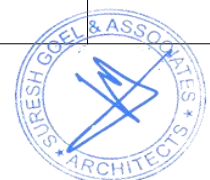




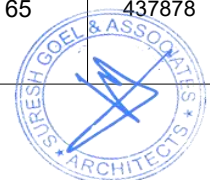
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
78	12.52	<p>Providing and fixing tiled false ceiling of specified materials of size 595x595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanized steel sections ( galvanized @ 120 grams/ sqm, both side inclusive) consisting of main "T" runner with suitably spaced joints to get required length and of size 24x38 mm made from 0.30 mm thick (minimum) sheet, spaced at 1200 mm center to center and cross "T" of size 24x25 mm made of 0.30 mm thick (minimum) sheet, 1200 mm long spaced between main "T" at 600 mm center to center to form a grid of 1200x600 mm and secondary cross "T" of length 600 mm and size 24x25 mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600 mm panel to form grids of 600x600 mm and wall angle of size 24x24x0.3 mm and laying false ceiling tiles of approved texture in the grid including, required cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main "T" runners to be suspended from ceiling using GI slotted cleats of size 27 x 37 x 25 x1.6 mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4 mm GI adjustable rods with galvanised butterfly level clips of size 85 x 30 x 0.8 mm spaced at 1200 mm center to center along main T, bottom exposed width of 24 mm of all T-sections shall be pre-painted with polyester paint, all complete for all heights as per specifications, drawings and as directed by Engineer-in-charge. 12.52.1) GI Metal Ceiling Lay in plain Tegular edge Global white color tiles of size 595x595 mm, and 0.5 mm thick with 8 mm drop; made of G I sheet having galvanizing of 100 gms/sqm (both sides inclusive) and electro statically polyester powder coated of thickness 60 microns (minimum), including factory painted after bending.</p>	638	sqm	1421.16	906352
79	16006	<p>Providing and fixing eco-friendly light weight calcium silicate false ceiling tiles having Tegular edge &amp; 15 mm Thick Densified edges on the Tile Periphery for Extra Strength The Light weight calcium silicate ceiling tiles shall have , light reflection 85% non-combustible as per B.S. 476 part IV, 100% humidity resistance and also having thermalconductivity0.043 ° w/m KC.for the best thermal Insulation . The Light weight calcium Silicate tile shall be of approved texture Fine fissured/ Spintone /Cosmos having NRC value of 0.5 &amp; Globe having NRC value of 0.75 NRC or equivalent of size 595 X 595 mm to be laid on true horizontal level suspended inter locking metal grid of hot dipped galvanized steelsections (galvanizing @120 grams per sqm including both side) consisting of main 'T'runner suitably spaced at joints to get required length and size of 24X38mm made from 0.30 mm thick (minimum) sheet, 1200mm centre to centre, and cross 'T' of size 24X28mm made out of 0.33mm (Minimum) sheet spaced 1200mm along space etc. An additional 4mm thick PVC strip of 40mm width is to be stuck on the interior side of the C channel using PVC solvent adhesive complete as per direction of Engineer in charge,manufactures.s at the back side so that 'L' shape outer PVC beading can be removed whenrequired for replacement of broken glass etc. complete as per direction of etc. complete as per direction of Engineer in charge and manufacture ' s specification.icationntre with 25mm long dry wall screws @ 230mm interval and laying 15mm thick Densified edges light weight calcium silicate ceiling tiles of approved texture (Fine Fissured /Cosmos /Spintone) in the grid including, cutting /making opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc., wherever required, Main 'T' runners to be suspended from ceiling using G.I. slotted cleats of size 25X35X1.6mm fixed to ceiling with 12.5mm dia and 50mm long dash fasteners, 4mm G.I. adjustable rods with galvanized steel level clips of size 85X30X0.8mm, spaced at 1200mm centre to centre long main 'T'bottom exposed with 24mm of all T-sections shall be pre-painted with polyester baked paint, for all heights, as per specifications, drawings and as directed by engineer-in charge.Note:- Only calcium silicate false ceiling area will be measured from wall to wall. No deduction shall be made for exposed frames/opening (cut outs) having area less than 0.30</p>		sqm	1633	



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
80	MR	Wall and Ceiling Cladding Using EGP Steel Sheet Panels backed with Gypsum Board and Jointless Finish with Anti Fungal & Anti Bacterial Paint Prefabricated Walls & Ceiling Precisely pre-fabricated wall & ceiling cladding using Steel Sheet of approx 1.6 mm with EGP of approx 300 microns. Wall sloping & ceiling panels backed by 12mm thick gypsum plaster board to provide strength to with stand jerks and avoid damage.	1488	SQM	5825.00	8668151
81	12.1	Providing corrugated G.S. sheet roofing including vertical / curved surface fixed with polymer coated J or L hooks, bolts and nuts 8 mm diameter with bitumen and G.I. limpet washers or with G.I. limpet washers filled with white lead, including a coat of approved steel primer and two coats of approved paint on overlapping of sheets complete (up to any pitch in horizontal/ vertical or curved surfaces), excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.12.1.1) 1.00 mm thick with zinc coating not less than 275 gm/m <sup>2</sup> Providing ridges or hips of width 60 cm overall width plain G.S. sheet fixed with polymer coated J or L hooks, bolts and nuts 8 mm dia G.I. limpet and bitumen washers complete.	139	sqm	1320.35	184057
82	12.4.1	Providing ridges or hips of width 60 cm overall width plain G.S. sheet fixed with polymer coated J or L hooks, bolts and nuts 8 mm dia G.I. limpet and bitumen washers complete.	75	rmt	822.15	61661
		<b>TOTAL</b>				<b>9991050</b>
		<b>Sub- Head - X Finishing</b>				
83	17001A	Providing 10 mm thick Cement Plaster in single coat on brick/concrete Ceiling for interior plastering finished even and smooth in(i) Cement mortar 1:3 (1-cement :3- sand) as required to receive specified architectural finish (like Grooves, pattern if any, drip mould etc.) to correct line, plumb .etc - <b>Basement</b>	4596	sqm	152.15	699281
84	17001A	Providing 10 mm thick Cement Plaster in single coat on brick/concrete Ceiling for interior plastering finished even and smooth in(i) Cement mortar 1:3 (1-cement :3- sand) as required to receive specified architectural finish (like Grooves, pattern if any, drip mould etc.) to correct line, plumb .etc - <b>Ground Floor</b>	151	sqm	152.15	22960
85	17001A	Providing 10 mm thick Cement Plaster in single coat on brick/concrete Ceiling for interior plastering finished even and smooth in(i) Cement mortar 1:3 (1-cement :3- sand) as required to receive specified architectural finish (like Grooves, pattern if any, drip mould etc.) to correct line, plumb .etc - <b>First Floor</b>	172	sqm	159.76	27491
86	17001A	Providing 10 mm thick Cement Plaster in single coat on brick/concrete Ceiling for interior plastering finished even and smooth in(i) Cement mortar 1:3 (1-cement :3- sand) as required to receive specified architectural finish (like Grooves, pattern if any, drip mould etc.) to correct line, plumb .etc - <b>Second Floor</b>	90	sqm	167.75	15045
87	17001A	Providing 10 mm thick Cement Plaster in single coat on brick/concrete Ceiling for interior plastering finished even and smooth in(i) Cement mortar 1:3 (1-cement :3- sand) as required to receive specified architectural finish (like Grooves, pattern if any, drip mould etc.) to correct line, plumb .etc - <b>Terrace Floor</b>	113	sqm	176.14	19819



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
88	17001B	Providing 10 mm thick Cement Plaster in single coat on brick/concrete wall/ for interior plastering finished even and smooth in(i) Cement mortar 1:4 (1-cement :4- sand) as required to receive specified architectural finish (like Grooves, pattern if any, drip mould etc.) to correct line, plumb .etc - <b>Basement</b>	1767	sqm	114.98	203170
89	17001B	Providing 10 mm thick Cement Plaster in single coat on brick/concrete wall/ for interior plastering finished even and smooth in(i) Cement mortar 1:4 (1-cement :4- sand) as required to receive specified architectural finish (like Grooves, pattern if any, drip mould etc.) to correct line, plumb .etc - <b>Ground Floor</b>	4651	sqm	114.98	534753
90	17001B	Providing 10 mm thick Cement Plaster in single coat on brick/concrete wall/ for interior plastering finished even and smooth in(i) Cement mortar 1:4 (1-cement :4- sand) as required to receive specified architectural finish (like Grooves, pattern if any, drip mould etc.) to correct line, plumb .etc - <b>First Floor</b>	1497	sqm	120.73	180685
91	17001B	Providing 10 mm thick Cement Plaster in single coat on brick/concrete wall/ for interior plastering finished even and smooth in(i) Cement mortar 1:4 (1-cement :4- sand) as required to receive specified architectural finish (like Grooves, pattern if any, drip mould etc.) to correct line, plumb .etc - <b>Second Floor</b>	1217	sqm	126.77	154284
92	17001B	Providing 10 mm thick Cement Plaster in single coat on brick/concrete wall/ for interior plastering finished even and smooth in(i) Cement mortar 1:4 (1-cement :4- sand) as required to receive specified architectural finish (like Grooves, pattern if any, drip mould etc.) to correct line, plumb .etc - <b>3rd Floor</b>	677	sqm	133.11	90108
93	NS	Providing 20mm thick cement plaster in single coat on single wall for basement wall/ under plinth exterior surface in cement mortar 1:3 ( 1cement: 3sand) including providing and mixing water proofing material in cement mortar work in doses by weight of cement as per manufacturer specifications	0	sqm	181.24	0
94	17009	20mm thick Double coat Sand Faced / Mala cement plaster on Exterior walls at for various floors, levels and height as below and shown in the drawing consisting of 12mm thick backing coat of C.M. 1:3 (1-cement :3-sand) and 8mm thick finishing coat of C.M. 1:2 (1 - cement :2 - sand) etc. complete. as required to receive specified architectural finish like Vata, Grooves, pattern if any, drip mould etc. to correct line, level and plumb .	1595	sqm	297.68	474807
95	19032	Applying two coats of putty & two coats of primer of approved brand and manufacture on new wall surface to give an even shade including thoroughly brushing the surface free from mortar dropping and other foreign matter and sand papered smooth.	13729	sqm	40.19	551769
96	18031	Wall painting (Three coats) with plastic emulsion paint of approved brand & manufacture on under coated wall surface to give an even shade including thoroughly brushing the surface free from mortar dropping and other foreign matter and sand papered smooth.	13596	sqm	78.44	1066439
97	19005	Painting two coats (excluding priming coat) on new steel and other metal surface with synthetic enamel paint, brushing to give an even shade including cleaning the surface of all dirt, dust and other foreign matter.	6772	sqm	65	437878



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
98	NS	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.	931	sqm	189	175867
99	N.S.	Terracotta tiles 20 mm thickness Maximum Length: 1500 mm, Height: 500 mm. The tiles would be back ventilated, with selfdraining open joint system. Tiles shall be double-leaf construction and have labyrinth top and bottom returns to prevent easy water access behind tiles. Water absorption to be in between 3% to 6% conforming to ISO 10545 - 3, average bending tensile strength of tile $\geq$ 18mm shall be $\geq$ 4500N conforming to ISO 10545-4, Freeze / Thaw resistance conforming to ISO 10545-12, Chemical resistance conforming to ISO 10545-13, Modulus of rupture shall be $\geq$ 16MPa conforming to ISO 10545-4, resistance to thermal shock shall be conforming to ISO 10545-9, Chemical resistance shall be no less than ULB level conforming to ISO 1054513, Resistance to stains shall be conforming to ISO 10545-14. The tiles shall be of approved Colour and finish. The tolerance allowed in length is $\pm$ 1mm, height of front side is $\pm$ 2mm, height of back side is +2mm & - 3mm, thickness is $\pm$ 1.5mm, straightness of side is $\pm$ 2mm, vertical flatness is $\pm$ 2mm, diagonal flatness is $\pm$ 2mm as per ISO10545-2. Aluminum support system: The support system consists of extruded Anodized Aluminum vertical Full T-& Half T Tracks of Alloy 6063T5. The dimension of T Tracks would be 102X53X2 mm and maximum length of 5000 mm. A vertical black PVC gasket (max. length 5000 mm) would be slide on the T-Track between two tiles at vertical joint for proper alignment and extra support. The T-Track is to be mounted on extruded anodized Aluminum dead-load and wind load Wall Bracket of Alloy 6063T5. The dimension of it would be 100/120 X 70/90 X 50 X 4 mm. The extruded Aluminum Clips of Alloy 6063T5 and thickness 2mm would be fastened on the prepunched T Track on which the Terracotta tiles are to be mounted. The vertical aluminum T-tracks with gaskets and tile clips shall serve to hold Terracotta Pure Natural Clay tiles. The Clay tiles will be resting on a double bulb rubber gasket fixed to the	798	sqm	6072.32	4842753
		<b>TOTAL</b>				<b>9497109</b>
		<b>Sub- Head - XI , Aluminium Work</b>				



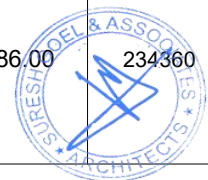
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
100	RA	Providing and fixing of Anodised Aluminium (Matt finish) frame work as per IS 1868 (1996)(Horizontal and verticals , Styles and rails, ball bearing) for Doors/ window/ventilation/alluminum partition with required Domal sections including fixing all items and hinged / pivoted arrangements for operation of shutters and labour cost for fixing of door fittings and locks including all items and contingencies described above complete (Aluminium beadings and glazing clips & section measured under this item only) NOTE : All fitting works shall be carried out as per I.S. specifications including cost of necessary rivets, screws, lugs, scaffolding, rubber gaskets etc., complete all generally as per drawings. The sizes of the components should confirm as per details in drawings. Providing and fixing at all heights / in all floors with all leads. Colour Anodised Aluminium doors / windows / partitions manufactured from best extruded Aluminium sections confirming to ISI cut to length, joints mitred and corners grinded with joints water proof the outer frame and shutter frame stiffened with corner angle and strips provided for in the frame for fixing the frame to R.C.C Columns / masonry/Granite Frame on sides, R.C.C lintels/Granite Frame on top and P.C.C sills or floor at bottom, the frame work fixed with standard approved fastenings all generally as per details shown in drawings and specification with all the sections pretreated for removal of any rust & scales and prevention of further rust/scale formation and coated with greasy materials for non-adherence of mortar or any other sticky materials and this coat to be removed after installations 1)Sheet metal screws, wool pile and aluminium angle corner cleat of required thickness and of full width, etc. for assembling the frame and shutter; 2)Glazing clips for receiving infill panel for Double Glazed Unit (DGU), any type of Glass, Compact Sheet, Louvers; 3) Best quality wool pile where ever shutter touches the frame; 4) Anchor fasteners for fixing the frame assembly	7348	kg	419.53	3082790
101	RA	Providing and fixing Clear Float Glass of any size, any shape and specified thickness and SHGC value 86 % in frame and shutter work with necessary cutting of glass as per drawing & specifications including providing and fixing EPDM quality rubber/silicon sealant/structural sealant of 3M tape on the periphery of the glass as per the required thickness etc. complete a tall floors/all levels/all heights as per the directions of Architect. Actual installed quantity shall be measured and paid. Rate shall be inclusive of all type of wastage. (a) 6 mm thick	466	sqm	1275.64	594091
102		Providing and fixing fly proof stainless steel grade 304 wire gauge, to windows and clerestory windows using wire gauge with average width of aperture 1.4 mm in both directions with wire of dia. 0.50 mm all complete.with Aluminium beading	892	sqm	1041.00	928156
103	21.18	Providing and fixing 12 mm thick frameless toughened glass door shutter of approved brand and manufacture, including providing and fixing top & bottom pivot & spring type fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer-in-charge (Door handle, lock and stopper etc.to be paid separately).	49	sqm	4592.00	225008



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
104	NS	Supply of Aluminium Ventilated Façade / Louver System of approved colour consisting of panel 50 mm wide x 50mm depth x 0.6mm thick panel length up to 5mtrs coil coated on a continuous paint line double baked and roll formed from enameled corrosion Resistance Aluminum Alloy AA3005 / AA5050 for higher strength and good Roll forming characteristics. Panels shall be mounted in a module of 100 mm on a mullion profile grooved (Slotted Fastening Profile) by means of Clamp, Locking Pop and Pop Rivet (Gap will be 50 mm between two panels). Slotted Fastening Profile shall be fixed at 150 mm from panel ends and at a distance of maximum 1200 mm center to center across the panel span and Slotted Fastening Profile shall be fixed to a suitable sub-structure by means of Square Brackets. Paint Finish: Panel shall be stove enamelled and finished with Luxacote, a patented special three layered coating system (consisting of first a conversion layer of thickness 800-2000mg/sq mtr, a polyurethane basecoat of 16-20 microns, and a special top coat of polyamide particles of 8-12 microns thick to provide excellent abrasion and damage resistance) in a continuous coil coating process of the approved colour on the exposed side and the reverse side with epoxy.	2434	sqm	5063.00	12324962
		<b>TOTAL</b>				<b>17155007</b>
		<b>Sub- Head - XII , Water Proofing</b>				
105		Supplying and laying composite 1.5mm thick, pre-applied, fully bonded HDPE membrane with double side adhesive which results in adhesive-to-adhesive bond - Prebond Pro or equivalent over P.C.C. conforming to BS 8102 & IS 16471:2017, requirements of UG waterproofing structures, with the turnkey execution to be done by the manufacturer through its in-house subsidiary execution company and with 10 years composite warranty against leakages, to be provided by the principal manufacturer. The system should be fully bonded to the Raft and consists of highly resilient HDPE film, self-adhesive polymer layer and weather protective layer. Typical application includes surface preparation by removing loose aggregates from PCC, foreign material, cleaning the surface etc., cutting membrane to convenient length, carefully aligning the membrane over blind concrete and rolling it out with print coated side facing up, laying adjacent sheets by keeping overlap of 75 mm, end overlaps to be treated using double sided tape and sealed tape etc. The membrane shall be continued over the vertical surface upto top of the Raft and fixed to shutter using double side adhesive tape. For application on confined retaining walls membrane shall be continued over the vertical surface and fixed by PVC roundels / shot guns at selvedge portion. The membrane shall have Tensile strength > 25 Mpa as per ASTM D 412 Modified, Elongation > 500% as per ASTM D 412 Modified, Puncture resistance > 1000 N as per ASTM E 154, Hydrostatic head resistance > 70m head of water as per ASTM D 5385, Low Temperature Flexibility: -25 deg C, Lap Peel Adhesion-880 N/m as per ASTM D1876, Peel Adhesion to Concrete > 1500 N/m as per ASTM D 903 Modified, UV Exposure > 45 Days.	3705	sqm	931.00	3449355



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
106	NS	Providing and laying of minimum 1.5 mm thick SBS modified self adhesive Samshield XL or equivalent waterproofing membrane topped with samshield HDPE valeron film, having tensile strength of L/T 3.5N/mm <sup>2</sup> as per ASTM D412 and with minimum elongation L/T of 180% (as per ASTM D 412). The membrane shall have puncture resistance of >200 N (as per ASTM E154). Hydrostatic pressure > 60 m (6BAR) No leakage as per DIN 1048, including cleaning the surface, priming the surface with cold applied bituminous primer @ 4-6 sqmtr/litre, properly sealing the joints & maintaining 75 mm overlap between the membrane selvedge & 100 mm overlap on the end joints of the membrane over the slab etc. The system includes base preparation of cleaning, brushing and removal of flacky materials, grouting the porous area with cementitious grout, proper coving between slab and wall junctions. The waterproofing system should be applied directly by the manufacturer approved applicator with 10 years of warranty against leakage.	1096	sqm	711.00	779256
107	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 appying 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. IInd course of 20 mm cement plaster 1: 3 (1 cement :3 coarse sand) mixed with water proofing compound in recommended proportion including roudnign off junction of vertical and horizontal surface. IIIrd course of applying blown or residual bitument applied hot at 1.7 kg. per sqm of area. 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 bitument @ 1.7 kg/sqm.)	56	sqm	429.00	24024
108	NS	Terrace Waterproofing Works : Providing and applying single component PU based cold applied seamless waterproofing membrane over the primed surface with PU/Epoxy primer Layer on RCC mother slab, Insulation Layer: Spray applying an average minimum 65mm thick GRIHA enlisted CFC & HCFC free spray applied polyurethane foam and 2 coats of a single component PU based cold applied seamless waterproofing membrane over PU foam , 150 gsm Geotextile (non-woven polyester) over the entire membrane on horizontal areas maintaining proper overlaps and an avg of 100 mm thick M20 grade PP fiber reinforced concrete screed with Min. 75 mm thick at the rain water outlets, laid to a slope of 1 : 120, including saw cutting (approx 6mm W x 30mm D) at 3MX4M pannels within 24 hours of concrete placement and filling the groove with Expanded Polythylene backer rod keeping the top approx 10 mm depth open and sealing the groove on the top after 28 days of concrete placement with PU sealant or equivalent, and making angle fillet of 100mmX100mm using M20 grade concrete at the corners, compaction , curing for 7 days etc complete	2374	Sqm	2868.00	6808632
		<b>TOTAL</b>				<b>11061267</b>
		<b>Sub Head XIII - External development</b>				
109		Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavation earth to an average of 22.5cm depth dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the sub grade and disposal of surplus earth lead upto any lead.	1260	sqm	186.00	234360



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
110		Construction of granular Sub base providing coarse graded material, spreading in uniform layers with motor grader on prepared surface mixing by mix in place method with front end loader at OMC and compacting with vibratory roller to achieve the desired density, complete as per specification and direction of engineer in charge- With material conforming to Grade - I (size range 75mm to 0.075mm ) having CBR Value -30.	284	cum	2359.00	669956
111	DSR 16.80	Construction of dry lean cement concrete sub base over a prepared sub-grade with coarse and fine aggregate conforming to IS:383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per specifications, cement content not to be less than 150 Kg/cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, for all leads & lifts, laid with a mechanical paver, compacting with 8-10 tonne vibratory roller, finishing and curing etc. complete as per direction of Engineer in- charge.	189	cum	3516.00	664524
112	14033	Providing and fixing pre-cast Rubber Dye/ steel Dye interlocking concrete block 60mm thick with grade of concrete M300 pneumatic compressed/ vibrated mechanically and as per approved design Confirming to IS15658:2006 including 35mm Sand layer for levelling and filling the joint with sand in proper line and level as per guidelines of IRC : SP 63-2018 etc. Complete.	480	sqm	680.07	326434
113	14023A	Providing and ixing pre-cast concrete kerb stone of gray cement based concrete block 30cm length,30cm height and 15cm thick of M200 grade concret as per approved design and including excavation for fixing in proper line and level ,filling the joint with C:M 1:3(1cement:3 fine sand) etc complete.	21	metre	374.85	7872
114	DSR 16.43	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). Cement content considered in M-30 is @ 410 kg/cum. Cement concrete manufactured in automatic batching plant (RMC plant) i/c transportation to site in transit mixer	189	cum	9405.00	1777545

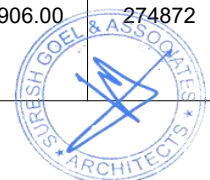




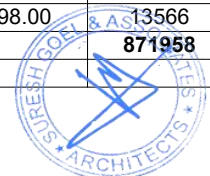
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
115	26096A	Parking Signs :-Providing and fixing sign boards made out of 2mm aluminium sheet; size 60 x 60cms. square plus 60 x 20cms rectangular additional plate as per the design of IRC-67-1977 pre treated with phosphating process & acid etching; coated with one coat of epoxy primer and two coats of best quality epoxy paint; reflectorised with retro reflective sheeting as per latest M.O.S.T. Specifications; 3.1m long stand post and frame fabricated from suitable size iron angle of 35 x 35 x 3mm 75x75x6mm as required; painted with best quality epoxy coatings in black and white bends. the details of symbol for each board shall be as per the instruction of engineer in charge. The fixing at site shall be in 1:2:4 CC block of size 45 x 45 x 60cms. for each leg. including excavation curing etc. complete under the supervision of engineer in charge. (A) Engineer Grade (VR)	2	each	3795.75	7592
116	26090	Providing and fixing retro Reflective Engineering grade Board using C.R.C. (M.S.) Sheet 2mm, angle iron 75 x 75 x 6mm. Descaling and degreasing the board as per requirement using epoxy primer epoxy paint and carrying retro reflective process by screen painting as directed etc. complete including transporting and fixing in C.C. 1:4:8 with necessary excavation curing etc. complete as per I.R.C type design. (A) Engineer Grade	4	each	8646.75	34587
117	26093C	Facility Informatory Sign :-Providing and fixing sign boards made out of 2mm aluminium sheet / 4mm ACP (Aluminum composite Panel); size 80 x 60 cms rectangular as per design of IRC-67-2012. Pre treated with phosphating process & acid etching; coated with one coat of epoxy primer and two coats of best quality epoxy paint ; reflectorised with Micro Prismatic Grade retro reflectivesheeting of Type-11 as per ASTM D-4956 and latest M.O.S.T. Specifications; 3.6mtr long stand post of 75 x 75 x 6mm / 65NB Circular MS Pipe as required and frame fabricated from suitable size iron angle of 35 x 35 x 3mm; painted with best quality epoxy coatings in black and white bends. The details of symbol for each board shall be as per the instruction of engineer in charge. The fixing at site shall be in 1:2:4 CC block of size 45 x 45 x 60 Cms. for each leg. including excavation, curing etc. complete under the supervision of engineer in charge. A warranty for 10 years for the Retro reflective sheeting from original manufacturer & a certified copy of 3 year outdoor exposure test report from third party test lab for the product offered shall be submitted by contractor. (A) Class-C Type-11 Retro Reflective sheeting	4	each	5848.00	23392
118		Painting road surface marking with adequate nos of coats to give uniform finish with ready mixed road marking paint conforming to IS : 164, on bituminous surface in white/yellow shade, including cleaning the surface of all dirt, scales, oil, grease and foreign material etc. complete. New work (Two or more coats)	25	sqm	159.00	3975



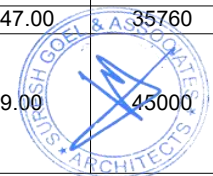
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
119	26004EA	Earthwork for embankment including breaking clods, dressing with all lead and lift and including watering rolling and consolidation of subgrade in layers at O.M.C. to required dry density including filling the depression which occur during the process using power roller 8T to 10T. (E) From Borrow area within all lead.	750	cum	392.75	294563
120	1.1	Carriage of materials including Loading, unloading and stacking complete. Earth for an average distance of 25 KM	750	cum	134.00	100500
121		Supplying and stacking at site dump manure from approved source, including carriage (manure measured in stacks will be reduced by 8% for payment) : Screened through sieve of I.S. designation 20mm	94	cum	227.00	21338
122		Fine dressing of the ground	2500	sqm	3.00	7500
123		Spreading of sludge, dump manure and / or good earth in required thickness as per direction of Engineer -in-charge (Cost of sludge, dump manure and / or good earth to be paid separately).	844	cum	47.00	39668
124		Mixing earth and sludge or manure in the required proportion specified or directed by the Engineer -in-charge.	844	cum	33.00	27852
125		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 With grass Turf	2500	sqm	12.00	30000
126		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).	504	cum	199.00	100296
127		Supplying & Stacking of Selection No.1 doob grass turf at site fresh & free from weeds having proper roots in green including loading, unloading, carriage and all taxes paid etc. and as per direction of officer in charge.	2500	sqm	45.00	112500
		<b>TOTAL</b>				<b>4484454</b>
		<b>Sub Head – XVII Sanitary Installation</b>				
128	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	4		6198.00	24792
129	N.S	Providing and fixing white vitreous china wall mounting water closet of size of approved shape including providing & fixing coneled cistern with dual flush fitting, of flushing capacity 2 litre/ 4 litre (adjustable to 4 litre/8 litres), including seat cover, and cistern fittings, nuts, bolts and gasket etc complete.	12	each	22906.00	274872



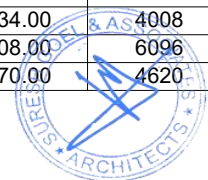
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
130	17.80	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & post flushing with water ( 250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge..	12	each	6254.00	75048
131	N.S	Providing and fixing white vitreous china wash basin under counter basin, with including 32 mm CP brass waste coupling, including painting of fittings and brackets, cutting and making good the walls wherever required all complete	12	each	3196.00	38352
132	17.22A	Providing and fixing 32mm C.P brass bottle Trap of approved quality & make as per the direction of engineer-in-charge.	14	each	791.00	11074
133	17.10.2.1	Providing and fixing stainless steel A ISI 304 (18/8) kitchen sink as per IS 13983 with C.I. Brackets and stainless steel plug 40 mm including painting of fittings and brackets, cutting and making good the walls wherever required.17.10.2)Kitchen sink without drain board. 17.10.2.1) 610 x 510 mm bowl depth 200 mm	4	each	3816.00	15264
134	17.28	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.17.28.1)Semi rigid pipe.17.28.1.2)40MM dia	4	each	91.00	364
135	N.S	Providing and fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing:	4	Sqm	2701.00	11668
136	17.35	Providing and fixing soil, waste and vent pipes :				
	17.35.1	100 mm dia.				
	17.35.1.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	258	metre	948.00	244584
137	17.39.1.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	36	each	309.00	11124
138	17.57A	Providing and fixing shielded coupling for Hubless centrifugally cast iron pipe				
	17.57.1A	100 mm				
	17.57.A.1.1	SS 304 grade coupling with EPDM rubber gasket	48	each	363.00	17424
139	17.60.1.1	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	28	each	679.00	19012
140	N.S	Providing and fixing CP with glass bottle liquid soap dispenser, of with nozzle and piston arrangement all complete as directed by the Engineer-in-Charge.	18	each	2504.00	45072
141	N.S	Providing and fixing S.S grating (with or without hole) for floor or Nahani trap. ( Make Jayana Model No TR 102 / Chilly or Equivalent )				
	a	for 100 mm dia. Pipe	45	each	353.00	15885
142	N.S	Providing and fixing G.I floor drain consisting of 100x50mm G.I elbow (grating and G.I pipe to be paid separately), complete as per instructions.	17	each	947.00	16099
143	N.S	Providing and fixing 100mm dia C.I Hubless inlet fitting consisting of 100mm dia main G.I pipe with multiple G.I. sockets (Inlets) of required diameter welded to it (as per site requirement) and fixing the same to C.I trap and setting in cement concrete, complete as per instructions of the Engineer in charge.	28	each	1061.00	29708
144	18.10	Providing and fixing of G.I pipe wall/ floor , cutting chases and making good with complete.				
	18.10.4	32 mm dia. nominal bore	7	metre	503.00	3521
	18.10.5	40 mm dia. nominal bore	7	metre	647.00	4529
	18.10.6	50 mm dia. nominal bore	17	metre	798.00	13566
		<b>Total</b>				<b>871958</b>
		<b>Water Supply</b>				



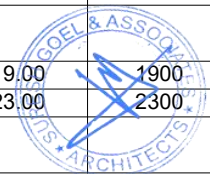
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
145	18.7	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.				
		Internal work – Exposed on wall.				
a	18.7.2	20 mm nominal outer dia Pipes	18	metre	290.00	5220
b	18.7.3	25 mm nominal outer dia Pipes	18	metre	365.00	6570
c	18.7.4	32 mm nominal outer dia Pipes	24	metre	447.00	10728
d	18.7.5	40 mm nominal outer dia Pipes	48	metre	602.00	28896
146	18.8	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.				
		Concealed work, including cutting chases and making good the walls etc.				
a	18.8.1	15 mm nominal outer dia Pipes	114	metre	394.00	44916
b	18.8.2	20 mm nominal outer dia Pipes	45	metre	459.00	20655
c	18.8.3	25 mm nominal outer dia Pipes	64	metre	559.00	35776
147	18.17	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) : Make SANT/ Zoloto/Leader/Audco				
a	18.17.1A	20 mm dia. nominal bore	6	each	412.00	2472
b	18.17.1	25 mm dia. nominal bore	34	each	475.00	16150
c	18.17.2	32 mm dia. nominal bore	17	each	527.00	8959
d	18.17.3	40 mm dia. nominal bore	17	each	632.00	10744
e	18.17.4	50 mm dia. nominal bore	4	each	784.00	3136
f	18.17.6	80 mm dia. nominal bore	4	each	1989.00	7956
148	N.S	Supply and fixing of 15mm CP brass Health Faucet with wall flange and suitable hose length CP brass extension pipe all of approved engineer-in-charge	12	each	1879.00	22548
149	N.S	Supply and fixing of 15mm CP brass 2 -Way Bib Cock ( single lever ) with wall flange and suitable length CP brass extension pipe all of approved engineer-in-charge	24	each	2426.00	58224
150	N.S	Providing and fixing C.P. brass pressmatic wall pillar cock ( auto closing ) mounted tap with wall flange	16	each	1654.00	26464
151	18.51	Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms.				
	18.51.1	15 mm nominal bore	9	each	633.00	5697
152	18.50	Providing and fixing C.P. brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.				
	18.50.1	15 mm nominal dia	4	each	638.00	2552
153	18.52	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.				
	18.52.1	15 mm nominal bore	12	each	531.00	6372
154	18.21	Providing and fixing uplasticised PVC connection pipe with brass ions :				
	18.21.2	45 cm length				
		15 mm nominal dia	80	each	67.00	5360
155	18.53	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931 a) 15 mm nominal bore				
	18.53.1	15 mm nominal bore	80	each	447.00	35760
156	18.48	Providing and fixing on terrace ( at all floor levels ) polyethylene water storage tank, ISI : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet , outlet and overflow pipes but without fittings and the base support for tank.	5000	metre	9.00	45000



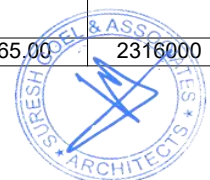
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
157		Supply ,Erection , Testing & Commissioning of Automatic water level control panel & related accessories for pumping automation with consisting of automatic water level controller , level sensor with stainless steel probe, motorized butterfly valve ( wafer type ) PN 1.0 with Electrical Actuator motorized valve controller with complete in all respect. Make : Zoloto - 1078D / Castle / Advance	2	set	24108.00	48216
158	18.85A	Providing and fixing Stainless Steel pipe and fitting of grade 316L as per IS 6911:2017 and conforming to EN-10312 standards complete with press type fitting (fitting shall be paid for separately) i/c fixing of the pipe with clamps at 1.00 m spacing including cutting and making good the walls including testing of joints complete as per direction of Engineer-in-charge. (The pipe length inserted in the fitting shall not be measured for payment)				
		Internal work - Exposed on wall				
a	18.85A.2	22 mm outer dia pipe	18	metre	766.00	13788
b	18.85A.3	28 mm outer dia pipe	30	metre	955.00	28650
c	18.85A.4	35 mm outer dia pipe	30	metre	1325.00	39750
d	18.85A.5	42 mm outer dia pipe	120	metre	1595.00	191400
159	18.86A	Providing and fixing Stainless Steel pipe and fitting of grade 316L as per IS 6911:2017 and conforming to EN-10312 standards complete with press type fitting (fitting shall be paid for separately) i/c fixing of the pipe with clamps at 1.00m spacing and also including cutting of chases and making good the walls including testing of joints complete as per direction of Engineer -in-charge. (The pipe length inserted in the fitting shall not be measured for payment)				
		Internal work - Concealed Pipe				
a	18.86A.1	15 mm outer dia pipe	27	metre	680.00	18360
b	18.86A.2	22 mm outer dia pipe	27	metre	919.00	24813
160	18.87A	Providing and fixing required Stainless Steel Fitting of press fit design of grade 316L as per IS 6911:2017 and conforming to EN-10312 standards with V-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge.				
		Coupling/Socket				
a	18.87A2	For 22 mm outer dia pipe	9	each	323.00	2907
b	18.87A3	For 28 mm outer dia pipe	15	each	376.00	5640
c	18.87A4	For 35 mm outer dia pipe	15	each	472.00	7080
d	18.87A5	For 42 mm outer dia pipe	60	each	639.00	38340
161	18.88A	Providing and fixing required Stainless Steel Fitting of press fit design of grade 316L as per IS 6911:2017 and conforming to EN-10312 standards with V-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge.				
		Reducer				
	18.88A.1	For 22mm x 15 mm outer dia pipe	120	each	305.00	36600
162	18.96A	Providing and fixing required Stainless Steel Fitting of press fit design of grade 316L as per IS 6911:2017 and conforming to EN-10312 standards with V-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge.				
		Female Thread Connector/ Adapter				
	18.96A.1	For 15 mm outer dia x 1/2" mm nominal dia threaded	160	each	526.00	84160
163	18.98	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge.				
		Valve Connector				
a	18.98.2	For 22.22 mm outer dia x 15 mm nominal dia threaded	12	each	334.00	4008
b	18.98.4	For 28.58 mm outer dia x 25 mm nominal dia threaded	12	each	508.00	6096
c	18.98.5	For 34.00 mm outer dia x 32 mm nominal dia threaded	6	each	770.00	4620



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
164	N.S	ACTIVATION Manual 50 Lph RO FILTRATION five Stage RO purification, Sediment, carbon and UV AUTO-OFF WATER FLOW No DRAINAGE TYPE Built in drain, Fixed drip tray EXTERIOR Brushed Stainless Steel inner shel thicker Stainless Steel-304 inlet connection 0.5'' B.S.P Insulation ,50MM PUFF insulation, Reciprocating Hermetic Type compressor, R134a Refrigerent, fin tube type condenser, cooling capacity 200LPH, storage 200 ltr. Make. Oasis wfs/ Blue star/ voltas	1	Set	163748.00	163748
165	N.S	Supply, installation, testing and commissioning of solar water heating system, suitable for following specifications and capacities, complete with necessary storage tanks and accessories, insulation, GI piping, valves ,gaskets, support brackets, CC foundation where ever necessary as required for 300 ltrs capacity				
		System output temperature - 60 degree C				
		The solar panels shall confirm to BIS - 12933 part- I				
		Circulation type / thermo syphon system				
		The stainless steel water tank made of stainless steel of 304 grade and 2mm thick, duly insulated with 100mm thick rock wool of 48Kg /Cum density, duly cladded with aluminium sheet of 24SWG thickness				
		Support stand made of 50x50x5mm angle iron on suitable 1:2:4 CC foundation block.				
		The GI pipes with accessories shall be insulated with 50mm thick rock wool of 48Kg/ cum, duly cladding with aluminium sheet of 26 SWG thickness (For Hot water lines)				
		Suitable capacity of power backup with a facility to switch on automatically in cloudy condition and also with auto / manual selection arrangement				
a		200 LPD	1	each	35076.00	35076
b		1000 LPD		each	179277.00	
166	N.S	Supply of wall hanging smart tap, versafiller water cooler with bottle filler facility, made by stainless steel top and heavy duty galvanized steel frame. With cooling capacity 60LPH, ADA Compliant, size 960(H) x 413(W) x 473(D)(in mm) , SS bubbler guard , operated between 50 to 120 PSI, Chiller unit Suitable to R134a Refrigerant, with-non flammable foam Adjustable thermostat control, suitable for 220-230V/50-60 hz A/C Supply Complete with all accessories which include MD-CU29 Push Pad, which is an EPA registered antimicrobial copper that fights off microorganisms which include MRSA and e-coli. Key Versafiller moulded components shall contain Freshield, which utilises a silver-based antimicrobial compound that reduces the growth of micro-organisms and mildew to protect the surfaces from discolouration, odours and degradation The online water cooler certified with UL, NSF-USA, TUV, GRIHA-Green building, ANSI/NSF 61, CABO/ANSI A117.1, ADA, CE , WRAS certification, Mechanical Operation at both dispencing point with UV light and to be placed at different location of buidling. installing the Water Fountain for proper functioning and aesthetic view as directed by the engineer-in-charge without any extra cost. Make-Oasis/Filtrin/sunrock/Murdock.	2	each	72546.00	145092
167	18.12	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc.:				
a	18.12.5	40 mm diameter pipe	100	metre	499.00	49900
b	18.12.6	50 mm diameter pipe	100	metre	584.00	58400
168	18.40	Painting G.I. pipes and fittings with two coats of anti-corrosive bitumastic pant of approved quality :				
	18.40.5	40 mm diameter pipe	100	metre	19.00	1900
	18.40.6	50 mm diameter pipe	100	metre	23.00	2300
169	18.41	Providing and filling sand of grading zone V or coarser grade all-round the G.I. pipes in external work.				



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
a	18.41.5	40 mm diameter pipe	100	metre	152.00	15200
b	18.41.6	50 mm diameter pipe	100	metre	158.00	15800
170	18.20	Providing and fixing brass ferrule with C.I. mouth cover including boring and tapping the main :				
	18.20.3	25 mm nominal bore	4	each	399.00	1596
171	18.31	Providing and fixing of cast iron sluice valves ( with cap ) complete with bolts, nuts, rubber insertions etc. ( the tail pieces if required will be paid separately):				
	18.31.1	100 mm diameter				
	18.31.1	Class II	8	each	4018.00	32144
172	18.32	Constructing masonry Chamber 30x30x50 cm inside, in brick working cement mortar 1:4 (1 cement :4 coarse sand)for stop cock, with C. I. surface box 100x100 x75 mm (inside) with hinged cover fixed in cement concrete slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), i/c necessary excavation, foundation concrete 1:5:10 ( 1 cement : 5 dine sand : 10 graded stone aggregate 40mm nominal size ) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12mm thick, finished with a floating coat of neat cement complete as per standard design :				
	18.32.1	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	25	each	1529.00	38225
173	18.33	Constructing masonry Chamber 60x60x75 cm inside, in brick working cement mortar 1:4 (1 cement :4 coarse sand) for sluice valve, with C. I. surface box 100 mm top diameter, 160 mm bottom diameter and 180 mm deep ( inside ) with chained lid and RCC top slab 1:2:4 mix ( 1 cement : 2 cement : 2 coarse sand : 4 graded stoe aggregate 20mm nominal size) i/c necessary excavation, foundation concrete 1:5:10 ( 1 cement : 5 dine sand : 10 graded stone aggregate 40mm nominal size ) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12mm thick, finished with a floating coat of neat cement complete as per standard design :				
	18.33.1	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	4	each	9020.00	36080
174	18.34	Constructing masonry Chamber 90x90x100 cm inside, in brick working cement mortar 1:4 (1 cement : 4 coarse sand)for sluice valve, with C.I. surface box 100mm top diameter, 160 mm bottom diameter and 180 mm deep ( inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size ) , i/c necessary excavation, foundation concrete 1:5:10 (1 cement :5 dine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :				
	18.34.1	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	4	each	15695.00	62780
175	18.59	Providing and fixing C.I. double acting air valve of approved quality with bolts, nuts, rubber insertion etc. complete ( The tail pieces, tapers etc if required will be paid separately) :				
	18.59.3	100 mm dia	4	each	7334.00	29336
176	18.70	Providing push-on-joints to centrifugally (Spun) cast iron or Dectile Iron pipes including testing of joints and including the cost of rubber gasket.				
	18.70.1	100 mm dia Pipes	400	Joint	86.00	34400
177	18.72	Providing and laying S & S centrifugally cast (Spun) pipes conforming to IS : 8329				
	18.72.15	100 mm dia Ductile Iron class K-9 pipes	2400	metre	965.00	2316000



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
178	18.80	Disinfecting CI water mains by flusing with water containing bleaching powder at 0.5 gms per ltrs of water and cleaning the same with fresh water, operation to be repeted three times including getting the sample of water from the disinfected main tested in the municipal laboratory.				
	18.80.2	150 mm dia meter CI pipe	24	100.0M	2656.00	63744
179	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.				
a	18.9.3	25 mm nominal outer dia Pipes	250	metre	331.00	82750
b	18.9.6	50 mm nominal outer dia Pipes	400	metre	725.00	290000
c	18.9.8	80 mm nominal outer dia Pipes	200	metre	1777.00	355400
d	18.9.10	100 mm nominal inner dia Pipes	950	metre	2510.00	2384500
180	NS	SS TANK 400LTR	1	NOS	214286.00	214286
		<b>Total</b>				<b>7393240</b>
		<b>Sub Head : Drainage</b>				
181	N.S	Supply and fixing of DWC ( Double Wall Corrougated ) Pipe soil / waste pipe under ground drainage system ( SN 8 ) soil and waste pipes jointed with rubber ring with good quality lubricant with slovent cement. As per IS - 16098-II for pipes and IS fittings, inclusive of all necessary specials like bends, tees, offsets, junctions, etc., laid under floor/under ceiling/on walls with suitable clamps and specials curing, necessary chasing, jointing and restoring to original conditions, testing etc. as directed by Engineer -in- Charge. Make Astral / Prince / Supreme				
a	a	150 mm diameter	14	metre	346.00	4844
b	b	200 mm diameter	60	metre	413.00	24780
c	c	250 mm diameter	950	metre	590.00	560500
182	19.2	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand: 10 graded stone aggregate 40 mm nominal size) all-round S.W. pipes including bed concrete as per standard design:				
a	19.2.2	150 mm diameter	14	metre	978.00	13692
b	19.2.3	200 mm diameter	60	metre	1140.00	68400
c	19.2.4	250 mm diameter	950	metre	1318.00	1252100
183	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 300 x300 mm size (inside) the weight of cover to be not lessthan 4.50 kg and frame to be not less than 2.70 kg as per standarddesign :				
	19.4.3	180x150 mm size P type				
	19.4.3.1	With common burnt clay . (non modular) bricks of class designation 7.5	14	each	2263.00	31682
184	19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :				
a	19.6.2	150 mm dia. R.C.C. pipe	360	metre	440.00	158400
b	19.6.3	250 mm dia. R.C.C. pipe	450	metre	724.00	325800
c	19.6.4	300 mm dia. R.C.C. pipe	400	metre	805.00	322000
185	19.35	Providing and laying non-pressure NP3 class (Medium duty) R.C.C. pipes including with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :				
	19.35.1	450 mm dia. R.C.C. pipe	200	metre	2130.00	426000

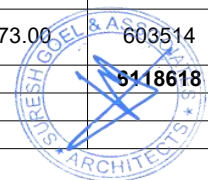




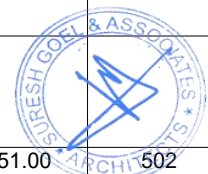
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
186	19.7	Constructing brick masonry manhole in cement mortar 1:4 ( 1 cement :4 coarse sand ) with R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size),foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size), inside plastering 12mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement complete as per standard design :				
	19.7.1	Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) :				
	19.7.1.1	With common burnt clay (non modular) bricks of class designation 7.5	27	each	10435.00	281745
187	19.8	Extra for depthfor manholes				
	19.8.1	Size 90x80 cm				
	19.8.1.1	With common burnt clay (non modular) bricks of class designation 7.5	5	metre	8700.00	39150
188	19.9	Constructing brick masonry circular type manhole 0.91m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement :4 coarse sand), in side cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :				
	19.9.1	0.91 m deep with S.F.R.C. cover and frame (heavy duty, HD-20 grade designation) 560mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182kg., fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12mm thick cement plaster at the external surface shall be paid for separately)				
	19.9.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	15	each	10613.00	159195
189	19.10	Extra depth for circular type manhole 0.91m internal dia (at bottom) beyond 0.91m to 1.67m				
	19.10.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	2	metre	6238.00	9357
190	19.11	Constructing brick masonry circular type manhole 1.22m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement :4 coarse sand), in side cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :				



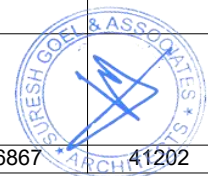
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
	19.11.1	1.68m deep with S.F.R.C. cover and frame (heavy duty, HD-20 grade designation) 560mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182kg., fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12mm thick cement plaster at the external surface shall be paid for separately)				
	19.11.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	23	Each	20493.00	471339
191	19.12	Extra depth for circular type manhole 1.22m internal dia (at bottom) beyond 1.68m to 2.29m				
	19.12.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	2	metre	8097.00	18623
192	19.13	Constructing brick masonry circular type manhole 1.52m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement :4 coarse sand), in side cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :				
	19.13.1	2.30m deep with S.F.R.C. cover and frame (heavy duty, HD-20 grade designation) 560mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182kg., fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12mm thick cement plaster at the external surface shall be paid for separately)				
	19.13.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	10	each	43922.00	439220
193	19.14	Extra depth for circular type manhole 1.52m internal dia (at bottom) beyond 2.30 m:				
	19.14.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	1	metre	18842.00	18842
194	19.15	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 :				
	19.15.1	With 20x20 mm square bar	160	each	412.00	65920
195	19.27	Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :				
	19.27.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	165	each	4991.00	823515
196	2.10	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 1.5 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.	1618	metre	373.00	603514
		<b>Total</b>				<b>5418618</b>



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
197	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	180	metre	740.00	133200
198	23.2	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, beyond 90 metre & upto 150 metre depth below ground level.				
	23.2.1.3	400 mm dia	20	metre	925.00	18500
199	23.10.3	Supplying, assembling, lowering and fixing in vertical position in bore well,ERW ( Electronic Resistance Welded ) EE 410 mild stell pipes of required dia , ,conforming to IS: 4270, of required and approved make , icluding painted with outside surface with two coat of anticorrosive paint approval brand and manufacture, including hire and labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer -in-charge.				
	23.10.3	200 mm nominal size dia havaning minimum wall thickness 5.4 mm	180	metre	1859.00	334620
200	23.11	Supplying, assembling, lowering and fixing in vertical position in bore well,ERW ( Electronic Resistance Welded ) EE 410 plain slotted ( having slot of size 1.6/3.2 mm ) steel threaded and socketed / plain bevel ended pipe m( type A ) of requirred di conforming to IS: 8110, of required and approved make , having wall thicknes not less than 5.40 mm , icluding painted with outside surface with two coat of anticorrosive paint approval brand and manufacture, including hire and labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer -in-charge.				
	23.11.3	200 mm nominal size	20	metre	1960.00	39200
201	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 approved laboratory, i/c disinfection of tubewell, all complete, including hire & labour charges of air compressor, tools & accessories etc., all as per requirement and direction of Engineer-in-charge.	100	hour	819.00	81900
202	23.9	Providing and fixing factory made precast RCC perforated drain covers, having concrete of strength not less than M-25, of size 1000 x 450x50 mm, reinforced with 8 mm dia four nos longitudinal & 9 nos cross sectional T.M.T. hoop bars, including providing 50 mm dia perforations @ 100 to 125 mm c/c, including providing edge binding with M.S. flats of size 50 mm x 1.6 mm complete, all as per direction of Engineer-in-charge.	2	each	1083.00	2166
203	23.13	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:				
	23.13.3	200 mm dia	2	each	251.00	502



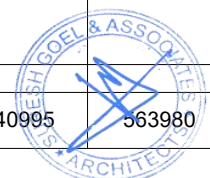
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
204	23.14	Providing and fixing M.S. clamp of required dia to the top of casing housing pipe of tubewell as IS 2800 ( Part I ) , including necessary bolts & nuts of required size complete,				
	23.14.3	200 mm clamp	2	each	1631.00	3262
205	23.15	Providing and fixing Bail plug/ Bottom plug of required dia to the bottom of pipe assembly of tubewell as per IS:2800 (part I).				
	23.15.3	200 mm dia	2	each	275.00	550
206	23.9	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 Engineer-in-charge.	8	cum	1321.00	10568
207	18.10	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.				
	18.10.6	50 mm dia nominal bore	220	metre	798.00	175560
		Total				<b>800028</b>
<b>Sub Head : Fire Fighting System</b>						
208	4.2	450 lpm at 35 m Head	4	each	76967	307868
		Fabrication, Supplying, Installation, Testing & Commissioning of electrical control panel of cubical construction, floor mounted type, fabricated out of 2mm. Thick CRCA sheet, dust and vermin proof, powder coated of approved shade after 7 tank treatment process cable alley, inter-connection, having switchgears and accessories mounting and internal wiring, earth terminals, numbering etc. complete in all respect, suitable for operation on 415V, 3 phase, 50 HZ. AC Supply with enclosure protection class IP 42 as required.				
		Terrace Pump Control Panel (for 900 LPM Pump)				
		Incomer				
		100 Amps. TP MCCB.25 KA				
		Voltmeter (0-500 Volt) with selector switch				
		Ammeter (0- 100 Amps.) with Selector switch				
		Set of 3 Phase indication lamp				
		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, On/Off indication lamp	4	set	65000	260000
	18.7.7	100mm dia	30	metre	2281	68430
209	18.9	Supplying and fixing single headed internal hydrant valve with instantaneous Gun metal couplings of 63mm dia with cast iron wheel ISI marked conforming to IS 5290 (Type-A) with blank Gunmetal cap and chain as required				
	18.9.1	Single headed Gunmetal	6	Set	6827	40962
210	18.10	Supplying and fixing Single headed external yard hydrant valve with 1 No. 63 mm dia instantaneous FM Gun metal coupling and cast iron wheel, ISI marked, conforming to IS 5290 (type A) with blank Gunmetal cap and chain as required.				
	18.10.1	Single headed Gunmetal	2	Set	6827	13654
a	18.11.7	100 mm dia	2	each	5953	11906
b	18.11.4	80 mm dia	6	each	4448	26688
c	18.11.1	40 mm dia	6	each	3206	19236
211	18.13	Supplying and fixing orifice plate made of 6 mm thick stainless steel with orifice of required size in between flange & landing valve of external and internal hydrant to reduce pressure to working pressure of 3.5 kg/cm2 complete as per specifications as required.	6	Nos.	1179	7074
212	18.14	Supplying, fixing, testing and commissioning of following size non return valve with dual plate of CI body SS plates vulcanized NBR seal flanged end & PN 16 pressure rating as specified.				
	18.14.4	80 mm dia	6	each	6867	41202



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
213	18.17	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.				
		20 mm nominal internal dia water hose thermoplastic (Textile reinforced) type -2 as per IS: 12585				
		20 mm nominal internal dia gun metal globe valve & nozzle.				
		Drum and brackets for fixing the equipments on wall.				
		Connections from riser with 25 mm dia stop gun metal valve & M.S. Pipe and socket.				
a	18.17.1	30 M	7	each	7746	54222
b	19.18.2	3 way-100 mm dia M.S. Pipe	2	each	8442	16884
214	18.20	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 pain of approved shade as required.	2	each	16289	32578
215	NS	Supplying and fixing of hose cabinet of 750W x 600H x 250D mm made of 18 gauge M.S. sheet with 6mm thick glazed glass door including necessary locking arrangment suitable to accomodate external hydrant with butterfly valve, 2 nos. 15 mtr. long hose pipe, 1 no. branch pipe mounted on wall or raised brick platform and duly painted with post office red externally and white internally with synthetic enamel paint complete in all respect for external hydrant as required.	2	each	7580.00	15160
216	MR	Providing & fixing angle iron (40 mmx 40mm x 5 mm) door frame and M.S. sheet 18 guage cum glass shutter of size 2.1 mtr. X 1.2mtr. (N.S) with 25mm x 25mm x 3mm angle frame all around & stiffened in between i/c hinges, handle, locking arrangement, painting with approved synthetic enamel paint i/c sign writing on glass at internal hydrant including providing & fixing M.S. sheet 2 mm thick on remaining portion above door to close opening i/c painting etc. as required.	4	each	18650.00	74600
217	MR	Providing and fixing of ABC modular powder type fire extinguisher consisting of welded MS cylindrical body squeeze lever discharge valve fitted with pressoor indicating guage, internal discharge tube 30 cms long high pressor discharge hose, discharge nozzle, suspension (confirming to IS 13949 finished externally with red enamel paint and fix to wall with (complete with intrenal dishchage ) capacity 5 kg ISI marked	4	each	5241.00	20964
218	MR	Providing and fixing Carbon-di-oxide fire extinguishers consisting of welded M.S cylindrical body,squeeze lever discharge valve fitted with internal dischargetube, 30cms long high pressure discharge hose, discharge nozzle, suspension bracket, confirming to IS : 934 finished externally with red enamel paint and fixed to wall with brackets with rawl plug/dash fasteners complete with internal charge.				
		Capacity 4.5 kg. I.S.I. Marked.	4	each	13694.00	54776
		<b>Total</b>				<b>1066204</b>
		<b>DSR</b>				
		<b>M.R</b>				
		<b>A1 - MACHINARY</b>				
219		<b>Air Cooled Chilling Units (2W+ 1 S) for Animal House</b>				



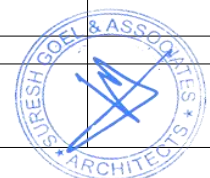
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
		Supply, Installation, Testing & Commissioning of Air Cooled Screw packages each of following Actual Capacity at following Design Parameters comprising of compressors with stepless capacity control and direct driven motor, insulated shell and tube type flooded cooler, sets of coil and air cooled condenser (Cu - Al) complete with direct driven propeller fans. The chiller package shall also be complete with copper piping, First charge of refrigerant gas and system control wiring, automatic & safety controls including electronic expansion valve. The chiller package shall be installed on a fabricated mild steel base frame factory assembled to form a compact assembly. 1. Cooling Capacity (Actual) : 140 TR 2. Operating Ambient Temperature : 44 Deg C 3. Chilled water 'In' : 10 Deg C 4. Chilled water 'Out' : 5 Deg C 5. Chiller Fouling Factor (FPS) : 0.0001 6. Type of Refrigerant : R-134a only 7. The machine shall be ECBC compliant, min COP of 2.90. 8. Power Consumption (including fan motor) at 100% Load shall not exceed 1.40 IKW/TR @ Above Conditions				
		Twin Screw helical rotary low noise compressor semi hermetic / hermetic complete with automatic step less capacity control, safety switches, forced feed lubrication system etc.				
		Suitable capacity squirrel cage induction motor /motors suitable for operation on 415±10% volts, 50 HZ, A.C. Supply.				
		Unit shall be complete with incoming suitable electrical isolator star delta stater complete with ammeter with CTs, overload protection, under voltage protection, protection against phase reversal & independent single phase preventors etc accessories as required.				
		Refrigerant piping fittings, valves and accessories to inter connect compressor, condenser, chillers and expansion valve etc. Suction line and chiller insulation with minimum 50 mm thick polyvinyl nitrile rubber insulation. complete as required.				
		Microprocessor based control panel complete with all accessories including interfacing with BMS as required.				
		water flow switches at inlet and outlet of chiller, water drain and air purge valves etc. complete wherever required.				
		Frame work for mounting the above condenser, chiller compressor and motor with base plate complete with antivibration pads/springs etc. complete as required.				
		Initial / first charge of refrigerant gas and compressor oil etc. as required.				
		1 Lot-Suitable RCC/Cement concrete foundation for the chilling unit installation complete as required.	3	each	5382369	16147107
220		<b>Pumps for Animal House</b>				
		Supply, erection, testing and commissioning of end suction type primary water pump set capable of delivering-1590LPM of water against 15 mtr head each comprising of the following and complete with TEFC squirrel cage induction motor with class 'F' insulation. 1450 rpm synchronous speed, operating on 415+ 10% volts, 3 phase, 50 Hz A.C. supply.				
		19mm thick polyvinyl nitrile rubber insulation duly cladded between aluminium sheets of 0.5mm thickness and properly clamped to pump.				
		Mounting frame with antivibration pads				
		Lot-RCC/cement concrete foundation for the pump unit.	4	each	140995	563980



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
221		Supply, erection, testing and commissioning of set of three Secondary Chilled Water Pumps & Variable speed Pumping system capable of delivering-1590 LPM of water against 22 mtr head each complete with motors & adjustable frequency drives, set of Differential pressure sensor / transmitter, etc as required. Complete system shall operate on 415+ 10% volts, 3 phase, 50 Hz A.C. supply. The secondary pumping system shall be microprocessor based pumps, 1 controller capable of controlling upto Three pumps in parallel with parallel pumping software duly downloaded. The scope shall include by pass stater for pumps& shall also include the following				
		19mm thick polyviny nitrile rubber insulation duly clad between aluminium sheets of 0.5mm thickness and properly clamped to pump.				
		Mounting frame with antivibration pads				
		RCC/cement concrete foundation for the pump unit.	1	job	1137427	1137427
222		<b><u>Air Handling Units for Animal House</u></b>				
		Supplying, installing, testing and commissioning of factory built double skin Air Handling units with separate fans for supply & return (in 2 tier) with HRW and unit as described below.				
		Standard 45mm thick panels (Suitable for outdoor application) consisting of pre plastisized painted sheet casing of thickness 0.8mm outside layer and 0.8mm inside layer with zinc coating and polyurethane foam (PUF) insulation having density of 42kg/cum factory injected between them by injection moulding machine, view windows, marine Lamp, limit switch, electrically interlocked fan section with access door, fire retardant flexible joints for outlets of the units. Drain connection with stainless steel drain pan duly insulated and necessary vibration isolation arrangement to avoid any vibration etc. The unit will be placed on terrace.				
		The extruded aluminum framework shall be with thermal break profiles as required, minimum 2 bend GSS/PVC eliminators,				
		AHU shall be complete with backward curved supply / farward curve Exhaust air centrifugal fan, Supply air shall be plug type (SWSI) direct driven with VFD, Exhaust fan will also have VFD, heat recovering wheels for cooling the fresh air, TEFC motors (IE3 efficiency) suitable for 415 + 10% volts, 50 Hz, 3 phase ACsupply.				
		Chilled water cooling coil with aluminium finned copper tubes (tube thickness not less than 0.5mm), The face velocity across cooling coil shall be limited to 450FPM maxm, The coil will have two supply water headers, out from first coil enter second coil through 3 way valve. The scope shall include 3 way valve, bypass butterfly valve, actuator and temperature sensors.				
		Supply air stream will have Filter section having pre, fine & HEPA filter section (Pre filters -minimum 10 micron particle size with an efficiency of 90%filters, HEPA filters with an efficiency 99.97% down to 0.3 micron). Exhaust section will have only pre filters				



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
		Thyristor based Strip heater section in supply air of capacities as mentioned below ( equally distributed over the 3 phases. The scope shall include 1. Heating thermostat (TH) for temperature control 2. Air flow switch for switching off heaters in case of no air flow, 3. Humidistats (HU) for humidity control, 4. Safety stats (SF), 5. Gyser stat, complete with interwiring including cable, swi+B31tch gear & connection thimbles, clamps, earthing, etc , terminal electrical distribution board, glass insulated flexible wires for connection of heaters, fire rated fillings at duct crossing etc. as required.				
		The scope shall include zero leakage dampers with motorized actuators complete with wiring in supply air duct and exhaust air duct connecting AHU complete with wiring.				
		The scope shall include				
		DPR operated variable speed arrangement (V.F.D) in weather proof enclosure complete with incoming electrical isolator, for supply & exhaust air fan's to allow for constant air volume delivery at all filter pressure drop conditions. The scope shall include pressure drop sensors with alarm system.				
		Scope shall also include Supply, installation, testing and commissioning suitable for outdoor application of 6KW pan type humidifiers consist of main body out of 2mm thick stainless steel sheet SS-304 having connections of quick fill, make up, over flow and drain. The top cover is open able for access to the inside of Humidifier for servicing. The body of Humidifier is Air tight and leak proof. Finally Humidifier is insulated with 50mm thick fibreglass 32 kg/m <sup>3</sup> and then cladded with 0.5 mm thick Aluminum sheet.				
		AHU mounted Contactor complete with suitable incoming electrical isolator for strip heaters in weather proof enclosure				
		UVGI lamps - UVC emitter ( Each AHU will have combination of 2 feet long UVC lamps, each lamp shall cover effectively 4sqft of area ) in coil section of AHU. The scope shall include electrical wiring and electrical isolator for following capacities. The purpose of these UVC emitters is to improve indoor air quality (IAQ) by eliminating mould, bacteria and other contaminants in down stream section. The UVGI system should be BMS Compactable.				
		Set of Butterfly valve for cooling coil isolation,				
		Y strainer in water supply to cooling coil				
		Automatic pressure independent balancing cum control valve (In addition to 3 way valve as mentioned in item description d)				
		Cowls with louvers at intake & exhaust louvers complete with washable 10µ filters, GI bird screen, etc as required.				
		AHU's shall be mounted on P.C.C. blocks with neoprene pads in between as per specifications. & FRP sheet to cover AHU.				
		Set of each Temperature & water pressure guage (100 mm Ø) bourdon type with brass ball valve of 3/8" Ø and SS tubing, socket. Range (0-50)				
		Aut air vent on header of coil in AHU.				
		The scope includes incoming electrical isolator and further distribution including cable, VFDs, staters, etc as required and as described above				
		A set of Plug valve for drain				
		AHU's shall be mounted on P.C.C. blocks with neoprene pads in between as per specifications. & FRP sheet to cover AHU.				





S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
		Supply and installation of Magnehelic guages with suitable to install in modular panel with nozzle & complete accessories across fine filters				
		Make AHU - Edgetech / Zeco, Heat recovery wheel - Bryair				
		The capacity of Air-handlers shall be as follows:				
		# Area				
a		AHU - 6600CFM / 52TR 130mm /50mm Strip heater 12KW	3	each	1734734	5204202
b		AHU- 3300CFM / 26TR 130mm /50mm Strip heater 6KW	3	each	1029303	3087909
c		AHU- 3000CFM / 26TR 130mm /50mm Strip heater 2KW	3	each	1021241	3063723
d		AHU- 2300CFM / 14TR 130mm /50mm Strip heater 4.5KW	3	each	916017	2748051
e		AHU- 900CFM / 7.5TR 130mm /50mm Strip heater 1.5KW	3	each	692921	2078763
f		AHU- 9400CFM / 65TR 130mm /50mm Strip heater 15KW	3	each	2169807	6509421
g		AHU with HRW				
h		AHU- Supply 2600CFM / 14TR Exhaust 1600cfm 130mm /45mm Strip heater 5KW	3	each	923662	2770986
		AHU with Heat pipe				
i		AHU- 2800CFM / 17TR 130/130mm Strip heater 3KW	2	each	738930	1477860
j		AHU - 4200CFM / 37TR 130/130mm Strip heater 9KW	3	each	904202	2712606
k		AHU- 2600CFM / 22TR 130/130mm Strip heater 4.5KW	8	each	737957	5903656
l		AHU- 800CFM / 2TR 130/130mm Strip heater 1KW	3	each	603682	1811046
m		AHU- 1650CFM / 11.5TR 130/130mm Strip heater 3KW	3	each	616748	1850244
n		AHU- 800CFM / 6TR 130 /130mm Strip heater 1.5KW	3	each	604238	1812714
223		Wall mounted axial flow fan				
		Supply, installation, testing and commissioning of heavy duty axial flow exhaust air fans ( Propeller fan ) with gravity electronic regulator, louvers, frame, bird screen etc complete with motor suitable for 1 Phase, 230 volts, 50Hz.				
		1500cfm / 12mm static (Dirty corridor)	6	each	137387	824322
224		Supplying, installation, testing and commissioning of fan coil units having following capacities, ceiling/ wall mounted complete with copper tubes, 3 row deep chilled water cooling coils having aluminium fins and auxiliaries including ball valve set, insulation of drain pan, drain connections, blower, TEFC slow speed (3 speeds) squirrel cage induction motor suitable for operation on 230 volts, sin le phase, 50 Hz, A.C. supply, controls for fan coil units comprising solenoid valve, three speed selector switch, room thermostat with ON/ OFF switch, electrical wiring etc complete				
a		400 cfm 1TR	1	each	28904	28904
b		600 cfm 2TR	2	each	30141	60282
c		800 cfm 2TR	2	each	31588	63176
225		Supplying & fixing, of pre filter assembly in exhaust air risers complete with housing to hold exhaust filter, Housing shall have locking arrangement/ quick release mechanism for removal of filters for ease of maintenance. This housing will be connected to exhaust duct, complete as per required. Scope shall include 600 x 300 x150mm deep fine filter assembly.	79	each	23332	1843228



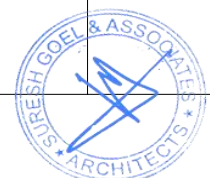
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount		
226		Supplying, installation, testing and commissioning of electric strip heaters of following capacities for reheat arranged in banks complete with cooling/ heating thermostats (TH), humidistats (HU), safety stats (SF) ( Air flow switch, Geyser stat, etc. as per details given below for AHU's complete with interwiring including cable, switch gear & connection from AHU switch board and connections etc. complete as required.						
		Capacity KW	No of TH	No of SF				
a		0.5	1	1	18	each	3571	64278
b		1.0	1	1	18	each	5357	96426
		PLUMBING						
227		Supplying, laying, fixing, testing and commissioning of following nominal sizes of pre insulated chilled water plumbing inside the building / outside the building along the wall/ roof (with necessary clamps, vibration isolators and fittings but excluding valves, strainers, gauges etc.) pipe insulation shall be polyurethane foam with 36 kg/cu m minimum density, minimum compressive strength of 40 psi and thermal conductivity of 0.14 Btu-in/hr/ft2/OF. The insulation shall completely fill the annular space between the service pipe and jacket and shall be bonded to both, the service pipe & jacket. The minimum thickness of insulation shall be 30mm for pipes diameter less than 150mm & shall be 50mm for pipe diameter 150 to 300mm. The pipe cladding shall be with 24 gauge Aluminium sheet. Lock seam spiral Jackets for metallic jackets must be made on a spiral duct forming machine. The lock seam jackets should have zero leakage at the seams.						
		The pipes of sizes 150mm and below shall be of M.S. medium class as per IS: 1239 and pipe of sizes above 150mm shall be of welded black steel pipe medium class as per IS:3589						
a		200 mm Ø Piping	130	metre	5212	677560		
b		150 mm Ø Piping	100	metre	3309	330900		
c		125 mm Ø Piping	20	metre	2829	56580		
d		100 mm Ø Piping	60	metre	2272	136320		
e		80 mm Ø Piping	50	metre	1921	96050		
f		65 mm Ø Piping	50	metre	1640	82000		
g		50 mm Ø Piping	5	metre	1380	6900		
h		40 mm Ø Piping	5	metre	1204	6020		
i		32 mm Ø Piping	20	metre	1058	21160		
j		25 mm Ø Piping	50	metre	874	43700		



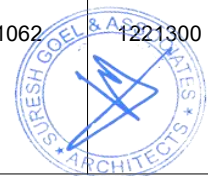
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
228		Supplying, laying, fixing, testing and commissioning of following nominal sizes of pre insulated chilled water plumbing outside the building buried in ground (with necessary clamps, vibration isolators and fittings but excluding valves, strainers, gauges etc.) pipe insulation shall be polyurethane foam with 36 kg/cu m minimum density, minimum compressive strength of 40 psi and thermal conductivity of 0.14 Btu-in/hr/ft <sup>2</sup> /OF. The insulation shall completely fill the annular space between the service pipe and jacket and shall be bonded to both, the service pipe & jacket. The minimum thickness of insulation shall be 30mm for pipes diameter less than 150mm & shall be 50mm for pipe diameter 150 to 300mm. The outer protective insulation jacket shall be seamless, extruded, black, uv resistant, high-density polyethylene (HDPE). The minimum thickness of the HDPE jacket shall be 2.5mm upto 100mm, shall be 3mm for pipe diameter 100mm to 350mm and shall be 6mm for pipe size more than 350mm. Underground systems shall be buried in a trench of not less than 600 mm deeper than the top of the pipe & not less than 450mm wider than the combined OD of all piping systems. Trench bottom shall have a minimum of 150 mm of sand, pea gravel or specified backfill material, consolidated to suit operating weight & to act as a cushion for the piping.				
		200mmdia.	200	metre	6179	1235800
		<b>Y - Strainers</b>				
229		Y - STRAINER of Ductile CI Body flanged ends with stainless steel strainer for chilled / hot water circulation including insulation as specified.				
		<b>INSULATED VALVES</b>				
		Supplying, fixing, testing and commissioning of following valves, strainers, gauge in the chilled water plumbing duly insulated to the same specifications as the connected piping and adequately supported as per specifications.				
		C.I. Butterfly valve.				
a		200 mm Ø	3	each	11463	34389
b		150 mm Ø	15	each	8036	120540
230		Motorized butterfly valve with actuator and sensor for operation on BMS in the outgoing of the chiller				
		150mm	3	each	30089	90267
231		Non-Return valve with dual plate of CI body SS plates vulcanized NBR seal Flanged end for chilled water circulation.				
		150 mm Ø	6	each	5971	35826
232		Automatic Balancing valve.				
		150 mm Ø	3	each	22583	67749
233		Y- strainer of ductile CI Body flanged ends with stainless steel strainer				
		150 mm Ø	9	each	12843	115587
234		Plug valves - 25mm diameter Plug valves in dirt legs	12	each	2232	26784
235		Flexible connections. - 150 mm Ø	18	each	5514	99252
236		SITC of water pressure gauge (100 mm Ø) bourdon type with brass ball valve of 3/8" Ø and SS tubing, socket. Range (0-50) / (0-100) as required.	18	each	846	15228
237		SITC of Mercury in glass industrial thermometer in SS-304 casing with 0.5C least count, range 0-50 C. Brass oil filled thermowell of 1/2" size	18	each	601	10818



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
238		Supply, installation, testing, balancing and commissioning of PRESSURISED CHILLED WATER EXPANSION TANK along with necessary accessories such as air vents, Safety Valves, Pressurisation pumps and its panel , with required Support & Foundation etc. in order to keep chilled water system under pressure and to prevent entrapment of air in the system. The tank shall be precharged M.S expansion tank with replaceable heavy duty butyl rubber bladder. The tank shall have 20 mm drain and charging valve connection to facilitate the onsite charging of the tank to meet system requirement. The tank shall be fabricated as per Indian standard code for "non-fired pressure vessels" and the flanges shall be as per IS 6392-1971. For chilled/hot water application, it will be insulated with 50mm thick insulation to the specifications and clad with STARBOND 30-36, Anti-Fungal, Fire retardant insulation protective coating, tested as per ASTM D 4804, ASTM E 84, ASTM D-5035-11, ASTM D 1777-64 and ASTM D 3776-09, finally finished with 2 layers of Insulation protective coating to provide complete seal against air and moisture/resistance against mechanical impact, scratch, weather resistance with the properties of mold, fungus and bacterial resistance. The coating surface flame spread should be 0 and smoke developed should be also 0, coating should also comply with NFPA 90A & 90B-25/50 for parameter and the VOC level of the coating should comply with LEED IEQ 4.2 i.e. VOC level should be below than 50 gram/litter and it should also comply the guidelines of MIA 3316C- Class 1 & Grade A.				
		The expansion tank shall be supplied along with pressurization unit. Install Expansion tank in accordance with manufacturer 's written instructions. The drawing, schedules and specification shall be referred. The tank shall be designed to absorb the expansion forces of cooling/heating system water while maintaining proper system pressurization under varying operating conditions. The heavy duty bladder should contain system water thereby eliminating tank corrosion and water logging problems. The system should include airvent and complete as per technical specification. Tank shall be selected for 125 psi. The pressurization unit shall consist of two nos. (1 working + 1 stand-by) high pressure pumps of suitable pressure rating mounted on M.S. frame, complete with interconnecting piping, isolation valves, NRV, Y-strainer, pressure gauge, pressure transmitter, auto-logic panel (IP 55) with dry-run protection, electrical MCB and interconnecting wiring. The unit shall be housed in powder-painted canopy suitable for external installation conforming to the specifications. The Pump Shall be BMS Compatible.				
		Insulated Closed Expansion tank (at least 100lt capacity ) for chilled water application duly pressurized complete with piping connections, safety relief valve, drain valve, pressure gauge, automatic air purging arrangement, etc. complete as per specifications. The system shall be complete with self sufficient pressurization system complete with pressure switches and power distribution and control panel for 1+1 pressurization pumps (2CMH, 25mWC), IP55 Control Panel, Pressure Transmitter, interconnecting piping & wiring.. The tank shall be duly painted in approved colour. expansion tank & pressurization system should be rated for PN10.-For Animal House )	1	each	133927	133927



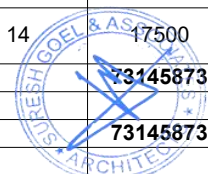
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
239		Supply, installation , testing and commissioning of Air separator with pot type straining capability for 200mm pipe line, automatic air purging arrangement etc. The design parameters for the air separator of efficiency 96-98 %. Suitable for PN10 rating, complete with super vent as required.	1	each	96583	96583
240		Supply, installation , testing and commissioning of 25mm Automatic Air Vent valve suitable to purge out the trapped air in the water pipe line complete as required.	10	each	1328	13280
241		Supplying, fixing, testing and commissioning of medium class G.I.condensate drain pipes, duly insulated, along with wall /Floor /roof etc of following size along with necessary clamps, fittings such as bends,tees etc. adequately supported as per specifications and as required. Insulation, on AHU drain piping, of rigid expanded Polystyrene pipe section of TF-quality pipe sections of thickness as given below The piping shall be wrapped with polyethylene sheet retained by GI wire netting and finally applied with two layers of sand cement plaster 12mm thick and painted				
a		50 mm Ø 25mm thick	40	metre	469	18760
b		40 mm Ø 25mm thick	20	metre	363	7260
c		32 mm Ø 25mm thick	10	metre	321	3210
d		25 mm Ø 25mm thick	30	metre	241	7230
242		Supply and installation of Magnehelic guages with suitable to install in modular panel with nozzle & complete accessories (Range: 30 - 0 - 30 Pa)	15	each	1786	26790
243		Providing and fixing prefabricated and paneled and bolted stainless steel ( SS 304) sink with sheet wall thickness 18 gauge of approved branded and confirming IS code with cover and locking arrangement and making necessary for inlet with fixing and base support for sink , complete as per direction of engineer in charge.	600	letre	49	29400
		<b>A3 - DUCTING AND GRILLS</b>				
244		Supply, Installation, Testing Balancing & Commissioning of G.S.S square/ rectangular factory fabricated ducting complete with gaskets, elbows, splitters, vanes, supports adjustable dampers, etc. as per drawings and as required for dehumidified air distribution of following thickness as per approved working drawings, specifications and requirement .				
a		Thickness 1.25mm Sheet	180	sqm	1122	201960
b		Thickness 1.00mm Sheet	180	sqm	896	161280
c		Thickness 0.80mm Sheet	1260	sqm	795	1001700
d		Thickness 0.63mm Sheet	2350	sqm	647	1520450
245		Supply and fixing of external thermal insulation on supply air ducts with 19mm thick chemically cross linked closed cell polythene (XLPE) fire retardant grade insulation of density not less than 30kg per cum in single layer with factory lamination of 30 micron aluminium foil.	1200	sqm	678	813600
246		Supply and fixing of external thermal insulation on exhaust ducts with 9mm thick chemically cross linked closed cell polythene (XLPE) fire retardant grade insulation of density not less than 30kg per cum in single layer with factory lamination of 30 micron aluminium foil as per specifications	1600	sqm	321	513600
247		Supply and fixing of external thermal insulation on ducts running in ambient air with 19mm thick chemically cross linked closed cell polythene (XLPE) fire retardant grade insulation of density not less than 30kg per cum in single layer with factory lamination of 30 micron aluminium foil as per specifications. A coat of starbond or equivalent adhesive shall be applied on insulation & then the insulation shall be wrapped with glass cloth. Over glass cloth two more coats of star bond shall be applied.	1150	sqm	1062	1221300



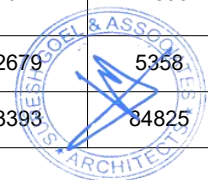
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
248		Supply, installation, testing and commissioning of GI volume control duct damper complete with neoprene rubber gaskets, nut, bolts, screws linkages, flanges etc. as per specifications	8	sqm	4833	38664
249		Supplying, fixing, testing & commissioning of supply air swirl diffuser in aluminium construction of size 595x595mm complete with plenum of 22Gauge GI sheet	70	each	4018	281260
250		Supplying, fixing, testing commissioning of supply air diffusers of powder coated aluminium with aluminium volume control dampers.	8	sqm	7733	61864
251		Supplying, fixing, testing, commissioning of return / exhaust air diffusers of powder coated aluminium.	12	sqm	4995	59940
252		Double layered Flexible canvass connection made of fibreglass weave having silver grey silicon rubber coating, Flexible connection shall be air tight & water proof and withstand high temperature application, non flammable and does not support combustion. Flexible connection shall be complete with flanges made out of 22G G.S.S sheet on both sides for connection to unit and duct complete with nuts, bolts etc.	50	sqm	3850	192500
253		Supplying, fixing, testing & commissioning of powder coated extruded aluminium section supply air grills with aluminium volume control dampers, as per CPWD specifications.	2	sqm	6346	9519
254		Supplying, & fixing, of powder coated extruded aluminium section return air grills with louvers but without volume control dampers, complete as per required.	2	sqm	3607	5411
		<b>ELECTRICAL WORKS</b>				
255		Supplying, installation, testing & commissioning of cubical type main MV panel board suitable for 3 phase, 415 V, 50 Hz and of 35 MVA rupturing capacity at 415 volts, fabricated from minimum 2mm thick CRCA Sheet powder coated through seven tank process facility for pickling and degreasing complete with following mountings, inter connections etc as required (Main Electric Panel)				
		Main Panel (AC)	1	each	611269	611269
		Incomer				
256		1250A, 4P EDO type ACB (50 KA) with Microprocessor based release unit for short circuit, over current and earth fault protection with adjustable setting and each shall have following accessories:				
		0-500 Volts, digital Voltmeter and shall be protected by 2Amps MCBs.				
		0-1500 Amps digital Ammeter and 1500/5A, 10VA, CL-1 CTs.				
		Phase indicating lamps and shall be protected by 2Amps MCBs.				
		Each incomer / outgoing multifunction meter with RS485 connectivity.				
		Bus Bar:				
		2000Amps TPN Aluminium busbars, colour coded with heat shrinkable insulation sleeves (after derating)				
		Outgoing:				
		Three(3) Nos. 630A TPN MCCB MDO (50 KA) ( PS 500 Amps) (for Chillers).				
		Three (3) Nos. 25A TPN MCB with star delta stater (for Primary chilled Water 7.5hp Pumps).				
		Three (3) Nos. 40A TPN MCB (for secondary Water Pump panels, 15 hp each).				
		One (1) Nos. 630A TPN MCCB MDO (50 KA) (for AHU panel).				
		25% spare feeder of each type				



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
		Supplying, installation, testing & commissioning of cubical type main MV panel board suitable for 3 phase, 415 V, 50 Hz and of 35 MVA rupturing capacity at 415 volts, fabricated from minimum 2mm thick CRCA Sheet powder coated through seven tank process facility for pickling and degreasing complete with following mountings, inter connections etc as required (Main Electric Panel)				
		Main Panel (AC) (Location : Terrace)	1	each	252621	252621
		Incomer				
257		630A, 4P MCCB (50 KA) with Microprocessor based release unit for short circuit, over current and earth fault protection with adjustable setting and each shall have following accessories:				
		0-500 Volts, digital Voltmeter and shall be protected by 2Amps MCBs.				
		0-800 Amps digital Ammeter and 1500/5A, 10VA, CL-1 CTs.				
		Phase indicating lamps and shall be protected by 2Amps MCBs.				
		Each incomer / outgoing multifunction meter with RS485 connectivity.				
		Bus Bar:				
		1000Amps TPN Aluminium busbars, colour coded with heat shrinkable insulation sleeves (after derating)				
		Outgoing:				
		All Outgoing Shall have 35 KA rating .				
		Two (2) Nos.160A TPN MCCB for AHU 8 panel.				
		Two (2) Nos. 80A TPN MCCB for AHU 1 & 3 panel.				
		Two (2) Nos. 63A TPN MCB for AHU 2 & 7 panel.				
		Two (2) Nos.40A TPN MCB for AHU 4 & 5 panel.				
		One (1) Nos.32A TPN MCB for AHU 6 panel.				
		Five (5) Nos.16A DP MCB for power supply to exhaust fans				
		Seventeen (17) Nos.10A DP MCB for power supply to exhaust fans				
		25% spare feeder of each type				
		Supplying, installation, testing and commissioning of complete cable work using XLPE Insulated PVC sheathed steel tape/wire armoured underground aluminium conductor cables of following sizes for electric supply from main panel in AC Plant room, to various load including interconnections from stators to motors on suitable cable trays / supports as required including connections on both sides as per specifications and as required.				
a		3.5C x 120 Sq.mm cable	180	metre	786	141480
b		3.5C x 50 Sq.mm cable	50	metre	478	23900
c		3.5C x 25 Sq.mm cable	180	metre	356	64080
d		3.5C x 16 Sq.mm cable	90	metre	278	25020
e		4C x 6 Sq.mm cable	50	metre	197	9850
f		3 C x 6 Sq.mm cable	180	metre	179	32220
g		3 C x 4 Sq.mm cable	80	metre	172	13760
h		4 C x 4 Sq.mm cable	130	metre	162	21060
258		Providing and fixing following rating and breaking capacity and pole MCCB with thermomagnetic release and terminal spreaders in existing cubicle panel board including drilling holes in cubicle panel, making connections, etc. as required.				
		125 A, 16 kA,TPMCCB ( for Autoclaves and washing area)	4	each	3226	12904
259		Providing & fixing 25mm x 5mm copper strip on surface or in recess for earth connections etc complete as required.	380	metre	871	330980
260		Providing & fixing 6 SWG dia GI wire on surface or in recess for loop earthing complete as required.	1250	metre	14	17500
		<b>Total</b>				<b>73145873</b>
		<b>DSR</b>				
		<b>NS</b>				<b>73145873</b>
		<b>BMS Work</b>				

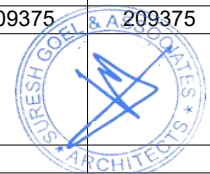


S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
		<b>Software &amp; Operator Workstation</b>				
261		Supply Installation, Testing & Commissioning of Intel i3 3rd Generation processor 3Ghz, with 1TB hard disk, 4GB RAM/DVD- RW/keyboard/optical mouse/LAN card/21" LED monitor. Minimum 4 USB ports. With pre-loaded licensed Windows 7 Professional or later software as per specifications & UPS.	1	each	46429	46429
262		Supply Installation, Testing & Commissioning of A 4 B/W Laser Printer for Alarms and Reports as per specifications.	1	each	8929	8929
263		Supply Installation, Testing & Commissioning of One User License BMS (as per ASHRAE Open Protocol BACnet/IP) FULL DYNAMIC Color Graphics Software. Graphic building same with Dynamics AHU/Chiller/ Exhaust Fans/ Pumps/Electrical/ graphics as per requirements. Management stations must match the BACnet Profile B-AWS (Advanced workstation) as per the BTL Listing. Management stations must meet the AMEV profile MBE-A and MBE-B as per AMEV guidelines "Bacnet 2011"	1	each	82143	82143
		<b>Supervisory Controllers</b>				
264		Supply Installation, Testing & Commissioning of BACnet/IP Supervisory Controller to connect the BMS PC & the same should have BACnet/MSTP & Bacnet/LON for connection to DDC. Router must support BBMD Profile (BACnet Broadcast Management Device) & must be compliant with ANSI/ASHRAE 135-2012 (Rev. 1.10)	1	each	49107	49107
265		Supply Installation, Testing & Commissioning of LCD Display type Portable Operator .Terminal for Local Control & Monitoring by Operator at Field. The same should be able to provide dynamic response of the process variables graphically .	1	each	62759	62759
		<b>Direct digital controllers (BACNET/LON Type)</b>				
266		Stand, alone, intelligent, UL listed, BTL tested, ANSI/ASHAE approved interoperable DDC. All the controllers shall be UL/BTL tested & CE certified each controllers shall be equipped with universal inputs with a maximum polling speed of 100ms.Automation stations must match the BACnet Profile B-BC (Building Controller ) / B-AAC Profile as per the BTL Listing. Application Specific Controllers (B-ASC) as per BACnet Profile shall not be acceptable. The controller shall be housed in a vandal proof, lockable & secure MS cabinets along with all necessary switchgear protections as required.				
		For Chiller Plant , Pumps & Electrical Panel as per IO Summary	1	job	434821	434821
267		For AHU's & Exhaust Fans as per IO Summary	1	job	2003750	2003750
268		Supply, installation, testing & commissioning of Integrators for third party systems on BACnet/MODBUS and other industry standard Open protocols for the following Third Party Systems				
		For a)Chiller Integration, b) VFD integration, c) Energy Meter	1	job	312500	312500
		<b>Field instruments</b>				
269		Supply Installation, Testing & Commissioning of Immersion temp. Sensors.	8	each	2054	16432
270		Supply Installation, Testing & Commissioning of Electromagnetic Type Flow Meter.	1	each	40179	40179
271		Supply Installation, Testing & Commissioning of Ambient Temperature & RH Sensor.	1	each	4018	4018
272		Supply Installation, Testing & Commissioning of Differential Pressure sensor across Room/Hepa Filters	70	each	1027	71890
273		Supply Installation, Testing & Commissioning of Water Differential Pressure Sensor.	2	each	2679	5358
274		Supply Installation, Testing & Commissioning of Static Pressure sensor in duct.	25	each	3393	84825

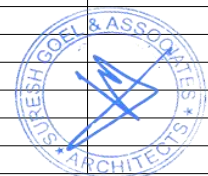




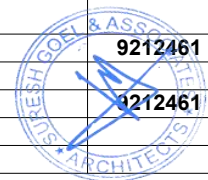
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
275		Supply Installation, Testing & Commissioning of Duct mount temperature & RH Sensor.	34	each	3393	115362
276		Supply Installation, Testing & Commissioning of Room temperature & RH Sensor.	20	each	2857	57140
277		Supply Installation, Testing & Commissioning of Air Differential Pressure switches.	160	each	2857	457120
278		Supply, installation, testing and commissioning of following Conduiting and Wiring.				
		2 Core 1.5 Sqmm, PVC Insulated, PVC Sheathed ATC conductor multistranded, twisted & Shielded ( Tinned copper cable ) for communication & signal.	5000	metre	66	330000
279		Supplying and laying of following sizes of ISI Mark 1.6 mm thick GI conduit in ground /on surface/recess including cutting/filling chases along with conduit accessories etc. complete as required.				
		25 mm dia	4000	metre	188	752000
280		GI flexible conduit complete with all coupler & Clamps	900	metre	55	49500
		<b>Total</b>				<b>4984262</b>
		<b>DSR</b>				
		<b>NS</b>				<b>4984262</b>
		<b>LAB EQUIPMENTS</b>				
		PASS BOX				
281		Supply , installation ,testing and commissioning of Static/Dynamic passbox wall / floor mounting with inclination at a height of 4 feet from FFL, for controlling the ingress of particulate contamination into clean room and other controlled environments, to maintain the integrity of products and process , made of industrial grade electro - galvanized steel with base surface constructed of stainless steel and with suitable acrylic doors to provide a clear view of the internal chamber with following specifications confirming to relevant Indian / international standards for clean room facilities etc., complete as required				
		TECHNICAL SPECIFICATIONS.				
		Type : front open				
		Direction of flow : Vertical / re- circulatory				
		Cleanliness : Confirming to ISO , Class V ( ISO 14644-1:1999 ( E ) )				
		Particle retention : 0.3 micron and above				
		Noise level : 65 db on scale ' A' $\pm$ 5				
		Velocity : 90FPM $\pm$ 20 %				
		Illumination: florescent tubes with diffusers .				
		Pressure differential : 0-25mm inclined manometers / magnetic gauge				
		Power supply : 230V , AC , single phase , 50Hz				
		Pre-filters : 10-15 micron rating				
		Intermediate filters : 3 micron and above				
		Efficiency : 99.999% upto 0.001micron				
		Blower assembly : Statically and dynamically balanced .				
		Blower system suitable for 230V AC supply				
		Accessories : 8/15Watt U.V. lights in two rows along with hour meter				
		Door inter locking arrangement : Electro - magnetic type				
a		a) Static type	2	set	139800	279600
b		b) Dynamic type	4	set	203346	813384
		Air Curtain				
282		Supply , installation , testing and commissioning of Air Curtain, Horizontal air intake centrifugal type , with air valocity 18m /s with regulation facility for high and low speed suitable for 280 x 275 mm (Height x Depth dimensions) , 230V AC as required .	4	each	48295	193180
		Air Shower	1	each	209375	209375
283		Supply, installation, testing and commissioning of air shower equipment to supply class 100 HEPA filtered air at high velocity etc., complete as required.				
		TECHNICAL SPECIFICATIONS.				



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
		Filtration : 2 stage				
		(a) EU6 – prefilter 95% down to 5 micron for return air and fresh air intake				
		b) EU 14- HEPA filter 99.999% down to 0.3micron at supply position				
		Construction : Stainless steel 304, door with double walled with flush glass view panels and door closer				
		Blower assembly : Statically and dynamically balanced motor blower Power supply : 3 phase , 415V , AC , 50Hz				
		Air cleanliness : Confirming to ISO class 5 ( ISO:14644-1:1999( E ) )				
		Velocity : 18 to 20 MPS				
		Control system :				
		a) To ensure that both the doors not to open at same time and both the doors to be locked during the time air flow is on				
		b) Time setting for air shower operation ( 30 seconds to 5 minutes )				
		c) Automatic / manual mode .				
		d) Emergency stop				
		Accessories : All required accessories for air shower.				
a		a) 750mm x 850mm x 1950 mm ( Suitable for one person) in first floor	1	set	381272	381272
b		b) 750mm x 1200mm x 1950 mm ( Suitable for two persons) in ground floor	2	set	406691	813382
284		Supply, installation, testing and commissioning of Ceiling Suspended Laminar Air Flow (CLAF) etc., complete as required.				
		Specifications :				
		Air Velocities : 0.45 ± 0.05 mps				
		Air Flow : Vertical				
		Noise Level : Less than 67 dB				
		Vibration Level : Minimum				
		Light intensity : > 300 lux				
		Power Supply : 230V AC 1-Ø 50HZ				
		Two Stage filtration : EU6 – Prefilter (95% down to 5 micron)				
		EU14 - HEPA Filter (99.999% down to 0.3 micron) at supply position				
		Motor-blower : Statically & Dynamically balanced Motor-blower with suspension arrangement to reduce noise level				
		Work Table : SS work table with due reinforcement				
		Side panels : Glass side panels				
		Lights : Fluorescent Lights with Milky White Diffuser				
		Pressure Gauge : Differential Pressure Gauge				
		Timer : Clean Down Timer with Operation Hold indicator				
		DOP Test Port				
		STANDARD FEATURES				
		Cabinet made from Stainless Steel 304, Thickness - 20 SWG				
		Finish - Matt				
		Pre-Filter - 5 microns				
		HEPA Filter – 0.3 microns				
		UV lamp				
		Hanging rods with eye bolts				
		Work table - 1 no				
		PVC Curtains - 4 sides				
		DOP port				
		Magnahelic Gauge				
		TECHNICAL FEATURES				
		AIR FLOW : Designed for 0.45m/s to 0.65 m/s.				
		PRE-FILTERS:				
		Type : Box type				
		Media : Synthetic, Non-oven Polyester fibre,				
		Casing : Aluminium				
		Gasket : Neoprene				



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
		Retention : 5 Micron				
		Efficiency : 95%				
		Pressure drop : 6 to 8 mm				
		HEPA FILTER:				
		Type : Box type, Minipleat type				
		Media : Ultra clean glass fibre paper-imported				
		Casing : Aluminium				
		Gasket : Neoprene				
		Retention : 0.3 Micron				
		Efficiency : 99.9997%				
		Pressure drop : 25 mm of W.c.				
		IMPELLERS:				
		High performance noise abated statically and dynamically balanced.				
		MOTOR –BLOWERS:-				
		Volts : 230 V				
		Hz : 50				
		Amps : 3.5				
		Watts : 250				
		RPM : 1440				
		PRESSURE GAUGE:				
		Housing : Die casting aluminum case and bezel, with acrylic cover				
		Accuracy : +/- 2 % of full scale				
		Pressure limits : 15 psi				
		Temperature : 20 to 140 Degree F				
		Size : 4 " dia				
		Weight : 510 gram				
		Range : 0-25 mm				
		CLEANLINESS LEVEL : Class 100				
		NOISE LEVEL : 65 +/- 5 db				
		POWER SUPPLY : 230 v AC, 50Hz,				
		STANDARDS:-				
		US FED STD 209 E				
		ISO 14644-1				
		IEST- RP-CC-002-2				
		BSI				
a		i) Work Area Dimension (L x W x H) : 1035x760x665 MM				
		ii) Hepa Filter Area (L X W) : 915 x 610 MM	1	set	158863	158863
b		i) Work Area Dimension (L x W x H) : 1950x1065x665 MM				
		ii) Hepa Filter Area (L X W) : 1830 x 915 MM	1	set	381272	381272
		AUTOCLAVE				
285		Supply, installation, testing and commissioning of double door , Semi Automatic Horizontal High Pressure, High Vacuum Steam Sterilizer autoclave of following inner chamber sizes as per specifications ., complete as required				
a		a) 3 ft ( W ) x 3ft ( H ) x 5ft ( D )	1	set	266637	266637
b		b) 3 ft ( W ) x 3ft ( H ) x 4ft ( D )	1	set	234864	234864
286		Supply, installation, testing and commissioning of wall mounted emergency EYE WASH / FACE WASH STATION with eye wash flow rate of 9-11ltrs / min with accessories as per specifications complete as required.	4	each	12928	51712
287		Supply, installation, testing and commissioning of automatic cage & bottle washing machine of dimensions 2050 x 850 x 2050 h mm (80.7" x 33.5" x 80.7") with On board exhaust fan, Electrically heated unit kit Electrically driven unit upgrade (valves and arms movement) and Validation Protocol Document (IQ, SAT, OQ, PQ) etc., complete as required as per specifications	1	each	5428920	5428920
		<b>TOTAL</b>				
		<b>DSR</b>				
		<b>NS</b>				
		<b>Comprehensive Annual Operation &amp; Maintenance Services</b>				



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
288		Comprehensive Annual Operation & Maintenance Charges for five years after 2 years from date of handing over/ taking over. The rates shall be inclusive of all spares, accessories, consumables ( except fuel, power and water) manpowers , tools and tackles , replacement of parts routine services and maintenance of equipment etc complete in all respect as specified in tender documents				
a		Operation cost only for 11 months, starting one month after handing over	<b>Deleted</b>			
b		First year				
c		Second year				
d		Third year				
e		Fourth year				
f		Fifth year				
		<b>TOTAL</b>				
		<b>DSR</b>				
		<b>NS</b>				<b>0</b>
		<b>Part-A</b>				
289	1.2.1	Point wiring for light/bell with 2X1.5 sq. mm & earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multi strand copper wires up to 10 mtr length in below type of pipe erected with 6A Modular type switch/bell push & accessories and earth continuity of following type erected on PVC/metallic/wooden Box single mounting base frame, covered with textured/metalic white front plate modules erected on / in wall / ceiling as per pipe erected with necessary lamp holder/ ceiling rose/ H.D Connector as directed. (f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete.Cat III	330	point	445	146850
290	1-1-4.	Point wiring for Tissino / Modular secondary light point with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multi strand copper wires, in below type of pipe to be erected complete with earth continuity and necessary connection with primary light with accessories erected on Metal / PVC / wooden box covered with 3 mm thick PC(Polycarbonate) / Acrylic sheet for open / concealed wiring. with necessary Lamp holder / ceiling rose / H.D.Connector as directed. Note:- Maximum up to 6 mtrs length, excess will be considered as Mains for Secondary Point. (f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete	450	point	150	67500



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
291	1.2.2	Point wiring for Fan with 2X1.5 sq. mm & earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multi strand copper wires up to 10 mtr length in below type of pipe erected with 6A Modular type switch and num free EME four or more step type electronic fan regulator with separately mounted and accessories with earth continuity of following type erected on PVC/metallic /wooden Box single mounting base frame, covered with textured/ metallic white front plate modules erected on / in wall / ceiling as per pipe erected with necessary ceiling rose/H.D Connector as directed. (f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete-Cat III	34	point	623	21182
292	1.2.6.a	Providing following type of Modular type Accessories mounted with PVC/metallic.wooden box, single mounting base frame covered with textured / metallic / white front plate, modules erected with necessary connections as per site situation directed by Engineer in charge.-(1) One no. SP 6 Amp.-Cat III	94	each	143	13442
293	1.2.6.b	Providing following type of Modular type Accessories mounted with PVC/metallic.wooden box, single mounting base frame covered with textured / metallic / white front plate, modules erected with necessary connections as per site situation directed by Engineer in charge.-(2) One No 5 pin plug-Cat III	94	each	143	13442
294	1.2.6.c	Providing following type of Modular type Accessories mounted with PVC/metallic.wooden box, single mounting base frame covered with textured / metallic / white front plate, modules erected with necessary connections as per site situation directed by Engineer in charge.-(9) 16Amp, SP one way switch-Cat III	230	each	171	39330
295	1.2.6.d	Providing following type of Modular type Accessories mounted with PVC/metallic.wooden box, single mounting base frame covered with textured / metallic / white front plate, modules erected with necessary connections as per site situation directed by Engineer in charge.-(10 ) 6/16 Amp, Universal socket-Cat III	230	each	189	43470



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
296	1.2.6.e	Providing following type of Modular type Accessories mounted with PVC/metallic.wooden box, single mounting base frame covered with textured / metallic / white front plate, modules erected with necessary connections as per site situation directed by Engineer in charge.-(13) 6A/10A/16A/20A/25A/32A Single pole Modular MCB Switch -Cat III	20	each	293	5860
297	1.6.17	Providing & erecting insulated socket 3P+N+E with Plug 32A rating which is comprised of Four pole MCB slot and insulated socket IP40 cat-III	13	each	2074	26962
298	1.4.1.A	Providing & erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked standard copper conductor wire in following type of pipe to be erected concealed in / flushed on wall / ceiling, with 1.5 sq.mm copper conductor FRLS PVC insulated standard wire of green colour for earth continuity of following size. (A) With medium class Rigid PVC pipe and accessories-(A) 2 wire 1.5 sq.mm	1200	metre	59	70800
299	1.4.2. (A).i	Providing & erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked standard copper conductor wire in following type of pipe to be erected in / on wall / ceiling, with 2.5 sq.mm copper conductor FRLS PVC insulated standard wire of green colour for earth continuity of following size.-(A) with medium class Rigid PVC pipe and accessories-(a) 2 wire 4 sq. mm	3900	metre	106	413400
300	1.4.2. (A).ii	Providing & erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked standard copper conductor wire in following type of pipe to be erected in / on wall / ceiling, with 2.5 sq.mm copper conductor FRLS PVC insulated standard wire of green colour for earth continuity of following size.-(A) with medium class Rigid PVC pipe and accessories-(b) 2 wire 6 sq. mm	530	metre	139	73670
301	1.4.2. (A).iii	Providing & erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked standard copper conductor wire in following type of pipe to be erected in / on wall / ceiling, with 2.5 sq.mm copper conductor FRLS PVC insulated standard wire of green colour for earth continuity of following size.-(A) with medium class Rigid PVC pipe and accessories-(g) 4 wire 4 sq. mm	500	metre	171	85500



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
302	1.4.2. (A).iv	Providing & erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked standard copper conductor wire in following type of pipe to be erected in / on wall / ceiling, with 2.5 sq.mm copper conductor FRLS PVC insulated standard wire of green colour for earth continuity of following size.-(A) with medium class Rigid PVC pipe and accessories-(H) 4 wire 6 sq. mm	260	metre	246	63960
303	1.4.2. (A).v	Providing & erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked standard copper conductor wire in following type of pipe to be erected in / on wall / ceiling, with 2.5 sq.mm copper conductor FRLS PVC insulated standard wire of green colour for earth continuity of following size.-(A) with medium class Rigid PVC pipe and accessories-(I) 4 wire 10 sq. mm (use earth wire of 4 sq. mm)	430	metre	401	172430
304	1-4-4.a	providing and erecting Mains with ISI marked, 1.5KV grade electrolyte multi stranded, annealed copper conductor with heat resistant PVC insulated conforms to IS 694, IEC - 227 erected in existing pipe of following size (Specifically for control panel, relays, power switchgears, motor starters & control wiring) with required size of copper lugs, nuts and bolts if required..(g) One wire 16.00 sq. mm	280	metre	134	37520
305	1-4-4.b	providing and erecting Mains with ISI marked, 1.5KV grade electrolyte multi stranded, annealed copper conductor with heat resistant PVC insulated conforms to IS 694, IEC - 227 erected in existing pipe of following size (Specifically for control panel, relays, power switchgears, motor starters & control wiring) with required size of copper lugs, nuts and bolts if required..(e) One wire 6.00 sq. mm	140	metre	53	7420
306	1-3-2.	Providing and erecting ISI mark Medium class RIGID PVC PIPES of following size complete to be erected on/in wall or ceiling erected with necessary PVC fittings & Junction boxes fixed with adhesive solution & Clamps with following dia of pipes, in approved manner as directed -(b) 25 mm	70	metre	32	2240



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
307	1.2.3.a	Point wiring for individual Plug with & earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multi strand copper wires up to 10 mtr length, in below type of pipe erected complete with Modular type switch & 5 pin plug erected on PVC/metallic/wooden box covered with appropriate front plate modules erected on / in wall / ceiling as per pipe erected with following type of accessories.-(I) For 6A Plug and 6A switch with 2X1.5 sq.mm Cu wire from nearby switchboard/MCB DB board.-(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete-Cat III	94	point	469	44086
308	1.2.3.b	Point wiring for individual Plug with & earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multi strand copper wires up to 10 mtr length, in below type of pipe erected complete with Modular type switch & 5 pin plug erected on PVC/metallic/wooden box covered with appropriate front plate modules erected on / in wall / ceiling as per pipe erected with following type of accessories.-For 16A Plug and 16A switch with 2X4 sq.mm cU wire with 2.5 sq.mm (Green) earthing wire from MCB DB Board. (f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete-Cat III	230	point	810	186300





S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
309	MR	Fabrication, supply, installation, testing and commissioning of wall/floor mounted cubicle type LT panels suitable for 415 V 3 phase, 4 wire, 50 Hz AC supply system (IP 42 degree of protection) fabricated in compartmentalized design from CRCA sheet made out of 2 mm thick for frame work & covers 3mm thick for gland plates including cleaning & finishing complete with 7 tank process for powder coating in approved shade, <b>Main Panel - Animal Facility</b> Block-Incoming: 630 A, FP MCCB 36 KA - 2 No. 800 A TPN AL. bus bar with coloured heat shrinkable PVC sleeve -1 Set, Bus Coupler :630 A, FP MCCB 36 KA - 1 No., Outgoings: Section-A, 100 A TPN MCCB, 25 KA - 3 Nos, 125 A TPN MCCB, 25 KA - 1 Nos., 63 A TPN MCCB, 25 KA - 2 Nos., Section-B, 250 A TPN MCCB, 36 KA - 1 Nos., 100 A TPN MCCB, 25 KA - 2 Nos., 125 A TPN MCCB, 25 KA - 2 Nos., 63 A TPN MCCB, 25 KA - 3 Nos., Instruments: Multi Function Meter (MFM) with CTs & Fuses/MCB/Selector Switch - 1 Set , Indication lamp RYB with Fuses/MCB etc. as req.	1	each	378675	378675
310	MR	Fabrication, supply, installation, testing and commissioning of wall/floor mounted cubicle type LT panels suitable for 415 V 3 phase, 4 wire, 50 Hz AC supply system (IP 42 degree of protection) fabricated in compartmentalized design from CRCA sheet made out of 2 mm thick for frame work & covers 3mm thick for gland plates including cleaning & finishing complete with 7 tank process for powder coating in approved shade, <b>AUTO CLAVE PANEL -- Animal Facility Block</b> - Incoming:250 A, TPN MCCB 36 KA - 1 No., 300 A TPN AL. bus bar with coloured heat shrinkable PVC sleeve -1 Set., Outgoings:125 A TPN MCCB, 25 KA - 2 Nos., 100 A TPN MCCB, 25 KA - 1 Nos. Instruments: Multi Function Meter (MFM) with CTs & Fuses/MCB/Selector Switch -1 Set, Indication lamp RYB with Fuses/MCB etc. as req.	1	each	78215	78215



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
311	MR	Fabrication, supply, installation, testing and commissioning of wall/floor mounted cubicle type LT panels suitable for 415 V 3 phase, 4 wire, 50 Hz AC supply system (IP 42 degree of protection) fabricated in compartmentalized design from CRCA sheet made out of 2 mm thick for frame work & covers 3mm thick for gland plates including cleaning & finishing complete with 7 tank process for powder coating in approved shade <b>ESSENTIAL PANEL -- Animal Facility Block</b> -Incoming:63 A, FP MCB - 1 No., 200 A TPN AL. bus bar with coloured heat shrinkable PVC sleeve -1 Set, Outgoings:32 A TP MCB - 6 Nos., Instruments: Multi Function Meter (MFM) with CTs & Fuses/MCB/Selector Switch -1 Set, Indication lamp RYB with Fuses/MCB etc. as req.	1	each	10625	10625
312	MR	Fabrication, supply, installation, testing and commissioning of wall/floor mounted cubicle type LT panels suitable for 415 V 3 phase, 4 wire, 50 Hz AC supply system (IP 42 degree of protection) fabricated in compartmentalized design from CRCA sheet made out of 2 mm thick for frame work & covers 3mm thick for gland plates including cleaning & finishing complete with 7 tank process for powder coating in approved shade <b>LIFT PANEL (3 Lifts) - Animal Facility Block</b> -Incoming:125 A, FP MCCB 35 KA - 1 No., 200 A TPN AL. bus bar with coloured heat shrinkable PVC sleeve-1 Set, Outgoings:63 A TPN MCCB, 25 KA - 3 Nos., 32 A DP MCB - 2 Nos., Instruments: Multi Function Meter (MFM) with CTs & Fuses/ MCB/ Selector Switch -1 Set, Indication lamp RYB with Fuses/MCB etc. as req.	1	each	51070	51070



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
313	MR	Fabrication, supply, installation, testing and commissioning of wall/floor mounted cubicle type LT panels suitable for 415 V 3 phase, 4 wire, 50 Hz AC supply system (IP 42 degree of protection) fabricated in compartmentalized design from CRCA sheet made out of 2 mm thick for frame work & covers 3mm thick for gland plates including cleaning & finishing complete with 7 tank process for powder coating in approved shade <b>FDB PANEL -1-- Animal Facility Block</b> - Incoming:100 A, FP MCCB 25 KA - 1 No., 200 A TPN AL. bus bar with coloured heat shrinkable PVC sleeve -1 Set, Outgoings:63 A TPN MCCB, 25 KA - 6 Nos., Instruments: Multi Function Meter (MFM) with CTs & Fuses/MCB/Selector Switch -1 Set, Indication lamp RYB with Fuses/MCB etc. as req.	1	each	78180	78180
314	MR	Fabrication, supply, installation, testing and commissioning of wall/floor mounted cubicle type LT panels suitable for 415 V 3 phase, 4 wire, 50 Hz AC supply system (IP 42 degree of protection) fabricated in compartmentalized design from CRCA sheet made out of 2 mm thick for frame work & covers 3mm thick for gland plates including cleaning & finishing complete with 7 tank process for powder coating in approved shade <b>FDB PANEL -2-- Animal Facility Block</b> -Incoming:100 A, FP MCCB 25 KA - 1 No., 200 A TPN AL. bus bar with coloured heat shrinkable PVC sleeve -1 Set, Outgoings:63 A TPN MCCB, 25 KA - 7 Nos., Instruments: Multi Function Meter (MFM) with CTs & Fuses/MCB/Selector Switch -1 Set, Indication lamp RYB with Fuses/MCB etc. as req.	1	each	88620	88620



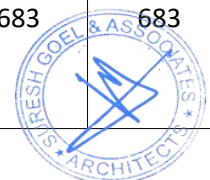
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
315	MR	Fabrication, supply, installation, testing and commissioning of wall/floor mounted cubicle type LT panels suitable for 415 V 3 phase, 4 wire, 50 Hz AC supply system (IP 42 degree of protection) fabricated in compartmentalized design from CRCA sheet made out of 2 mm thick for frame work & covers 3mm thick for gland plates including cleaning & finishing complete with 7 tank process for powder coating in approved shade <b>FDB PANEL -3-- Animal Facility Block</b> , Incoming:100 A, FP MCCB 25 KA - 1 No., 200 A TPN AL. bus bar with coloured heat shrinkable PVC sleeve -1 Set, Outgoings:63 A TPN MCCB, 25 KA - 4 Nos., Instruments: Multi Function Meter (MFM) with CTs & Fuses/MCB/Selector Switch -1 Set, Indication lamp RYB with Fuses/MCB etc. as req.	1	each	57310	57310
316	MR	Fabrication, supply, installation, testing and commissioning of wall/floor mounted cubicle type LT panels suitable for 415 V 3 phase, 4 wire, 50 Hz AC supply system (IP 42 degree of protection) fabricated in compartmentalized design from CRCA sheet made out of 2 mm thick for frame work & covers 3mm thick for gland plates including cleaning & finishing complete with 7 tank process for powder coating in approved shade <b>MDB PANEL -- Green House Block</b> , Incoming:315 A, FP MCCB 36 KA - 1 No., 400 A TPN AL. bus bar with coloured heat shrinkable PVC sleeve -1 Set, Outgoings:40 A FP MCB - 4 Nos., 63 A TPN MCCB, 25 KA - 3 Nos.100 A TPN MCCB, 25 KA - 2 Nos.125 A TPN MCCB, 35 KA - 2 Nos., 160 A TPN MCCB, 35 KA - 1 Nos., Instruments: Multi Function Meter (MFM) with CTs & Fuses/MCB/Selector Switch - 1 Set, Indication lamp RYB with Fuses/MCB etc. as req.	1	each	174075	174075



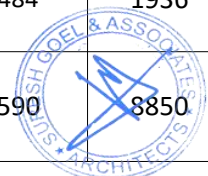
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
317	MR	Fabrication, supply, installation, testing and commissioning of wall/floor mounted cubicle type LT panels suitable for 415 V 3 phase, 4 wire, 50 Hz AC supply system (IP 42 degree of protection) fabricated in compartmentalized design from CRCA sheet made out of 2 mm thick for frame work & covers 3mm thick for gland plates including cleaning & finishing complete with 7 tank process for powder coating in approved shade <b>AHU PANEL -- Green House Block</b> -Incoming:100 A, FP MCCB 25 KA - 1 No.200 A TPN AL. bus bar with coloured heat shrinkable PVC sleeve -1 Set, Outgoings:63 A TPN MCB - 6 Nos., Instruments: Multi Function Meter (MFM) with CTs & Fuses/MCB/Selector Switch -1 Set, Indication lamp RYB with Fuses/MCB etc. as req.	1	each	23040	23040
318	3.4.1	Providing and erecting approved make Four pole moulded case circuit breaker having breaking capacity ICU of 25 KA at 415 V, having normal current rating up to 25A to 100A, with fixed thermal & magnetic release suitable to work on AC supply 50c/s with all internal connections & complete erected in existing 16 G.M.S housing.-d) cat III	7	each	6112	42784
319	3.11.5.a	Providing & erecting sheet steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, confirms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for (A) Single phase incoming and horizontal single phase outgoing, (b) sheet steel double door (IP-43), 8 way Double door	2	each	1141	2282
320	3.11.5.B.i	Providing & erecting sheet steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, confirms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for- Three phase incoming and single phase horizontal type outgoing per phase isolation type (PPI), (b) sheet steel double door-(i)4 way	2	each	2316	4632



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
321	3.11.5.B .ii	Providing & erecting sheet steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, confirms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for- Three phase incoming and single phase horizontal type outgoing per phase isolation type (PPI), (b) sheet steel double door-(ii)6 way	2	each	2885	5770
322	3.11.5.B .iii	Providing & erecting sheet steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, confirms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for- Three phase incoming and single phase horizontal type outgoing per phase isolation type (PPI), (b) sheet steel double door-(iii)8 way	1	each	3379	3379
323	3.11.5.B .iv	Providing & erecting sheet steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, confirms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for- Three phase incoming and single phase horizontal type outgoing per phase isolation type (PPI), (b) sheet steel double door-(iv)12 way	14	each	3836	53704
324	3.11.6.a	supplying & erecting sheet steel powder coated cable end termination Box to be mounted on Top or Bottom of MCB Distribution Box for housing / Covering Extra wires & cables suitable for following size of MCB Db Box.-(C) Single phase 8 way	2	each	323	646
325	3.11.6.b	supplying & erecting sheet steel powder coated cable end termination Box to be mounted on Top or Bottom of MCB Distribution Box for housing / Covering Extra wires & cables suitable for following size of MCB Db Box.-(E) Three Phase 4 Way	2	each	492	984
326	3.11.6.c	supplying & erecting sheet steel powder coated cable end termination Box to be mounted on Top or Bottom of MCB Distribution Box for housing / Covering Extra wires & cables suitable for following size of MCB Db Box.-(F) Three Phase 6 Way	2	each	577	1154
327	3.11.6.d	supplying & erecting sheet steel powder coated cable end termination Box to be mounted on Top or Bottom of MCB Distribution Box for housing / Covering Extra wires & cables suitable for following size of MCB Db Box.-(G) Three phase 8 way	1	each	683	683



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
328	3.11.6.e	supplying & erecting sheet steel powder coated cable end termination Box to be mounted on Top or Bottom of MCB Distribution Box for housing / Covering Extra wires & cables suitable for following size of MCB Db Box.-(H) Three phase 12 way	14	each	789	11046
329	3.11.10	Providing and erecting Sheet Steel powder coated Vertical MCB distribution board (VTPN) - flush / surface mounted double door (IP54) fitted with copper insulated busbar, isolated neutral bar, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3, suitable for 63/100 AMP TPN MCCB + RCCB as incomer and three phase outgoing as per following .(The DBs should be used of same company of MCB to be used) -(C)8 way outgoing	2	each	8319	16638
330	3.10.1 (B)	Providing & erecting Miniature circuit breaker single pole 6A to 25A suitable to operate on 240 V A.C system and having breaking capacity 10 KA to be erected in existing box confirming to IS 8826/1996 with ISI mark.-cat III	600	each	111	66600
331	3.10.2	Providing & erecting 240 V MCB double pole switch for motor & inductive load (C curve) having breaking capacity 10 KA & confirms to IS 8828 in the existing box having following capacity-(A) 6 to 32 Amp-cat III	2	each	297	594
332	3.12.1.a	Providing & erecting approved make ELCBs / RCCBs confirming to IS : 12640 and having sensitivity of 30 mA and short circuit withsatnd capacity of 10KA and suitable for operation on single phase 240 V, 50 Hz having characterstic of quick action & tripping with all advance feature & do not incorporate any electronic component for following Max rating erected as directed-40 Amps DP-cat III	12	each	2213	26556
333	3.12.1.b	Providing & erecting approved make ELCBs / RCCBs confirming to IS : 12640 and having sensitivity of 30 mA and short circuit withsatnd capacity of 10KA and suitable for operation on single phase 240 V, 50 Hz having characterstic of quick action & tripping with all advance feature & do not incorporate any electronic component for following Max rating erected as directed-63 Amps DP-cat III	45	each	2628	118260
334	3.10.7	Providing & erecting double pole Miniature Isolator A.C.22 duly confirms to IS 13947-3 240 V 40 A in existing box.-cat III	2	each	310	620
335	3.10.9.a	Providing & erecting Four pole Miniature Isolator A.C.22 duly confirms to IS 13947-3 in existing box.-(a) for 40 amps -cat III	4	each	484	1936
336	3.10.9.b	Providing & erecting Four pole Miniature Isolator A.C.22 duly confirms to IS 13947-3 in existing box. (b) for 63 amps -cat III	15	each	590	8850

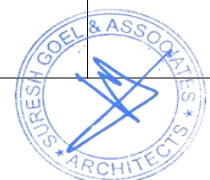


S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
337	3.10.6	Providing & erecting 415 V MCB three pole for motor & inductive Load (C curve) having 10KA breaking capacity & confirms to IS 8828 in existing box having following capacity-(c) 63 amps -cat III	16	each	709	11344
338	3.13.1	Providing & erected metallic vitrified danger notice board as per language suggested by Engineer Incharge for MEDIUM VOLTAGE installation to be erected as per IS-2551.	9	each	69	621
339	4.11.1.a	Providing & fixing approved make Perforated C type Cable tray, made from sheet steel. The cable tray should be single or double bended as per required and as per IS 2062 / 1079 and shall be coated with hot dip galvanizing as per IS 2629/4759 with max 17.5% perforation with coupler plate / fish plate and GI hardware like nut - bolt and washers etc. erection with necessary support included) as per specification and as per instruction of Engineer In charge.-(3) 150 x 50 x 1.6 mm thick	70	metre	420	29400
340	4.11.1.b	Providing & fixing approved make Perforated C type Cable tray, made from sheet steel. The cable tray should be single or double bended as per required and as per IS 2062 / 1079 and shall be coated with hot dip galvanizing as per IS 2629/4759 with max 17.5% perforation with coupler plate / fish plate and GI hardware like nut - bolt and washers etc. erection with necessary support included) as per specification and as per instruction of Engineer In charge.-(5) 300 x 50 x 2.0 mm thick	70	metre	616	43120
341	4.3.3.a	Providing and erecting XLPE (IS:7098) - BB ISI armoured cable multistrand aluminium conductor for 1.1 KV . To be laid on wall with necessary clamps or in existing trench / pipe of following size of cables.-(C) 3.5 core 50 sq. mm (25 sq. mm 0.5 core)	210	metre	279	58590
342	4.3.3.b	Providing and erecting XLPE (IS:7098) - BB ISI armoured cable multistrand aluminium conductor for 1.1 KV . To be laid on wall with necessary clamps or in existing trench / pipe of following size of cables.-(D) 3.5 core 70 sq. mm (35 sq. mm 0.5 core)	50	metre	369	18450
343	4.3.3.c	Providing and erecting XLPE (IS:7098) - BB ISI armoured cable multistrand aluminium conductor for 1.1 KV . To be laid on wall with necessary clamps or in existing trench / pipe of following size of cables.-(E) 3 1/2 core 95 Sq. mm (50 Sq. mm 1/2 core)	50	metre	480	24000





S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
344	4.3.3.d	Providing and erecting XLPE (IS:7098) - BB ISI armoured cable multistrand aluminium conductor for 1.1 KV . To be laid on wall with necessary clamps or in existing trench / pipe of following size of cables.-(F) 3 1/2 core 120 Sq. mm (70 Sq. mm 1/2 core)	30	metre	529	15870
345	4.3.3.e	Providing and erecting XLPE (IS:7098) - BB ISI armoured cable multistrand aluminium conductor for 1.1 KV . To be laid on wall with necessary clamps or in existing trench / pipe of following size of cables.-(H) 3 1/2 core 185 Sq. mm (95 Sq. mm 1/2 core)	130	metre	891	115830
346	4.3.3.f	Providing and erecting XLPE (IS:7098) - BB ISI armoured cable multistrand aluminium conductor for 1.1 KV . To be laid on wall with necessary clamps or in existing trench / pipe of following size of cables.-(I) 3 1/2 core 240 Sq. mm (120 Sq. mm 1/2 core)	440	metre	1150	506000
347	4.3.5	Providing and erecting XLPE (IS:7098) - BB ISI armoured cable multistrand aluminium conductor for 1.1 KV . To be laid on wall with necessary clamps or in existing trench / pipe of following size of cables.-(B) 4 core 25 Sq. mm	280	metre	187	52360
348	4-4-2.	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable.-(A) 3 core 2.5Sq. Mm	535	metre	211	112885
349	4-6-1.	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables.-(A) 2 to 4 core 2.5 / 4 Sq. mm	84	each	33	2772
350	4.6.3.a	Providing & fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with outgoing tails insulating tape etc. for following size of cables.-(A) 3.5 / 4 core 25 Sq. mm	18	each	66	1188
351	4.6.3.b	Providing & fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with outgoing tails insulating tape etc. for following size of cables.-(B) 3.5 core 35/50 sq. mm	14	each	75	1050
352	4.6.3.c	Providing & fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with outgoing tails insulating tape etc. for following size of cables.-(C) 3.5 core 70 sq. mm	2	each	102	204



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
353	4.6.3.d	Providing & fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with outgoing tails insulating tape etc. for following size of cables.-(D) 3 & 1/2 core 95 Sq. mm	2	each	130	260
354	4.6.3.e	Providing & fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with outgoing tails insulating tape etc. for following size of cables.-(E) 3 & 1/2 core 120 Sq. mm	2	each	139	278
355	4.6.3.e	Providing & fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with outgoing tails insulating tape etc. for following size of cables.-(G) 3 & 1/2 core 185 Sq. mm	2	each	236	472
356	4.6.3.f	Providing & fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with outgoing tails insulating tape etc. for following size of cables.-(H) 3 & 1/2 core 240 Sq. mm	8	each	245	1960
357	4.7.1.a	Solder less crimping type Aluminium lugs confirming to IS suitable for cable of following size evenly climped with high pressure tool & connected to switchgear terminals with brass / cadmium plated nut bolts in an approved manner.-(C) 16/25 Sq.mm.	72	each	15	1080
358	4.7.1.b	Solder less crimping type Aluminium lugs confirming to IS suitable for cable of following size evenly climped with high pressure tool & connected to switchgear terminals with brass / cadmium plated nut bolts in an approved manner.-(D) 35/50 sq. mm	56	each	20	1120
359	4.7.1.c	Solder less crimping type Aluminium lugs confirming to IS suitable for cable of following size evenly climped with high pressure tool & connected to switchgear terminals with brass / cadmium plated nut bolts in an approved manner.-(E) 70 sq. mm	8	each	25	200
360	4.7.1.d	Solder less crimping type Aluminium lugs confirming to IS suitable for cable of following size evenly climped with high pressure tool & connected to switchgear terminals with brass / cadmium plated nut bolts in an approved manner.-(F) 95 Sq.mm.	8	each	40	320



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
361	4.7.1.e	Solder less crimping type Aluminium lugs confirming to IS suitable for cable of following size evenly clipped with high pressure tool & connected to switchgear terminals with brass / cadmium plated nut bolts in an approved manner.-(G) 120 Sq.mm.	8	each	45	360
362	4.7.1.f	Solder less crimping type Aluminium lugs confirming to IS suitable for cable of following size evenly clipped with high pressure tool & connected to switchgear terminals with brass / cadmium plated nut bolts in an approved manner.-( I ) 185 Sq.mm.	8	each	80	640
363	4.7.1.g	Solder less crimping type Aluminium lugs confirming to IS suitable for cable of following size evenly clipped with high pressure tool & connected to switchgear terminals with brass / cadmium plated nut bolts in an approved manner.-(J) 240 Sq.mm.	8	each	85	680
364	4-7-2.	Solder less crimping type Copper lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. -(A) 1.5/ 2.5/4/6 Sq.mm	252	each	8	2016
365	MR	Installation, testing and commissioning of prewired, LED fittings of all types , complete with all accessories and tube etc. directly on ceiling/wall, including connections with 1.5 sq.mm. PVC insulated, copper conductor, single core cable etc. as required.	167	each	184	30728



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
366	2.15.3.C .a	Supplying and erecting LED Indoor fittings with LEDs of wattage 0.2 watt to 0.5 watt assembled on single MCPCB, with housing used as a heat sink shall be made of thick sheet steel confirming to IS: 513/CRCA/aluminium pressure die cast powder coated and high U.V. & corrosion resistance with diffuser housed in aluminium casted body with company mark/name 120 to 300 V, power factor more than 0.9, THD< 10%, CCT 3000 K to 65 K. Luminaire efficacy > 85 lumens/watt. LED efficiency 110 lumens/watt, LED driver efficiency > 85%. CREE/OSRAM/PHILIPS Lumileds/ NICHIA/ SEOUL/ Bridgelux make LED used for luminaire (fitting required LM-79 & LM-80 certificates )( Note: below description have shown ranges of wattage capacity of LED fittings. The Engineer Incharge may select any wattage capacity between the ranges shown).(A) Square/ Circular shaped Surface/Recessed Mount Downlight with provision for spring loaded mounting clips complete.IP20-(a) 5-9 watts, surge-2 KV-Cat - III	32	each	218	6976
367	2.15.3.C .b	Supplying and erecting LED Indoor fittings with LEDs of wattage 0.2 watt to 0.5 watt assembled on single MCPCB, with housing used as a heat sink shall be made of thick sheet steel confirming to IS: 513/CRCA/aluminium pressure die cast powder coated and high U.V. & corrosion resistance with diffuser housed in aluminium casted body with company mark/name 120 to 300 V, power factor more than 0.9, THD< 10%, CCT 3000 K to 65 K. Luminaire efficacy > 85 lumens/watt. LED efficiency 110 lumens/watt, LED driver efficiency > 85%. CREE/OSRAM/PHILIPS Lumileds/ NICHIA/ SEOUL/ Bridgelux make LED used for luminaire (fitting required LM-79 & LM-80 certificates )( Note: below description have shown ranges of wattage capacity of LED fittings. The Engineer Incharge may select any wattage capacity between the ranges shown).(A) Square/ Circular shaped Surface/Recessed Mount Downlight with provision for spring loaded mounting clips complete.IP20-(b) 11-15 watts, surge-2 KV-Cat - III	169	each	423	71487



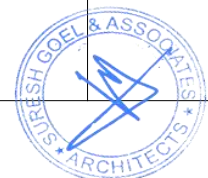
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
368	2.15.3 (D)	Supplying and erecting LED Indoor fittings with LEDs of wattage 0.2 watt to 0.5 watt assembled on single MCPCB, with housing used as a heat sink shall be made of thick sheet steel conforming to IS: 513/CRCA/aluminium pressure die cast powder coated and high U.V. & corrosion resistance with diffuser housed in aluminium casted body with company mark/name 120 to 300 V, power factor more than 0.9, THD< 10%, CCT 3000 K to 65 K. Luminaire efficacy > 85 lumens/watt. LED efficiency 110 lumens/watt, LED driver efficiency > 85%. CREE/OSRAM/PHILIPS Lumileds/ NICHIA/ SEOUL/ Bridgelux make LED used for luminaire (fitting required LM-79 & LM-80 certificates )( Note: below description have shown ranges of wattage capacity of LED fittings. The Engineer Incharge may select any wattage capacity between the ranges shown)(B) LED Panel light with provision for plane front frame with translucent cover fixed to housing complete IP 20.(vi) 36 watts, 24" x 24", Surge-2KV-Cat - III	49	each	1777	87073
369	2.15.1 (a)	Supplying and erecting LED indoor fittings with LEDs of wattage 0.2 Watt to 0.5 Watt assembled on single MCPCB, with housing used as a heat sink shall be made of thick sheet Steel conforming to IS: 513/CRCA/ aluminium die cast powder coated and high U.V. & corrosion resistance with diffuser with company mark/name 160V to 270V, Power Factor more than 0.95, THD < 15%, CCT 3000 K to 6500K, Luminaire efficacy> 85 lumens/watt ,LED , LED driver efficiency > 85 % ( fitting required LM-79 & LM-80 Certificates)(NOTE: Below description have shown ranges of Wattage capacity of LED fittings.The Engineer incharge may select any wattage capacity between the ranges shown.) (A) Tube light with integral driver. (i) 5-10 Watts, Surge-2 KV, IP-20, conventional 1 to 2 feet-Cat - III	10	each	164	1640



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
370	2.15.1.b	Supplying and erecting LED indoor fittings with LEDs of wattage 0.2 Watt to 0.5 Watt assembled on single MCPCB, with housing used as a heat sink shall be made of thick sheet Steel conforming to IS: 513/CRCA/ aluminium die cast powder coated and high U.V. & corrosion resistance with diffuser with company mark/name 160V to 270V, Power Factor more than 0.95, THD < 15%, CCT 3000 K to 6500K, Luminaire efficacy> 85 lumens/watt ,LED , LED driver efficiency > 85 % ( fitting required LM-79 & LM-80 Certificates)(NOTE: Below description have shown ranges of Wattage capacity of LED fittings.The Engineer incharge may select any wattage capacity between the ranges shown.) (A) Tube light with integral driver. (iii) 18-20 Watts, Surge - 2KV,IP-20, conventional 4 feet-Cat - III	16	each	293	4688
371	2.15.1.c	Supplying and erecting LED indoor fittings with LEDs of wattage 0.2 Watt to 0.5 Watt assembled on single MCPCB, with housing used as a heat sink shall be made of thick sheet Steel conforming to IS: 513/CRCA/ aluminium die cast powder coated and high U.V. & corrosion resistance with diffuser with company mark/name 160V to 270V, Power Factor more than 0.95, THD < 15%, CCT 3000 K to 6500K, Luminaire efficacy> 85 lumens/watt ,LED , LED driver efficiency > 85 % ( fitting required LM-79 & LM-80 Certificates)(NOTE: Below description have shown ranges of Wattage capacity of LED fittings.The Engineer incharge may select any wattage capacity between the ranges shown.) (A) Tube light with integral driver. (v) 36-40 Watts, Surge-2 KV, IP-20, conventional 4 feet-Cat - III	303	each	530	160590
372	2.17.3	Providing and erecting PVC body surface or pendant mounting LED Bulk type 9 watt Lighting fitting with electronic driver and lumen output from luminiare 720 lm, input voltage range 90-300 VAC, 50 Hz cool white (3000 to 6500 K), inbuilt driver, 20 degree C to + 60 deg C working temperature, AL frame with Beam Angle 120 deg.	17	each	780	13260



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
373	2-15-2	Supplying and erecting led lamps with following wattage capacity of 220 to 240 voltage, minimum 15000 burning hours life, 500 V in built-surge protection, Polycarbonate diffuser, mounting suitable for E14 / E27 / B22 lamp holders, pf >= 0.5. Colour (Red /Green) as per requirement (A) LED Lamps integral type, with PC diffuser suitable LAMP holder, (i) 2 to 3 watts-Cat-III.	18	each	69	1242
374	MR	Supplying & installation of 600 W plant Grow Par LED fitting. The luminaire housing should be made of pressure die cast aluminium and the luminaire optics shall have a high efficiency diffuser with more than 85% transmittance. Model shall be got approved before procurement from Engineer In Charge.	42	each	18019	756798
375	MR	Supplying of Recess Clean Room type, IP65, Bottom opening LED luminaire dimension: (L x W) (590-600)x(590-600) mm fitting made of CRCA powder coated finish /PDC Alloy Aluminium with Fully Covered by PMMA Acrylic Lumio Diffuser, LED Used shall be SMD type , UGR <= 19 , Wattage <= 36W, System Lumen >= 3600, Fixture efficacy at System level (Not Chip Level) >=100-110lumens/watt, Life of fixture 50000hrs@L70% Lumen maintenance, CCT Range 5700-6500, CRI >80, PF >0.95, THD <9% an operating Voltage Range of 140 - 270 V. Minimum Internal Surge Protection 2 KV The fixture should comply with the parameters as per IS10322 and IEC60598	115	each	6388	734620
376	MR	Supply of <b>5-6 W LED Exit &amp; matter at per site requirement Light</b> with inbuilt battery backup of 2 hours, including drivers, fixing accessories complete as required. The fixture should have sufficient intensity and all fixing arrangement complete as required at site. Bajaj : BESL 03 LED DSD WBB Red/Green or equivalent of Decon and Insatpower	34	each	3717	126378
377	5-1-1.	Providing and erecting Approved make Ceiling fan with double ball bearing ISI mark with condenser A.C. 230V.50 c/s.1200 mm. sweep complete, canopy erected on existing hook or clamp with earthing. [Make shall be approved by Engineer in charge]	26	each	1581	41106
378	5.3.4.a	Supplying & erecting Single phase approved make industrial exhaust fan suitable for medium duty ring mounted low noise operation suitable for medium duty having following dia size and maximum speed in RPM-(A) 305 mm dia. 900 RPM, Cat II	17	each	2034	34578

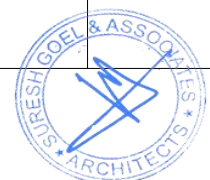


S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
379	5.3.4.b	Supplying & erecting Single phase approved make industrial exhaust fan suitable for medium duty ring mounted low noise operation suitable for medium duty having following dia size and maximum speed in RPM-(D) 450 mm dia. 900 RPM, Cat II	6	each	3899	23394
380	5.3.6	Providing suitable M.S. louver shutter of the Exhaust Fan.	23	each	365	8395
381	3.14.10	Supplying & erecting in earthpit of minimum bore dia. 225mm size approved make Safe Earthing Electrode consisting Pipe-in-Pipe Technology as per IS 3043-1987 made of corrosion free hot dipped G.I.Pipes having Outer pipe dia of 80 mm having 80-200 Micron galvanising, Inner pipe dia of 40 mm having 200-250 Micron galvanising, connection terminal dia of 14 mm with constant ohmic value surrounded by highly conductive compound with high charge dissipation suitable for following type of applications with chamber and heavy duty cover (A)(approved make OEM has to submit test certificate including value of earth resistance of installation duly stamped and signed by agency and officer Incharge has to ensure the value of earthing resistane mentioned in test Certificate) & having back filling compound of (B) Inner chemical (CCM Compound)- Resistivity:- 0.2 ohm / meter testing as per IEC 62561-2017, Voltage drop:- < 1 volt at no load & dry form, Sulphar content:- <2%(C) Back fill Compound :- Earthing compound should be capable to retain moisture for long time Necessary test report must be submitted by Agency.-[A] For electrical installation up to 440 , V Length of Pipe - 1 Mtr, Back filling compound - 1 Nos. of Bag of 15 Kgs.	8	each	5785	46280
382	MR	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	12	each	12355	148264
383	3.14.2	Providing and erecting required size HOT deep galvanized iron strip for earthing of H.T, OCB/ACB/Transformer LT panel board, motors etc. using proper clamp.	304	Kg	77	23408
384	3.14.3	Providing and erecting required size Copper strip for earthing of H.T, OCB/ACB/Transformer LT panel board, motors etc. using copper clamp.	302	Kg	787	237674
385	3.14.5	Providing and erecting Hot deep Galvanized Iron strip wire 8 to 16 SWG.	44	Kg	77	3388

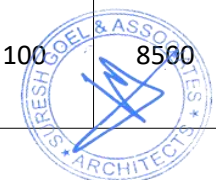




S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
386	10.5.1	SITC of Vertical Air Terminal Solid aluminium with base-10 mm dia and 1000 mm long. Air Termination base tested for conditioning, ageing test & Lightning impulse current withstand test: 100 KA of 10/350 Us waveform in an accerdited third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 protocol with MAST 34 mm dia 3000 mm long-Cold Galvanized.	6	each	9323	55938
387	10.5.2	SITC of 8 mm dia solid Aluminium Conductor for roof top mesh grid and tested as per IEC 62561- 2 conducted in the Govt. accredited thirty party laboratory to meet the requirement of IS/IEC 62305 with Required Accessories - Aluminium Holding clamp at every 1 mtr distance, Aluminium/SS cross splicer at every crossing of Alu. conductor, Expansion piece with connectors at every 20 mtr distance, Aluminium straight Splicer to connect conductors. All Accessories should be tested as per IEC 62561-1 2018 Cl. 6.3 for conditioning & Ageing Test & 6.4 for Lightning impulse current withstand test: 100 kA of 10/350 $\mu$ s waveform(Ageing & Electrical test ) conducted in a sequence manner & tested in the Govt. accredited Third party laboratory to meet the requirements of IS/IEC 6230	315	metre	297	93555
388	10.5.3	SITC of 10 mm MS Round solid conductor having smooth surface should be tested and use exclusively for lightening protection (vertical Riser / down conductor which shall be concealed in column) to meet the requirement of IS IEC 62305 with accessories. Earthing stud of dimensions SS-75 mm OD plate with 10 mm dia tail connector used in structural steel ring earthing system to meet the requirement of IS / IEC 62305. (For interconnecting the column and Terrace AL Conductor / strip/ flat SS cross connector to connect Earth fixing oint to vertical raiser / down conductor. SS straight splicer at every 4 mtr to connect MS conductor in column. Bonding / Rehar clamp at every 3 mtr suitable for innerconnecting round conductor with reinforcement inside the concrete for structural earthing system, SS connector - To connect external conductor 8-10 mm with earth fixing point. All accessories shall be test as per IEC 62561 I 2018 Cl.6.3 for conditioning & ageing test & 6.4 for lightening impulse current withstand test:100 KA of 10/350 Us waveform (Ageing & Electrical test) conducted in a sequence manner & tested in the Govt. accerdited Third party laboratory to meet the requirements of IS/IEC6230.	36	metre	721	25956
389	10.5.4	SITC of Galvanized steel flat 25X6 mm thickness from earth electrode directly in ground as required. Zinc coating 500 g/m square (approx 70 micron coating) tested used exclusively for lightening protection earthing system and ring equipment bonding.	220	metre	153	33660



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
390	10.5.5	SITC of 14.2 mm dia 3 mtr long earth electrode of high tensile steel electrode with 250 micron copper bonding & 1 bag of carbon fill based environment friendly backfill tested as per IEC 62561-7 in NABL accerdedited Laboratory and suitable stainless steel double sided clamp. Eco friendly rust proof heavy duty weather proof polythylene earth pit chamber with following dimensions: 254 mm dia (top) 330 mm dia (bottom) & 260 mm (height).	5	per set	5933	29665
391	1.3.2	Providing & erecting ISI mark Medium class RIGID PVC Pipes of following size complete to be erected on / in wall or ceiling erected with necessary PVC fittings & junction boxes fixed with adhesive solution & clamps with following dia of pipes, in approved manner as directed.- (b) 25 mm	2200	metre	32	70400
392	7.13.5	SITC of CAT6 UTP 23AWG Solid: Per Meter [Approved by Competent Authority i.e. not Below the rank of Executive Engineer ]	4440	metre	43	190920
393	7.13.8	SITC of Jack Cat 6 Keystone UTP [Approved by Competent Authority i.e. not Below the rank of Executive Engineer ]	85	each	160	13600
394	MR	Supply , Installtion , Testing and comissioning of 15U wall mount rack with fans, 5 cable managers, satationary shelf, 2 Nos of hardware pkts & 5Nos. 6/16A sockets PDU also complete as required.	3	each	15668	47004
395	MR	SITC of 800 mm x 1000 mm 42 U Free standing cabinet with front locable door , side panels, 230 V AC 90 CFM fan 2 , three Hardware packet 1 set (containing 20 Nos each of 3), AC power strip. Cantilever Tray 1U 225D, one earthing Strip 150 mm H,1 Cable manager 1U height.	1	each	56970	56970
396	7.13.11	SITC of CAT6 UTP 24AWG PATCH CORD:1M,Plug 30U' Snag less [Approved by Competent Authority i.e. not Below the rank of Executive Engineer ]	85	each	155	13175
397	7.13.12	SITC of CAT6 UTP 24AWG PATCH CORD:2M,Plug 30U' Snag less [Approved by Competent Authority i.e. not Below the rank of Executive Engineer ]	85	each	199	16915
398	7.13.10	SITC of Patch Panel Cat 6 UTP Keystone Type-24 Port-Fully Loaded [Approved by Competent Authority i.e. not Below the rank of Executive Engineer ]	6	each	4357	26142
399	7.13.7	SITC of Face Plate - Dual (Keystone Jack,square) [Approved by Competent Authority i.e. not Below the rank of Executive Engineer ]	85	each	100	8500



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
400	7.13.1	SITC of O. F.Cable 06F Outdoor - Armoured Unitube SM - HDPE Sheath [Approved by Competent Authority i.e. not Below the rank of Executive Engineer ]	400	Mtrs.	50	20000
401	7.13.2	SITC of LIU 12 PORT Rack Mount - Loaded (LC) SM [Approved by Competent Authority i.e. not Below the rank of Executive Engineer ]	4	each	6833	27332
402	7.13.3	SITC of PIGTAIL LC SM SIMPLEX LENGTH- 1m [Approved by Competent Authority i.e. not Below the rank of Executive Engineer ]	42	each	772	32424
403	7.13.4	SITC of PATCH CORD LC-LC SM DUPLEX LENGTH- 3m [Approved by Competent Authority i.e. not Below the rank of Executive Engineer ]	8	each	1883	15064
404	7.13.18	SITC of 20 x SFP ports 4 x Combo 10/100/1000BASE-T/SFP ports 4 x 10G SFP+ ports 6 kV surge protection on all RJ-45 access ports Switch Resource Management (SRM) for flexible management of system resources Redundant Power Supply (RPS) support MPLS L2VPM/L3 VPN support Full L3 routing protocol support including OSPF, BGP, and ISIS for IPv4/IPv6 SDN-enabled switch, compatible with Openflow 1.3 10-GbE SFP+ to SFP+ 1M Direct Attach Cable [Approved by Competent Authority i.e. not Below the rank of	2	each	641527	1283054
405	7.13.15	SITC of 24 x 10/100/1000BASE-T PoE ports 4 x Gigabit RJ45/SFP Combo ports Advanced L2 switching and security features L2+ Static Routing Optional "standard mode" or "surveillance mode" management user interface 193 W PoE budget [Approved by Competent Authority i.e. not Below the rank of Executive Engineer ]	6	each	31680	190080
406	7.13.17	SITC of Maximum distance of up to 10 km Hot-pluggable Single-mode fiber 1000BASE-LX (IEEE 802.3z standard) Duplex LC connector MSA, RoHS-compliant [Approved by Competent Authority i.e. not Below the rank of Executive Engineer ]	12	each	4754	57048



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
407	7.1.2	SITC of Digital / PCM / TDM EPABX System having SMT design, system with flexible universal slots. Inbuilt Auto attendant facility, Minimum 15 Nos. conference, Analog extension line, Calling GSM, E&M line, PRI / EI & VOIP program me through Analog telephone digital key from Ethernet, public address cord, shall have unrestricted simultaneous dialing facility, QSIG protocol on PRI, 95 / STD / ISD / Local-Locking, Class of Service, Quick Dial-Single Digit dialing of any two external number, Once only ring device, Chairman / Secretary - Do not disturb Facility, Power Down Mode, Hot Line, Hot Outward Dialing, Day Night Mode, Auto Call Back, Barge-in, Call Pick Up & Call Transfer, Call transfer while Ringing with Voice Guide System, (DISA), Caller ID (CLI), CLI Base ECF, CLI Base routing Internet Ready Port, External Music Port, Call Budgeting, Call Most Calculation (ASMDR), DID Direct Inverse Dialing, External Music Input, Fax Homing, Global Directory Printing with following capacities [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer ]-[C] No of Extension 48, No of Junctions 9, 8 Port IP Resource in-built, 4 Port Web base Video Conferencing, No of expandable ports : 128 Operators Console - 01	1	each	76314	76314
408	7.1.4	Providing and erecting IP Phone with display with all IP system supported [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer ]	15	each	5594	83910
409	MR	Supplying, installation, testing & commissioning of intelligent analog addressable photothermal detector complete with mounting base complete as required.	141	each	2552	359832
410	MR	Supplying, installation, testing & commissioning of addressable fire control module complete as required.	20	each	2681	53620
411	MR	Supplying, installation, testing & commissioning of addressable horn cum strobe complete as required.	13	each	3130	40690
412	MR	Supplying, installation, testing & commissioning of addressable manual call point complete as required.	13	each	3456	44928
413	MR	Supplying, installation, testing & commissioning of intelligent interface unit BACnet/ Modbus protocol i.e. supplying communication links between building management system and fire alarm control panel complete as required.	1	each	167629	167629
414	MR	Supplying, installation, testing & commissioning of fault isolator complete with base as required.	10	each	2920	29200
415	MR	Supplying, installation, testing & commissioning of central graphical fire alarm management system to centrally monitor and operate the fire alarm system complete as required.	1	each	179117	179117



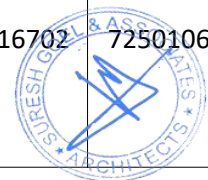
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
416	MR	Supplying, installation, testing and commissioning of micro processor based intelligent addressable main fire alarm panel, central processing unit with the following loop modules and capable of supporting not less than 240 devices (including 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 system with open protocol BACnet/ Modbus over IP complete as per specifications. - Two Loop Panel	1	each	213594	213594
417	7.10.75	SITC of Controller Heart of the Plena Voice Alarm System EN 54-16 certified Built-in message manager and 240 W amplifier Six-zone outputs 6 emergency and 6 business triggers [Approved by Competent Authority i.e. not Below the rank of Executive Engineer ]	1	each	174724	174724
418	7.10.83	SITC of Ceiling speaker, 6W, metal [Approved by Competent Authority i.e. not Below the rank of Executive Engineer ]	50	each	643	32150
419	7.10.33	SITC of Power amplifier, 2x500W 2 X 500 W class-D power amplifier (70/100 V output) Low power consumption in standby mode Excellent sound quality, high signal-to-noise ratio EN 54-16 and ISO 7240-16 system certification [Approved by Competent Authority i.e. not Below the rank of Executive Engineer ]	1	each	217686	217686



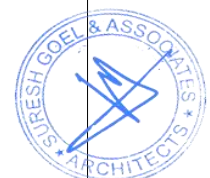
S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
420	7.10.70	SITC of Call station for 6-zone Stylish six-zone call station, intended for LBB 1925/10 system pre-amplifier Unidirectional condenser microphone on flexible stem Six zone selection keys, all-call key, and momentary PTT-key for calls Selectable gain, speech filter, and limiter for improved intelligibility Selectable priority levels and different pre and post-call chimes LED indications for zone selection, system activity, and call station status, [Approved by Competent Authority i.e. not Below the rank of Executive Engineer I	1	each	43106	43106
421	1.3.11	Providing & erecting 16 gauge HGS conduit pipe (as per IS) painted black surface/concealed of following size complete to be erected on/in wall or ceiling with erected with necessary saddles, screws, bends, junction boxes etc. with following (Nominal Bore) dia of pipes, in approved manner as directed -25 mm	2000	metre	103	206000
422	MR	Supplying and drawing of cable Fire Retardant PVC insulated copper conductor cable in the existing surface / recessed steel conduit of following pairs, cores and size including connections and interconnections etc. as required.-speaker cable Single pair, 2-core, 1.5 sqmm	600	each	48	28800
423	MR	Supplying and drawing following sizes of FR PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/PVC as required.-2 x 1.5 sq. mm	1700	metre	63	107100
424	MR	Supply, Installation, Testing & Commissioning of <b>2MP</b> IP Network TDN Low-Light <b>IR Rugged Dome Camera</b> , 1/2.8" CMOS or better, <b>2MP (1920 x 1080) @ 25fps</b> or better, triple stream at various resolution & Frame Rates, Min. Illumination required <b>0.005 lux @ F1.6</b> (color), 0 Lux IR On, 4 IR LEDs Smart IR with upto 50m IR distance, Auto ICR (Infrared Cut Filter) 120dB True WDR, S/N Ratio 50db, Shutter Speed 1/8 - 1/30,000; Advance Video Compression technology such as H.265 & H.264 High Profile & MJPEG , Triple stream, <b>2.7 to 13.5mm</b> 5X motorized focus & zoom lens, Field of View FoV H:88°-24°, BLC, HLC, 3DNR White Balance, Minimum Edge Intelligence Video Analytics : Video Motion Detection, Tampering, Loitering, Intrusion, & People Counting, 4 Privacy Mask, 8 Region Of Interest, Defog, TLS1.2, AES-128/256, SSH/Telnet closed, Stream Encryption, Dual channel Audio, Alarm: 1In/ 1out, 256GB SD card support, PoE (802.3 af) and 12V DC, Max 6W, IP 67, IK 10 vandal proof with Die Cast Aluminium Housing, Having Operating temp range : -40°C to 60° C. Certifications: ONVIF Profile S/G/T compliant, UL/CSA 62368-1, CE (EN 50130-4), FCC Part 15, EN 55032, RoHS (EN63000) & NDAA Section 889 compliant.	18	each	26538	477684



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
425	MR	Supply, Installation, Testing & Commissioning of 2MP IP Network TDN Low-Light IR Rugged Bullet Camera, 1/2.8" CMOS or better, 2MP (1920 x 1080) @ 25fps or better, triple stream at various resolution & Frame Rates, Min. Illumination required 0.005 lux @ F1.6 (color), 0 Lux IR On, 4 IR LEDs Smart IR with upto 60m IR distance, Auto ICR (Infrared Cut Filter) 120dB True WDR, S/N Ratio 50db, Shutter Speed 1/8 - 1/30,000; Advance Video Compression technology such as H.265 & H.264 High Profile & MJPEG , Triple stream, 2.7 to 13.5mm 5X motorized focus & zoom lens, Field of View FoV H:80°-24° , BLC, HLC, 3DNR White Balance, Minimum Edge Intelligence Video Analytics : Video Motion Detection, Tampering, Loitering, Intrusion, & People Counting, 4 Privacy Mask, 8 Region Of Interest, Defog, TLS1.2, AES-128/256, SSH/Telnet closed, Stream Encryption, Dual channel Audio, Alarm: 1In/1out, 256GB SD card support, PoE (802.3 af) and 12V DC, Max 6W, IP 67, IK 10 vandal proof with Die Cast Aluminium Housing, Having Operating temp range : -40°C to 60° C. Certifications: ONVIF Profile S/G/T compliant, UL/CSA 62368-1, CE (EN 50130-4), FCC Part 15, EN 55032, RoHS (EN63000) & NDAA Section 889 compliant. ( Axis/Avigilon/ Bosch/ Honeywell Enterprise)	33	each	28197	930501
426	MR	Supply, Installation, Testing and commissioning of Monitor, 55" LED high resolution monitor with high performance 240VAC, 50 Hz. 24x7 for spot display including all accessories as per specifications and as required to complete the system.	2	each	78785	157570
427	MR	Supply, installation, testing & commissioning of Client Workstation as per following specifications: Intel Core i7-8700K or better, 4.2GHz, OS - Genuine Microsoft Microsoft® Windows 10 Enterprise/IOT 64 Bit, RAM - 16GB, OS - 480 GB SSD/SATA, Graphic Card - In-built Processor Graphics (GPU): Intel® HD Graphics 630 or Intel Q470 Processor, supporting 2 Monitors, 01 LAN 01GBPS, Audio IN & Out, USB3.0, Keyboard and Mouse, associated cables etc complete. Approved Makes : Pelco / Avigilon / Axis / Allenvision / Dell / HP	2	each	194888	389776
428	MR	Supply , Installation , Testing and commissioning of Surveillance Garde 16TB SATA Hard Disk for above VMRs, including fixing accessories and cable termination with required, complete in all respect as per instruction of engineer in-charge. Recording shall be calculated at 2MP, 25fps for 30 days. Approved Makes: WD / Segate / Toshiba / HP	5	each	54735	273675
429	MR	Supply, Installation, Testing and Commissioning of 15 Mtr. HDMI Cable. Approved Makes: Aten / Kramer / Extron / BlueRigger	2	each	12440	24880
430	13-1-BM	SITC of 26 Passenger / 2000 KG Goods Lift, Ground plus 3 upper floors with Rated speed of 1.0 m/sec. with micro price/PLC control and ACVVVF. drive. Location : Animal Facility Block (B+G+2) -(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	3	each	2416702	7250106



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
431	14.1.1	Supply, Installation, Testing & Commissioning of following size of Grid Tied Solar Power Plant with Solar Panels (ALMM approved): Frame Material : Anodized Aluminum alloy Frame With Twin Wall Profile, Front Cover : High Transmission Low-Iron Tempered Glass (AR Coated), High efficiency and positive power tolerance Pmax: 0/+5, Module Efficiency should be approx. 18%-21%, Normal operating temperature 45'C, Junction Box with Waterproof IP67 & MC4 Compatible and Enclosed with Bypass diodes, 100% Electroluminescence test to ensure error free Modules, Thep. temp. co-efficient of the PV module shall equal or better than -0.45%/degree C. Solar PV modules of minimum fill factor 75% to be used. Unit Production:- 4 to 5 Unit /kw /day (Actual)(1Year Avg) With 10 year Product warranty and 25 year Linear Power Warranty., Solar Inverter: MPPT Range: 80-1000 V, Max efficiency: 97.5% - 98.9%, O/p Frequency: 50/60Hz, Operating Altitude (m) ≤4000, O/p Power Factor: ~1, O/P THDi: <3%, Operating Tempreture Range: -25~60°C, Anti-islanding Protection: -(Excluding GEDA Application fees, Solar connectivity Charges, Meter connectivity Charges, Meter testing Charges.) -(F) Grid Tied Solar Power System: 101 - 250 kW (3 - phase)	160	Per KW	39408	6305280
432	14.10.1	The all inclusive comprehensive annual maintanance contract cost covers yearly maintanance of solar Pv Modules, Inverter, wiring, earthing, switchgears, etc with material and labour cost including preventive maintanance.The cost covers entire installation. AMC also includes monthly site visit and inspection of project with submission of inspection and solar generation report. All parts should be replaced/ repaired if found faulty within specified time. Agency has to provide necessary licening work for warranty,power,Bidirectional meter etc .-(E) 101KW-200KW System	160	PER KW	3390	542400
433	MR	SITC of 'Silent Type' Diesel Generating sets having PCC 3.3 controller or better alongwith having Prime Power Rating as given below at 1500RPM, 0.8 lagging power factor at 415V suitable for 50Hz, 3 Phase system & for 0.85 Load Factor and consisting of following:Diesel Engine, Engine mounted Instrument Panel fitted with and having digital display for following:i) Start stop switch with key, ii) Water Temperature indication, iii) Lubrication oil pressure indication, iv) Lubrication oil temperature indication, v) Battery charging indication, vi) RPM indication, vii) Overspeed indication, viii) Low lubricant oil trip indication, ix) Engine hours indication, Alternator, Base Frame and Foundation, Fuel Tank, Exhaust Sytems Dry Exhaust main fold with hospital exhaust silencer and catalytic converter.Starting Sytems, Enclosure, Exhaust Gas Chimney, SITC of DG SET - 750 KVA, as described above and complete as per specifications.	2	Set	6956817	13913634





S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
434	MR	Design, manufacture, testing at works, supply, installation, testing and commissioning of MODBUS ready SCADA Compatible 415V LT Panel Tested Assembly – TTA, CPRI /Independent international test house tested for all the tests as per IEC61439-1 & 2 and internal arc tests as per IEC 61641, 50kA for 0.3 SEC. Copies of the test reports & certificates shall be submitted with the tender.SOURCE -1 & 2 INCOMING FROM ESS LT PANEL, 2 No. 1600A, 4-pole EDO type ACB having release SOURCE -1 & 2 INCOMING FROM DG SET (750 KVA)-2 No. 1600A, 4-pole EDO type ACB having release. Bus Coupler, 1 No. 1600 A, 4-pole EDO type ACB having microprocessor release.Outgoing Panels-Bus Section - A-1600 amp, 50KA FP ACB - EDO--1 Nos., 630 amp, 50KA FP MCCB -2 Nos., 200 amp, 36 KA FP MCCB -2 Nos., Bus Section - B-630 amp, 50KA FP MCCB-2 Nos., 315 amp, 36 KA FP MCCB -1 Nos., 250 amp, 36 KA FP MCCB -1 Nos., 200 amp, 36 KA FP MCCB -1 Nos.Metering & Indication for each outgoing feeders., 96 x 96 sq.mm display module mounted on panel door directly connected from release to display all parameters of ACB/MCCB.Set of ON/OFF/Trip/Trip Circuit healthy/ready to close(for ACB) lamp with control MCBs of 2A.AMF Panel: AMF based panel for Auto Start complete with Control / Power wiring and necessary hardware	1	set	4846770	4846770
435	MR	SITC of microprocessor based 15 KVA UPS System, at 0.8 power factor true online double conversion UPS using PWM IGBT technology, 3 Phase input 430 V + 10 % - 15% and input frequency 50 Hertz plus minus 5%, 3 phase output fixed setting at 380, 415 and 430 V, UPS operating in parallel redundancy mode and each comprising of the following.125% rated rectifier cum charger unit + 100% rated inverter, integrated in UPS module.Anti harmonic filter at rectifier input for achieving THD < 5% and input power factor of greater than 0.9. 100% rated inbuilt galvanic isolation transformer of H-class delta/ Zigzag type at the inverter output.100% rated inbuilt static switch at the inverter output.100% rated inbuilt static switch at the static bypass line.100% rated inbuilt Maintenance bypass.100% rated MCCB having I Thermal, magnetic and automatic U/V trip mechanics.Web-enabled monitoring and management through SNMP protocols for multi-OS environment. RS232/ RS486 BMS connectivity with software.Built in circulating fan.Supply, Installation, Testing & commissioning of sealed valve regulated lead Acid batteries (minimum life 2 years) for UPS system, for providing 15 minutes backup. Supply/ fixing of matching racks to house batteries for the UPS system.	1	set	433984	433984



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
436	MR	SITC of microprocessor based 2 X 200 KVA UPS System, at 0.8 power factor true online double conversion UPS using PWM IGBT technology, 3 Phase input 430 V + 10 % - 15% and input frequency 50 Hertz plus minus 5%, 3 phase output fixed setting at 380, 415 and 430 V, UPS operating in parallel redundancy mode and each comprising of the following.125% rated rectifier cum charger unit + 100% rated inverter, integrated in UPS module.Anti harmonic filter at rectifier input for achieving THD < 5% and input power factor of greater than 0.9. 100% rated inbuilt galvanic isolation transformer of H-class delta/ Zigzag type at the inverter output.100% rated inbuilt static switch at the inverter output.100% rated inbuilt static switch at the static bypass line.100% rated inbuilt Maintenance bypass.100% rated MCCB having I Thermal, magnetic and automatic U/V trip mechanics.Web-enabled monitoring and management through SNMP protocols for multi-OS environment. RS232/ RS486 BMS connectivity with software.Built in circulating fan.Supply, Installation, Testing & commissioning of sealed valve regulated lead Acid batteries (minimum life 2 years) for UPS system, for providing 15 minutes backup. Supply/ fixing of matching racks to house batteries for the UPS system.	1	set	6132375	6132375
<b>Total</b>						<b>52451766</b>

<b>Part - B - Comprehensive Maintenance</b>						
437	GR	Annual preventive maintenance for 2X 750 KVA DG Set installed in Electric substation along with AMF Panel & Carrying out A,B & C periodic maintenance check, including B-Check Kit, Air Cleaning elements, coolant,& lubricating oil, attending all major& minor faults and rectification as per terms & conditions after 1 Years of DLP-For 1st Year				<b>Deleted</b>
438	GR	Annual preventive maintenance for 2X 750 KVA DG Set installed in Electric substation along with AMF Panel & Carrying out A,B & C periodic maintenance check, including B-Check Kit, Air Cleaning elements, coolant,& lubricating oil, attending all major& minor faults and rectification as per terms & conditions after 1 Years of DLP-For 2nd Year				<b>Deleted</b>
439	GR	Annual preventive maintenance for 2X 750 KVA DG Set installed in Electric substation along with AMF Panel & Carrying out A,B & C periodic maintenance check, including B-Check Kit, Air Cleaning elements, coolant,& lubricating oil, attending all major& minor faults and rectification as per terms & conditions after 1 Years of DLP-For 3rd year				<b>Deleted</b>
440	GR	Annual preventive maintenance for 2X 750 KVA DG Set installed in Electric substation along with AMF Panel & Carrying out A,B & C periodic maintenance check, including B-Check Kit, Air Cleaning elements, coolant,& lubricating oil, attending all major& minor faults and rectification as per terms & conditions after 1 Years of DLP-For 4th Year				<b>Deleted</b>



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
441	GR	Annual preventive maintenance for 2X 750 KVA DG Set installed in Electric substation along with AMF Panel & Carrying out A,B & C periodic maintenance check, including B-Check Kit, Air Cleaning elements, coolant,& lubricating oil, attending all major& minor faults and rectification as per terms & conditions after 1 Years of DLP-For 5th Year				Deleted
442	GR	Comprehensive Maintenance of 3 Nos. 26 Passeneger/2000 kG Goods Lift for Animal Block (B+G+2) with Machine Room Less & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. After DLP of 1 year-For 1st Year				Deleted
443	GR	Comprehensive Maintenance of 3 Nos. 26 Passeneger/2000 kG Goods Lift for Animal Block (B+G+2) with Machine Room Less & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. After DLP of 1 year-For 2nd Year				Deleted
444	GR	Comprehensive Maintenance of 3 Nos. 26 Passeneger/2000 kG Goods Lift for Animal Block (B+G+2) with Machine Room Less & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. After DLP of 1 year-For 3rd year				Deleted
445	GR	Comprehensive Maintenance of 3 Nos. 26 Passeneger/2000 kG Goods Lift for Animal Block (B+G+2) with Machine Room Less & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. After DLP of 1 year-For 4th Year				Deleted
446	GR	Comprehensive Maintenance of 3 Nos. 26 Passeneger/2000 kG Goods Lift for Animal Block (B+G+2) with Machine Room Less & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. After DLP of 1 year-For 5th Year				Deleted
447	MR	Comprehensive Maintenance of 18 Nos. Dome Camera, 33 Nos. Bullet Camera, 2 Nos. 55" LED Display,2 nos. Client Workstations, 5 Nos. 16 TB HDD and 2 Nos. 15 mtr HDMI Cable etc. & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. During 5 Year of DLP periodFor 1st Year				Deleted
448	MR	Comprehensive Maintenance of 18 Nos. Dome Camera, 33 Nos. Bullet Camera, 2 Nos. 55" LED Display,2 nos. Client Workstations, 5 Nos. 16 TB HDD and 2 Nos. 15 mtr HDMI Cable etc. & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. During 5 Year of DLP periodFor 2nd Year				Deleted



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
449	MR	Comprehensive Maintenance of 18 Nos. Dome Camera, 33 Nos. Bullet Camera, 2 Nos. 55" LED Display, 2 nos. Client Workstations, 5 Nos. 16 TB HDD and 2 Nos. 15 mtr HDMI Cable etc. & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. During 5 Year of DLP period For 3rd year				Deleted
450	MR	Comprehensive Maintenance of 18 Nos. Dome Camera, 33 Nos. Bullet Camera, 2 Nos. 55" LED Display, 2 nos. Client Workstations, 5 Nos. 16 TB HDD and 2 Nos. 15 mtr HDMI Cable etc. & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. During 5 Year of DLP period For 4th Year				Deleted
451	MR	Comprehensive Maintenance of 18 Nos. Dome Camera, 33 Nos. Bullet Camera, 2 Nos. 55" LED Display, 2 nos. Client Workstations, 5 Nos. 16 TB HDD and 2 Nos. 15 mtr HDMI Cable etc. & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. During 5 Year of DLP period For 5th Year				Deleted
452	MR	Comprehensive Maintenance of 141 Nos. Photothermal detector, 15 nos. Fire Control Module, 13 Nos. Horn cum strobe, 13 Nos. MCPs, 1 Nos. Intelligent Interface Unit, 10 Nos. Fault Isolators, 1 Nos. Central Graphical FAS Monitoring System, 1 Nos. Two Loop FAS Panel, 1 Nos. PA Controller, 74 Nos. 6W metal Speakers, 1 nos. Power Amplifier, 1 nos. 6 zone stylish call station, 2200 mtr 25 mm dia steel conduit, 900 mtr speaker cable, 1700 mtr 2X1.5 FR PVC copper Cable etc. & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. During 5 Year of DLP period For 1st Year				Deleted
453	MR	Comprehensive Maintenance of 141 Nos. Photothermal detector, 15 nos. Fire Control Module, 13 Nos. Horn cum strobe, 13 Nos. MCPs, 1 Nos. Intelligent Interface Unit, 10 Nos. Fault Isolators, 1 Nos. Central Graphical FAS Monitoring System, 1 Nos. Two Loop FAS Panel, 1 Nos. PA Controller, 74 Nos. 6W metal Speakers, 1 nos. Power Amplifier, 1 nos. 6 zone stylish call station, 2200 mtr 25 mm dia steel conduit, 900 mtr speaker cable, 1700 mtr 2X1.5 FR PVC copper Cable etc. & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. During 5 Year of DLP period For 2nd Year				Deleted



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
454	MR	Comprehensive Maintenance of 141 Nos. Photothermal detector, 15 nos. Fire Control Module, 13 Nos. Horn cum strobe, 13 Nos. MCPs, 1 Nos. Intelligent Interface Unit, 10 Nos. Fault Isolators, 1 Nos. Central Graphical FAS Monitoring System, 1 Nos. Two Loop FAS Panel, 1 Nos. PA Controller, 74 Nos. 6W metal Speakers, 1 nos. Power Amplifier, 1 nos. 6 zone stylish call station, 2200 mtr 25 mm dia steel conduit, 900 mtr speaker cable, 1700 mtr 2X1.5 FR PVC copper Cable etc. & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. During 5 Year of DLP periodFor 3rd year				Deleted
455	MR	Comprehensive Maintenance of 141 Nos. Photothermal detector, 15 nos. Fire Control Module, 13 Nos. Horn cum strobe, 13 Nos. MCPs, 1 Nos. Intelligent Interface Unit, 10 Nos. Fault Isolators, 1 Nos. Central Graphical FAS Monitoring System, 1 Nos. Two Loop FAS Panel, 1 Nos. PA Controller, 74 Nos. 6W metal Speakers, 1 nos. Power Amplifier, 1 nos. 6 zone stylish call station, 2200 mtr 25 mm dia steel conduit, 900 mtr speaker cable, 1700 mtr 2X1.5 FR PVC copper Cable etc. & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. During 5 Year of DLP periodFor 4th Year				Deleted
456	MR	Comprehensive Maintenance of 141 Nos. Photothermal detector, 15 nos. Fire Control Module, 13 Nos. Horn cum strobe, 13 Nos. MCPs, 1 Nos. Intelligent Interface Unit, 10 Nos. Fault Isolators, 1 Nos. Central Graphical FAS Monitoring System, 1 Nos. Two Loop FAS Panel, 1 Nos. PA Controller, 74 Nos. 6W metal Speakers, 1 nos. Power Amplifier, 1 nos. 6 zone stylish call station, 2200 mtr 25 mm dia steel conduit, 900 mtr speaker cable, 1700 mtr 2X1.5 FR PVC copper Cable etc. & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. During 5 Year of DLP periodFor 5th Year				Deleted
457	MR	Comprehensive Maintenance of 1 Nos. of extensions 48 and 15 Nos. of IP Phones etc. & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. During 5 Year of DLP periodFor 1st Year				Deleted
458	MR	Comprehensive Maintenance of 1 Nos. of extensions 48 and 15 Nos. of IP Phones etc. & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. During 5 Year of DLP periodFor 2nd Year				Deleted



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
459	MR	Comprehensive Maintenance of 1 Nos. of extensions 48 and 15 Nos. of IP Phones etc. & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. During 5 Year of DLP periodFor 3rd year				Deleted
460	MR	Comprehensive Maintenance of 1 Nos. of extensions 48 and 15 Nos. of IP Phones etc. & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. During 5 Year of DLP periodFor 4th Year				Deleted
461	MR	Comprehensive Maintenance of 1 Nos. of extensions 48 and 15 Nos. of IP Phones etc. & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. During 5 Year of DLP periodFor 5th Year				Deleted
462	MR	Comprehensive Maintenance of Distribution Switches, PoE Switches, WIFI devices, Wireless Controller, Copper & fiber Patch Cords, Jack Panels, Information Outlets, LAN Cable, conduits, LIUs, Racks etc. & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. During 5 Year of DLP periodFor 1st Year				Deleted
463	MR	Comprehensive Maintenance of Distribution Switches, PoE Switches, WIFI devices, Wireless Controller, Copper & fiber Patch Cords, Jack Panels, Information Outlets, LAN Cable, conduits, LIUs, Racks etc. & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. During 5 Year of DLP periodFor 2nd Year				Deleted
464	MR	Comprehensive Maintenance of Distribution Switches, PoE Switches, WIFI devices, Wireless Controller, Copper & fiber Patch Cords, Jack Panels, Information Outlets, LAN Cable, conduits, LIUs, Racks etc. & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. During 5 Year of DLP periodFor 3rd year				Deleted
465	MR	Comprehensive Maintenance of Distribution Switches, PoE Switches, WIFI devices, Wireless Controller, Copper & fiber Patch Cords, Jack Panels, Information Outlets, LAN Cable, conduits, LIUs, Racks etc. & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. During 5 Year of DLP periodFor 4th Year				Deleted



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
466	MR	Comprehensive Maintenance of Distribution Switches, PoE Switches, WIFI devices, Wireless Controller, Copper & fiber Patch Cords, Jack Panels, Information Outlets, LAN Cable, conduits, LIUs, Racks etc. & preventive Maintenance, repair and replacement complete as required as per terms & conditions attached. During 5 Year of DLP periodFor 5th Year				<b>Deleted</b>
		<b>Total Of Part B - Maintenance</b>				<b>0</b>
		<b>Running and operation for HVAC</b>				
467	MR	Operation of the high side & low side of the air conditioning plant comprising of all the machinery, equipment installed in the A.C. Plant room including cooling tower <b>for the defect liability period of five year</b> as per maintenance Schedule attached at Annexure 'H' .(Running and operation only) for First Year	12	Month	152042	1824498
468	MR	Operation of the high side & low side of the air conditioning plant comprising of all the machinery, equipment installed in the A.C. Plant room including cooling tower <b>for the defect liability period of five year</b> as per maintenance Schedule attached at Annexure 'H' .(Running and operation only) for Second year	12	Month	159644	1915723
469	MR	Operation of the high side & low side of the air conditioning plant comprising of all the machinery, equipment installed in the A.C. Plant room including cooling tower <b>for the defect liability period of five year</b> as per maintenance Schedule attached at Annexure 'H' .(Running and operation only) for Third Year	12	Month	167626	2011509
470	MR	Operation of the high side & low side of the air conditioning plant comprising of all the machinery, equipment installed in the A.C. Plant room including cooling tower <b>for the defect liability period of five year</b> as per maintenance Schedule attached at Annexure 'H' .(Running and operation only) for Forth Year	12	Month	176007	2112084
471	MR	Operation of the high side & low side of the air conditioning plant comprising of all the machinery, equipment installed in the A.C. Plant room including cooling tower <b>for the defect liability period of five year</b> as per maintenance Schedule attached at Annexure 'H' .(Running and operation only) fifth year	12	Month	184807	2217689
		<b>TOTAL</b>				<b>10081503</b>
		<b>DSR</b>				
		<b>NS</b>				<b>10081503</b>
	C	<b>Fire Fighting Operation and day to day Complaint</b>				



S.No.	SOR No	Description	Qty	Unit	Rate excl GST	Amount
472	MR	Providing services of running and operation fire fighting equipments pumps etc in three shifts on all days including sundays & holidays & day to day Maintenance , cleaning of equipments as per direction of Engineer In Charge including attending the complaints in the buildings of campus during 2nd and night shifts with following minimum staff: Cleaning of equipments including providing consumable material like wire, duster, greece, oil, tape, thimble, lugs, switches, socket, detergent etc. as per directons of Engineer In charge with minimum staff of skill person-1 Nos. and Helper/khallasi-1 Nos.-For 1st Year	12	month	53556	642672
473	MR	Providing services of running and operation fire fighting equipments pumps etc in three shifts on all days including sundays & holidays & day to day Maintenance , cleaning of equipments as per direction of Engineer In Charge including attending the complaints in the buildings of campus during 2nd and night shifts with following minimum staff. Cleaning of equipments including providing consumable material like wire, duster, greece, oil, tape, thimble, lugs, switches, socket, detergent etc. as per directons of Engineer In charge with minimum staff of skill person-1 Nos. and Helper/khallasi-1 Nos.-For 2nd Year	12	month	56234	674806
474	MR	Providing services of running and operation fire fighting equipments pumps etc in three shifts on all days including sundays & holidays & day to day Maintenance , cleaning of equipments as per direction of Engineer In Charge including attending the complaints in the buildings of campus during 2nd and night shifts with following minimum staff Cleaning of equipments including providing consumable material like wire, duster, greece, oil, tape, thimble, lugs, switches, socket, detergent etc. as per directons of Engineer In charge with minimum staff of skill person-1 Nos. and Helper/khallasi-1 Nos.-For 3rd Year	12	month	58912	706939
475	MR	Providing services of running and operation fire fighting equipments pumps etc in three shifts on all days including sundays & holidays & day to day Maintenance , cleaning of equipments as per direction of Engineer In Charge including attending the complaints in the buildings of campus during 2nd and night shifts with following minimum staff:. Cleaning of equipments including providing consumable material like wire, duster, greece, oil, tape, thimble, lugs, switches, socket, detergent etc. as per directons of Engineer In charge with minimum staff of skill person-1 Nos. and Helper/khallasi-1 Nos.-For 4th Year	12	month	61589	739073
476	MR	Providing services of running and operation fire fighting equipments pumps etc in three shifts on all days including sundays & holidays & day to day Maintenance , cleaning of equipments as per direction of Engineer In Charge including attending the complaints in the buildings of campus during 2nd and night shifts with following minimum staff Cleaning of equipments including providing consumable material like wire, duster, greece, oil, tape, thimble, lugs, switches, socket, detergent etc. as per directons of Engineer In charge with minimum staff of skill person-1 Nos. and Helper/khallasi-1 Nos.-For 5th Year	12	month	64267	771206



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