

					Enclosure-19
NAME OF PROJECT: -Development of Gavan Land, Plot No 12A, Sector No-8, Node – Ulwe, Raigad, Navi Mumbai.					
TENDER NO:1900000248					
SUMMERY OF BOQs					
1	CIVIL WORK				43,22,15,273.28
2	ELECTRICAL WORK				10,90,98,896.93
3	MECHNICAL WORK				5,21,14,070.59
<b>GROSS TOTAL AMOUNT (1+2+3)</b>				<b>₹</b>	<b>59,34,28,240.80</b>
Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
CIVIL BOQ					
Section A- CIVIL BOQ					
1	Earth work in <b>Excavation</b> (including for foundation) by mechanical means/ manual means <b>in all types of soils</b> such as Earth, Marine Clay, Marshy Land, Running Sand, Garbage, Slush, Murum, Rock Boulders, RCC boulders, any type of road layer etc. as directed by Engineer in-charge. The rate includes pumping out water if required, <b>removing the rank vegetation and refilling the excavated materials wherever required as directed including leveling, ramming etc.</b> The rate also includes supporting public utilities such as cables, drains services pipes water mains, but shall not include the cost of shoring. (cutting of MS plates & old RCC foundation coming during excavation shall be paid separately). <b>Depth Upto 1.5 m</b>	Cum	9440.00	465.81	43,97,211.66
2	Earth work in <b>Excavation</b> (including for foundation) by mechanical means/ manual means <b>in all types of soils</b> , such as Earth, Marine Clay, Marshy Land, Running Sand, Garbage, Slush, Murum, Rock Boulders, RCC boulders, any type of road layer etc. as directed by Engineer in-charge. The rate includes pumping out water if required, <b>removing the rank vegetation and refilling the excavated materials wherever required as directed including leveling, ramming etc .</b> The rate also includes supporting public utilities such as cables, drains services pipes water mains, but shall not include the cost of shoring. (cutting of MS plates & old RCC foundation coming during excavation shall be paid separately). <b>Depth above 1.5 to 3 m</b>	Cum	431.00	725.43	3,12,659.43
3	Earth work in <b>Excavation</b> (including for foundation) by mechanical means/ manual means <b>in all types of soils</b> , such as Earth, Marine Clay, Marshy Land, Running Sand, Garbage, Slush, Murum, Rock Boulders, RCC boulders, any type of road layer etc. as directed by Engineer in-charge. The rate includes pumping out water if required, <b>removing the rank vegetation and refilling the excavated materials wherever required as directed including leveling, ramming etc .</b> The rate also includes supporting public utilities such as cables, drains services pipes water mains, but shall not include the cost of shoring. (cutting of MS plates & old RCC foundation coming during excavation shall be paid separately). <b>Depth above 3 m</b>	Cum	10.00	877.80	8,778.03

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
4	<p><b>Excavation for foundation in Hard murum/ ordinary rock</b> including removing the excavated material upto a distance of 50 metres (within premises) beyond the building area and stacking and spreading as directed, dewatering, preparing the bed for the foundation and necessary back filling, ramming, watering including shoring and strutting etc. complete by Mechanical means as directed by Engineer in-charge.</p> <p>The rate includes removing the rank vegetation wherever required as directed, supporting public utilities such as cables, drains services pipes water mains. (cutting of MS plates &amp; old RCC foundation coming during excavation shall be paid separately).</p> <p><b>Depth up to 1.5 m</b></p>	Cum	47.00	721.02	33,888.17
5	<p><b>Excavation for foundation in Hard murum/ ordinary rock</b> including removing the excavated material upto a distance of 50 metres (within premises) beyond the building area and stacking and spreading as directed, dewatering, preparing the bed for the foundation and necessary back filling, ramming, watering including shoring and strutting etc. complete by Mechanical means as directed by Engineer in-charge.</p> <p>The rate includes removing the rank vegetation wherever required as directed, supporting public utilities such as cables, drains services pipes water mains. (cutting of MS plates &amp; old RCC foundation coming during excavation shall be paid separately).</p> <p><b>Depth Above 1.5 m up to 3.0 m depth</b></p>	Cum	817.00	979.93	8,00,604.18
6	<p>Earth work in <b>Hard Rock excavation</b> by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) lead upto 50 m , as directed by Engineer-incharge.</p> <p>The rate includes dewatering, supporting public utilities such as cables, drains services pipes water mains. (cutting of MS plates &amp; old RCC foundation coming during excavation shall be paid separately).</p> <p><b>Depth up to 1.5 m</b></p>	Cum	147.00	1,669.78	2,45,458.15
7	<p>Earth work in <b>Hard Rock excavation</b> by mechanical means &amp; dewatering done (Hydraulic excavator)/ manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) lead upto 50 m , as directed by Engineer-incharge.</p> <p>The rate includes dewatering, supporting public utilities such as cables, drains services pipes water mains. (cutting of MS plates &amp; old RCC foundation coming during excavation shall be paid separately).</p> <p><b>Depth 1.5 m to 3 m</b></p>	Cum	620.00	1,891.43	11,72,683.62
8	<p>Earth work in <b>Hard Rock excavation</b> by mechanical means &amp; dewatering done (Hydraulic excavator)/ manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) lead upto 50 m , as directed by Engineer-incharge.</p> <p>The rate includes dewatering, supporting public utilities such as cables, drains services pipes water mains. (cutting of MS plates &amp; old RCC foundation coming during excavation shall be paid separately).</p> <p><b>Depth 3 m to 4.5 m</b></p>	Cum	1195.00	2,113.06	25,25,102.73
9	<p>Close timbering in trenches including strutting, <b>shoring</b> and packing cavities (wherever required) etc. complete as directed by Engg-In-Charge.(Measurements to be taken of the face area timbered).</p> <p><b>Depth up to 1.5 m</b></p>	Sqm	1043.00	157.17	1,63,929.94

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10	<b>Surface dressing</b> of the ground including removing vegetation and inequalities not exceeding 15 cm deep and disposal of rubbish, lead up to 50 m and lift up to 1.5 m. etc. complete as directed by Engg-In-Charge.- All Kind of soil	Sqm	2978.00	33.30	99,158.59
11	Providing & Filling in Plinths and floors with hard murrum <b>brought out from outside</b> in layers of 150 to 200 mm including watering compaction for all lift and leads and necessary royalty changes etc. complete as directed by Engg-In-Charge.	Cum	775.00	651.59	5,04,983.96
12	Providing dry /trap/granite/quartzite/gneiss <b>rubble stone soling</b> 15 cm to 20 cm thick including handpacking and compacting etc.complete as directed by Engg-In-Charge.	Cum	608.00	1,503.34	9,14,030.48
13	<b>Chipping/ breaking by mechanical means</b> of excavated rock, making it as per requirement, laying stone soling 15 cm to 20 cm thick including handpacking and compacting etc.complete as directed by Engg-In-Charge.	Cum	866.00	746.23	6,46,235.87
14	<b>Filling</b> with available excavated earth (murrum) (excluding rock) in trenches, plinth,sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m etc complete as directed by Engg-In-Charge.	Cum	2560.00	300.35	7,68,887.71
15	<b>Disposal of soil/ moorum</b> by mechanical transport including loading, transporting, unloading to approved municipal dumping ground for all lifts, complete as per directions of Engineer-in-charge. <b>Payment shall be done by deduction of volume of 20% according to void ratio. Volume shall measure as per truck dimension at site.</b>	Cum	4945.00	697.37	34,48,509.68
16	<b>Disposal of Rock</b> by mechanical transport including loading, transporting, unloading to approved municipal dumping ground for all lifts, complete as per directions of Engineer-in-charge. <b>Payment shall be done by deduction of volume of 50% according to void ratio. Volume shall measure as per truck dimension at site.</b>	Cum	1324.00	1,115.78	14,77,295.84
17	<b>Disposal of debris/building rubbish</b> by mechanical transport including loading, transporting, unloading to approved municipal dumping ground for all lifts, complete as per directions of Engineer-in-charge. <b>Payment shall be done by deduction of volume of Zero % according to void ratio. Volume shall measure as per truck dimension at site.</b>	Cum	10.00	557.82	5,578.24
18	Providing preconstructional <b>antitermite treatment</b> as per I.S.6313(Part-II) by treating the <b>bottom surface and sides of excavation</b> at the rate of 5 litres of emulsion concentrate of 1.0 percent of chlorophyrifos per square meter of surface area covering 10 years guarantee on bond paper as per format given by consultant etc complete as directed by engineer in charge.	Sqm	5827.00	116.39	6,78,231.33
19	Providing preconstructional <b>antitermite treatment</b> as per I.S.6313(Part-II) by treating the <b>top surface of plinth filling</b> at the rate of 5 litres of emulsion concentrate of 1.0 percent of chlorophyrifos per square meter of surface area covering 10 years guarantee on bond paper as per format given by consultant etc complete as directed by engineer in charge	Sqm	2585.00	117.48	3,03,692.00

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20	Providing <b>anti termite treatment around the periphery of the building</b> as per I.S.6313(Part-III) by excavating trenches of 20cm width and exposing the sides of columns and plinth beams up to a depth of 300 mm and injecting one percent of chlorodane emulsion concent rate at the rate of 2.25 litres per Rmt and refilling the trenches etc. complete covering 2 years guarantee on bond paper.	Rmt	337.00	72.88	24,561.44
21	Providing and applying two coats of <b>protective membrane</b> over the cured concrete surface like R.C.C. footings, columns, plinth beams etc. which will be submerged under soil so as to protect the same. Apply two pack <b>coal tar epoxy system</b> of Sunepoxy Coaltar of approved make & approved by Engineer in charge, having solid content ranges from 80-100%, Tack free time 4-6 hrs. Recoat after 16-24 hrs. Mix Part A and Part B of Sunepoxy Coaltar of approved make & approved by Engineer in charge in 1:1 ratio with slow speed stirrer and apply the same <b>on a clean R.C.C. surface</b> by brush. Allow to set for 8-10 hours and apply the second coat. The rate to include for application at all levels to various RCC elements to the satisfaction of the EIC etc. complete.	Sqm	2842.00	268.69	7,63,607.32
22	Providing and fixing 20 to 25 mm thick rough shahabad <b>box type waterproofing for basement</b> or underground floor on a base of Cement concrete 1:3:6, including sub base of 2.50 centimeter thick Cement mortar 1:3 with conceal, secrete (RMW), Algae proof or other alike waterproofing liquids, raking of joints upto 35 mm depth, filling the joints with 6mm size crushed metal, hand grouting with cement slurry, curing and cleaning, with 7 years guarantee on court fee stamp of Rs.100/- with ponding test etc complete as directed by Engg-in Charge (excluding Cement concret base concrete) <b>(Gurantee Bond is applicable as per Tender terms)</b>	Sqm	199.00	1,398.91	2,78,383.25
23	Providing and fixing 20 to 25 mm thick rough shahabad <b>box type waterproofing treatment to vertical outside faces</b> of Reinforced Cement concrete walls of basement or underground floor including filling the gap of 25 mm between rough shahabad and R.C.C. walls with cement grout mixed with waterproofing liquid Algaeproof or other alike with one tile lift method, brushing the joints horizontally with cement slurry mixed with waterproofing liquid for width 30 to 35 mm and sloping coping over top most tile with cement mortar 1:3, butting the bottom most with Cement concrete 1:2:4 mixed with waterproofing liquid, curing, with 7 years guarantee on court fee stamp of Rs.100/- with ponding teste tc complete. complete as directed by Engg-in Charge (excluding Cement concrete base concrete) <b>(Gurantee Bond is applicable as per Tender terms)</b>	Sqm	471.00	1,455.48	6,85,529.38
24	Making <b>plinth protection</b> 50 mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including necessary excavation, levelling & dressing & finishing the top smooth.	Sqm	295.00	806.18	2,37,824.32
25	Providing and Laying in foundation bedding, backing or steps upto plinth level etc. with <b>cement concrete in M-15 grade</b> including formwork, curing, vibrating etc. complete as directed by engg.in.charge	Cum	1640.00	9,708.63	1,59,22,145.59
26	Providing and Laying in foundation bedding, backing or steps upto plinth leve & <b>at all floor levels etc.</b> with <b>cement concrete in M-20 grade</b> including formwork, curing, vibrating etc. complete as directed by engg.in.charge	Cum	104.00	10,203.58	10,61,172.81

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
27	Providing and laying in position <b>ready mixed M-30 grade concrete</b> for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, including the cost of centering, shuttering finishing, including cost of de-shuttering and decentering, P & F of cover block, curing, vibrating, finishing of rough surface and 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.	Cum	385.0000	12,987.12	50,00,041.15
	<b>(Concrete of M30 grade with minimum cement content of 350 kg /cum)</b> Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. complete as directed by Engg-in Charge. <b>All works upto plinth level</b>				
28	Providing and laying in position <b>ready mixed M-30 grade concrete</b> for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, including the cost of centering, shuttering finishing, including cost of de-shuttering and decentering, P & F of cover block, curing, vibrating, finishing of rough surface and 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.	Cum	47.00	14,941.41	7,02,246.25
	<b>(Concrete of M30 grade with minimum cement content of 350 kg /cum)</b> Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. complete as directed by Engg-in Charge <b>All works above plinth Level up to Floor 5th Lvl</b>				
29	Providing and laying in position <b>ready mixed M-35 grade concrete</b> for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, including the cost of centering, shuttering finishing, including cost of de-shuttering and decentering, P & F of cover block, curing, vibrating, finishing of rough surface and 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.	Cum	944.00	13,154.60	1,24,17,942.06
	<b>(Concrete of M35 grade with minimum cement content of 370 kg /cum)</b> Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. complete as directed by Engg-in Charge <b>All works upto plinth level</b>				

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30	Providing and laying in position <b>ready mixed M-35 grade concrete</b> for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, including the cost of centering, shuttering finishing, including cost of de-shuttering and decentering, P & F of cover block, curing, vibrating, finishing of rough surface and 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.	Cum	2731.00	15,073.40	4,11,65,444.37
	<b>(Concrete of M35 grade with minimum cement content of 370 kg /cum)</b> Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. complete as directed by Engg-in Charge <b>All works above plinth Level up to Floor 5th Lvl</b>				
31	Providing and laying in position <b>ready mixed M-35 grade concrete</b> for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, including the cost of centering, shuttering finishing, including cost of de-shuttering and decentering, P & F of cover block, curing, vibrating, finishing of rough surface and 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.	Cum	1552.00	15,405.67	2,39,09,603.32
	<b>(Concrete of M35 grade with minimum cement content of 370 kg /cum)</b> Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. complete as directed by Engg-in Charge <b>All works above Level Floor 5 th to 9th Lvl</b>				
32	Providing and laying in position <b>ready mixed M-25 grade concrete</b> for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, including the cost of centering, shuttering finishing, including cost of de-shuttering and decentering, P & F of cover block, curing, vibrating, finishing of rough surface and 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.	Cum	10.00	12,819.72	1,28,197.23
	<b>(Concrete of M25 grade with minimum cement content of 330 kg /cum)</b> Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. complete as directed by Engg-in Charge <b>All works upto plinth level</b>				

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
33	Providing and laying in position <b>ready mixed M-25 grade concrete</b> for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, including the cost of centering, shuttering finishing, including cost of de-shuttering and decentering, P & F of cover block, curing, vibrating, finishing of rough surface and 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.	Cum	10.00	14,738.52	1,47,385.19
	<b>(Concrete of M25 grade with minimum cement content of 330 kg /cum)</b> Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. complete as directed by Engg-in Charge <b>All works above plinth Level up to Floor 5th Lvl</b>				
34	Providing and laying in position <b>ready mixed M-25 grade concrete</b> for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, including the cost of centering, shuttering finishing, including cost of de-shuttering and decentering, P & F of cover block, curing, vibrating, finishing of rough surface and 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.	Cum	10.00	15,070.80	1,50,707.96
	<b>(Concrete of M25 grade with minimum cement content of 330 kg /cum)</b> Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. complete as directed by Engg-in Charge <b>All works above Level Floor 5th to 9th Lvl</b>				
35	Providing and laying in position <b>ready mixed M-40 grade concrete</b> for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, including the cost of centering, shuttering finishing, including cost of de-shuttering and decentering, P & F of cover block, curing, vibrating, finishing of rough surface and 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.	Cum	10.00	13,322.01	1,33,220.07
	<b>(Concrete of M40 grade with minimum cement content of 390 kg /cum)</b> Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. complete as directed by Engg-in Charge <b>All works upto plinth level</b>				

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
36	Providing and laying in position <b>ready mixed M-40 grade concrete</b> for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, including the cost of centering, shuttering finishing, including cost of de-shuttering and decentering, P & F of cover block, curing, vibrating, finishing of rough surface and 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.	Cum	10.00	15,240.80	1,52,408.03
	<b>(Concrete of M40 grade with minimum cement content of 390 kg/cum)</b> Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. complete as directed by Engg-in Charge <b>All works above plinth Level up to Floor 5th Lvl</b>				
37	Providing and laying in position <b>ready mixed M-40 grade concrete</b> for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, including the cost of centering, shuttering finishing, including cost of de-shuttering and decentering, P & F of cover block, curing, vibrating, finishing of rough surface and 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.	Cum	10.00	15,573.09	1,55,730.90
	<b>(Concrete of M40 grade with minimum cement content of 390 kg/cum)</b> Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. complete as directed by Engg-in Charge <b>All works above Level Floor 5th to 9th Lvl</b>				
38	Providing and laying Cast in situ/Ready Mix cement concrete in <b>M20 grade with 30% plum</b> of trap/ granite/quartzite/gneiss metal for wall/ pardi including steel centering, plywood/ steel formwork, laying/pumping, compacting, roughening them if special finish is to be provided, finishing uneven and honeycombed surface and curing etc. complete. including cost of de-shuttering and decentering, The Cement Mortar 1:3 plaster is considered for rendering uneven and honeycombed surface, only. Newly laid concrete shall be covered by gunny bag, plastic, tarpaulin etc. with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer/ concrete Batch mix plant (Pan mixer) etc.	Cum	10.00	7,836.51	78,365.11

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
39	<b>Providing and fixing in position reinforcement</b> of all dia for RCC pile, pile caps,footings, foundations, slabs, columns, beams, canopies, staircase, newels,chajjas,lintels pardis, copings, fins, arches etc.as per detailed designs,drawings and schedules including cutting,bending,hooking the bars, binding with wires or welding and supporting as required at all locations and height all labour and materials etc. complete. wastage in cutting will not be paid for.only steel actually fixed in position will be paid by linear measurement including hooks and bends.No payment will be made for binding wires,pinsspacers and laps other than standard laps.Authorised/standard laps and chairs as per BIS and as directed by engineer-in-charge shall be payable. corrosion resistant steel ( Fe 500)/Thermo-Mechanically Treated bars of grade Fe-500D or more Measurement will be taken in KG or MT	MT	619.00	1,06,028.25	6,56,31,486.33
40	Providing and fixing <b>Structural Steel</b> in position (MS angles, rolled steel beams, joists and stanchions, square/ rectangle sections, MS plates, Lugs etc.) including all labour and material in hoisting, fixing bolts and nuts or by welding etc. complete, including finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete. For heavy works like column, beam etc for any height which may require lifting arrangements like crane, hydra etc.	MT	42.00	1,00,824.41	42,34,625.26
41	Making <b>core drills</b> ( cutting ) with cylindrical cutting tools in concrete viz slab, beam, column, pardi etc as directed by Engineer-in-charge. <b>50 mm dia to 150 mm dia - depth upto 200 mm</b>	No	5.00	446.00	2,229.99
42	Making <b>core drills</b> ( cutting ) with cylindrical cutting tools in concrete viz slab, beam, column, pardi etc as directed by Engineer-in-charge. <b>above 150 mm dia to 300 mm dia - depth upto 200 mm</b>	No	5.00	639.83	3,199.17
43	Providing & fixing in position <b>anchor fasteners</b> in concrete of <b>HILTI</b> make & quality, & fixing them in position at correct location, lines & levels as per specification and as directed & instructed by Engineer-in-charge including making good the concrete/masonry surface after inserting fastner. (All materials & accessories required shall be provided by contractor) <b>12 mm dia to 16 mm dia - 150-200 mm long</b>	No	5.00	294.79	1,473.97
44	Providing & fixing in position <b>anchor fasteners</b> in concrete of <b>HILTI</b> make & quality, & fixing them in position at correct location, lines & levels as per specification and as directed & instructed by Engineer-in-charge including making good the concrete/masonry surface after inserting fastner. (All materials & accessories required shall be provided by contractor) for <b>20 mm dia - 150-200 mm long</b>	No	5.00	642.89	3,214.45
45	Providing and fixing in position after hoisting, precast 1:2 <b>cement mortar reinforced jali</b> 50 mm thick with 3 mm diameter mild steel bar reinforcement, of approved design on both side, fixing in cement mortar 1:3 and curing etc. complete as directed by Engg-In-charge.	Sqm	20.00	1,019.27	20,385.37

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
46	Providing & fixing <b>precast M-30 RCC Slab/beam</b> as per detailed drawing including Tor Steel Reinforcement, conveyance, fixing in proper position in CM 1:3 and curing, finishing , <b>including hoisting lifting &amp; setting in position, hook, slives, bed plate, anchor block &amp; centering cost etc.</b> complete as directed by Engg-In-charge.	Cum	13.00	19,546.33	2,54,102.24
47	Providing and fixing <b>Structural Steel</b> in position (MS angles, rolled steel beams, joists and stanchions, square/ rectangle sections, MS plates, Lugs etc.) including all labour and material in hoisting, fixing bolts and nuts or by welding etc. complete as directed by Engg-in-Charge, including finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete. <b>For inserts including Hold fasts (angles, plates etc)</b>	Kg	3026.00	132.46	4,00,832.92
48	Drilling of holes and <b>inserting bars</b> by cutting the bars to required size & then using HILTI chemical RE 500 as per vendors specification as per drawing etc. complete as directed and accepted by the Engineer In Charge. From <b>20 mm dia to 32 mm dia</b>	No	100.00	1,026.24	1,02,624.09
49	Drilling of holes and <b>inserting bars</b> by cutting the bars to required size & then using HILTI chemical RE 500 as per vendors specification as per drawing etc. complete as directed and accepted by the Engineer In Charge. From <b>08 mm dia to 16 mm dia</b>	No	100.00	334.50	33,450.37
50	Providing and Fixing the Chemical Anchor Fasteners of Hilti, Fischer, Fosroc, Hi-Koki Make or equivalent confirming to IS 1367 (Part 3) at required locations and level including drilling the hole, cleaning with blow pump and anchoring the bolt with chemical as per manufacturers specifications etc. complete as directed by Engineer In Charge. <b>M10X 90 foil capsule (HVU) &amp; M10 x 130 Rod</b> <b>M12X 110 foil capsule (HVU) &amp; M12 x 160 Rod</b> <b>M16X 125 foil capsule (HVU) &amp; M16 x 190 Rod</b>	Nos	50.00	345.20	17,259.76
51	Providing and Fixing the Chemical Anchor Fasteners of Hilti, Fischer, Fosroc, Hi-Koki Make or equivalent confirming to IS 1367 (Part 3) at required locations and level including drilling the hole, cleaning with blow pump and anchoring the bolt with chemical as per manufacturers specifications etc. complete as directed by Engineer In Charge. <b>M20X 170 foil capsule (HVU) &amp; M20 x 240 Rod</b> <b>M24X 210 foil capsule (HVU) &amp; M24 x 290 Rod</b>	Nos	50.00	740.79	37,039.59
52	<u>Filling in gap of core or any other application.</u> Providing & Laying grouting with ACC shrincomp' compound or Conbextra GP-II ( Fosroc Make) or <b>highstrength nonshrink grout</b> etc. all as per manufacturer's specification & approved by Engg/ Client.	Kg	1035.00	74.92	77,545.84
53	Providing and Placing in position suitable <b>PVC water stops</b> conforming to IS:12200 for construction/ expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete : Dumb bell with central bulb (180 mm wide, 8 mm thick)	Rmt	303.00	274.44	83,154.23

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
54	Providing and fixing in position <b>Rungs</b> of Require Size (minimum 600 mm width & minimum 100 mm from the face of wall) 16 mm dia @300 mm c/c for UG Sumps/ tanks/ chambers etc including placing fixing the rod inside concrete/ brick works using plate, inserts, aligning during concreting, grouting the junction if required, cleaning etc. The item includes finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.	Nos	87.00	535.09	46,553.18
55	Providing and fixing precoated <b>galvanised iron profile sheets</b> (size, shape and pitch of corrugation as approved by Engineer-in-charge) 0.50 mm (+ 0.05 %) total coated thickness with zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation and should be supplied in single length upto 12 metre or as desired by Engineerin-charge. The sheet shall be fixed using self drilling /self tapping screws of size (5.5x 55 mm) with EPDM seal, complete upto any pitch in horizontal/ vertical or curved surfaces, excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.	Sqm	108.00	794.24	85,777.82
56	Providing and fixing precoated galvanised steel sheet roofing accessories 0.50 mm (+ 0.05 %) total coated thickness, Zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns using self drilling/ self tapping screws complete : Ridges plain (500 - 600mm)	Rmt	12.00	532.93	6,395.15
57	Providing and fixing 15 cm wide, 45 cm overall semi-circular plain G.S. sheet gutter with iron brackets 40x3mm size, bolts, nuts and washers etc., including making necessary connections with rain water pipes complete. 0.80 mm thick with zinc coating not less than 275 gm/m <sup>2</sup>	Rmt	24.00	960.16	23,043.96
58	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. 110 mm diameter	Rmt	40.00	378.16	15,126.43
59	Providing and fixing 45 cm wide mild steel ladder of 40 mm x 6 mm mild steel flat stringers and steps of 18 mm dia. Mild steel bar for water tank including fixing it in (1:2:4) M-15 cement concrete block 60cm x 30cm x 30cm and painting the ladder complete. (AntiCorrossive Paint)	Rmt	18.00	1,227.04	22,086.69
60	Providing and fixing Ductile iron ManHole Covers/ Strom Water Grating and Grating with frame of Various sizes, weight and types and load bearing capacity as per EN-124, equivalent NECO with prior approval of concerned Superintending Engineer.	Kg	625.00	313.29	1,95,804.00
61	Providing and fixing H. D. P container Syntex or a like one piece moulded water tank made out of low density polythyler and built corrugation including of delivery up to destination hoisting and fixing of accessories such as inlet, outlet overflow of all tanks capacity above 1000 to 20,000 litres	lit	30000.00	11.97	3,58,974.00

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
62	Construction of <b>granular sub-base</b> by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader/ Paver on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per clause 401 -- Plant Mix Method and Grading - I Material	Cum	860.00	2,218.02	19,07,500.81
63	<b>Wet Mix Macadam</b> - Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density. Laying By Grader/Paver.	Cum	1150.00	2,224.55	25,58,233.65
64	Watering and compacting of areas made of materials obtained from the road cutting within a lead of 50m, not less than 97% of standard Proctor density after laying them in layers of 20 cm. to 30 cm. with vibratory roller.	Cum	1690.00	98.99	1,67,292.76
65	Providing and laying design mix cement <b>concrete of M-30 grade</b> , in roads/ taxi tracks/ runways, using cement content as per design mix, using coarse sand and graded stone aggregate of 40 mm nominal size in appropriate proportions as per approved & specified design criteria, providing dowel bars with sleeve/ tie bars wherever required, laying at site, spreading and compacting mechanically by using needle and surface vibrators, levelling to required slope/ camber, finishing with required texture, including steel form work with sturdy M.S. channel sections, curing, making provision for contraction/expansion, construction & longitudinal joints (10 mm wide x 50 mm deep) by groove cutting machine, providing and filling joints with approved joint filler and sealants, complete all as per direction of Engineer-in-charge (Item of joint fillers, sealants, dowel bars with sleeve/ tie bars to be paid separately). Note:- Cement content considered in M-30 is @ 340 kg/cum. Excess/ less cement used as per design mix is payable/ recoverable separately. Cement concrete manufactured in automatic batching plant (RMC plant) i/c transportation to site in transit mixer	Cum	1450.00	11,834.78	1,71,60,426.77
66	Providing and laying at or near ground level factory made <b>kerb stone</b> of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not be more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).	Cum	111.00	10,187.29	11,30,789.02
67	Providing and applying 2.5 mm thick <b>road marking strips</b> (retro- reflective) of specified shade/ colour using hot thermoplastic material by fully/ semi automatic thermoplastic paint applicator machine fitted with profile shoe, glass beads dispenser, propane tank heater and profile shoe heater, driven by experienced operator on road surface including cost of material, labour, T&P, cleaning the road surface of all dirt, seals, oil, grease and foreign material etc. complete as per direction of Engineer-in-charge and accordance with applicable specifications	Sqm	602.00	737.77	4,44,135.54

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
68	Providing and fixing concertina coil fencing with punched tape concertina coil 600 mm dia 10 metre openable length ( total length 90 m), having 50 nos rounds per 6 metre length, upto 3 m height of wall with existing angle iron 'Y' shaped placed 2.4m or 3.00 m apart and with 9 horizontal R.B.T. reinforced barbed wire, stud tied with G.I. staples and G.I. clips to retain horizontal, including necessary bolts or G.I. barbed wire tied to angle iron, all complete as per direction of Engineer-in-charge, with reinforced barbed tape(R.B.T.) / Spring core (2.5mm thick) wire of high tensile strength of 165 kg/ sq.mm with tape (0.52 mm thick) and weight 43.478 gm/ metre (cost of M.S. angle, C.C. blocks shall be paid separately)	Rmt	12.00	359.13	4,309.55
69	Providing and fixing mild <b>steel gate</b> with angle iron/ RHS/ SHS frame with iron bars/ RHS/ SHS at 150mm C/C or as per design including wicket gate, hinges, wheels, pivot block, locking arrangement, pipe, guide rails, welding riveting and oil painting of three coats of approved shade. Weight of gate shall be <b>40 Kg/Smt.</b>	Sqm	2.00	3,966.12	7,932.24
70	Design, Supply and Installation of Monostrand Unbonded <b>Post Tensioning System</b> for Post tensioning Elements of appropriate Sizes including all Labour, machineries, tools and tackles, all consumables like Anchor blocks, wedges etc., all lead and lift, transportation etc. complete. Rate to include laying of tendons, stressing of tendons as per the drawing, design and instructions of Engineer-in-charge.	Rmt ( P.T. cable)	5000.00	207.39	10,36,932.40
	Rate to include costs of testing of Post tensioning material, strands and providing test results certificates like material testing of * 25MT one cable sample of each type to be tested by third party (having values of breaking load, 0.2 % proof load, % Elongation & Modulus of Elasticity) * Anchor blocks (having microstructure analysis, chemical composition and hardness values) and * Wedges (having chemical composition and hardness values) for 1 sample out of 500 pieces for anchor plates and wedges, storing and maintaining of samples etc. complete as per the instructions of Engineer-in-charge.				
	Additionally calibration certificates of jack and pump set with image of force measured by the display of the load cell, as well as calibration certificate of pressure gauge attached to pump set. These shall be submitted prior to the design of PT Elements. Measurement of work done will be as per the construction drawing issued by the Structural Consultant / Architecture.				
71	Constructing masonry Chamber 30x 30x 50 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) , with 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 1:3:6 (1 cement : 3 fine sand : 6 graded stone aggregate 20 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 and approved by Engg in charge. Top slab shall rest on RCC coping and top slab shall be secured by providing 6 mm thick flat plate on four sides.	Nos	44.00	6,936.49	3,05,205.39

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
72	Constructing masonry Chamber 45x 45x 80 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) , with 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 1:3:6 (1 cement : 3 fine sand : 6 graded stone aggregate 20 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 and approved by Engg in charge. Top slab shall rest on RCC coping and top slab shall be secured by providing 6 mm thick flat plate on four sides.	Nos	8.00	12,383.96	99,071.69
73	Constructing <b>brick masonry manhole</b> in cement mortar 1:4 ( 1 cement : 4 coarse sand ) with R.C.C. top slab with 1:1.5:3 mix (1 cement : 1.5 coarse sand (zone- III) : 3 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand (zone- III) : 8 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design :	Nos	45.00	17,667.14	7,95,021.12
	Inside size <b>90x80 cm</b> and up to 80 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) : With common burnt clay F.P.S. (non modular) bricks of class designation 7.5				
74	Constructing <b>brick masonry manhole</b> in cement mortar 1:4 ( 1 cement : 4 coarse sand ) with R.C.C. top slab with 1:1.5:3 mix (1 cement : 1.5 coarse sand (zone- III) : 3 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand (zone- III) : 8 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design : Total weight of cover and frame to be not less than 208 kg (weight of cover 108 kg and weight of frame 100 kg)	Nos	45.00	35,714.85	16,07,168.09
	Inside size <b>120x90 cm</b> and up to 90 cm deep including C.I. cover with frame (heavy duty) 560 mm internal diameter, total weight of cover and frame to be not less than 208 kg (weight of cover 108 kg and weight of frame 100 kg) : With common burnt clay F.P.S. (non modular) bricks of class designation 7.5				
75	Providing and fixing factory made <b>precast RCC perforated drain covers</b> , having concrete of strength not less than M-25, of size 1000 x 450 x 50 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.	Nos	34.00	1,434.89	48,786.30

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
76	Providing and laying non-pressure <b>NP2 class</b> (light duty) <b>R.C.C. pipes</b> 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 : <b>300 mm dia pipe</b>	Rmt	1.00	1,066.85	1,066.85
77	Providing and laying non-pressure <b>NP2 class</b> (light duty) <b>R.C.C. pipes</b> 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 : <b>450 mm dia pipe</b>	Rmt	1.00	1,752.22	1,752.22
78	Providing and laying non-pressure <b>NP2 class</b> (light duty) <b>R.C.C. pipes</b> 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 : <b>600 mm dia pipe</b>	Rmt	30.00	2,481.41	74,442.19
79	Providing and laying non-pressure <b>NP2 class</b> (light duty) <b>R.C.C. pipes</b> 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 : <b>900 mm dia pipe</b>	Rmt	30.00	5,038.68	1,51,160.38
80	Providing and laying non-pressure <b>NP2 class</b> (light duty) <b>R.C.C. pipes</b> 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 : <b>1000 mm dia pipe</b>	Rmt	23.00	5,921.73	1,36,199.89
81	Providing and laying non-pressure <b>NP2 class</b> (light duty) <b>R.C.C. pipes</b> 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 : <b>1200 mm dia pipe</b>	Rmt	15.00	7,491.64	1,12,374.56
82	Providing and laying Non Pressure <b>NP-3 class</b> (Medium duty) <b>R.C.C. pipes</b> including collars/spigot jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete: <b>1800 mm dia pipe</b>	Rmt	10.00	16,903.91	1,69,039.15
83	Providing and fixing <b>Structural Steel</b> in position (MS angles, rolled steel beams, joists and stanchions, square/ rectangle sections, MS plates, Lugs etc.) including all labour and material in hoisting, fixing bolts and nuts or by welding etc. complete, including finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete. <b>For gratings</b>	Kg	5386.00	174.40	9,39,319.69

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
84	Supplying <b>0.90m x 0.60m internal size rectangular air tight composite resin manhole cover</b> and frame of approved brand with grade designation <b>D400</b> as per EN- 124 standard with bolt and lever type locking arrangement. Covers & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 2 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	No	3.00	44,251.99	1,32,755.98
85	Supplying <b>0.45m X 0.45m internal size of rectangular composite resin grating</b> and frame (with minimum waterway areas 30% of internal size ) of approved brand with grade designation <b>D400</b> as per EN-124 standard with bolt and lever type locking arrangement. gully gratings & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 1.5 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	No	8.0000	27,252.35	2,18,018.82
86	Providing and fixing in position TMT FE 500, 25mm dia dowel bars pre-coated with anticorrosive epoxy paint of required Dia. 60 cms. Long and at 30.00 cm. C/C and PVC pipe of 32 mm dia wherever directed including handling, straightening, necessary cutting supported by TMT FE 500, chairs with proper alignment by using properly designed assembly of Bulkheads lubricating half length with bituminous paint as directed etc. complete.	Nos.	5943.00	428.59	25,47,129.39
87	Providing to contraction joints polysulphide sealant (Pouring grade) confirming to BS : 5212 - 1989 into sawed groove widened at top for sealant reservoir of specified size and shape as per detailed drawing including fixing Polyethylene foam backer rod of required diameter (approx. 25% larger than the initial 3 mm.to 4 mm. joint) overlaid with bond breaking tape as per detailed drawing. Item includes cleaning the joints with water jet / air compressor and allowing joint to become thoroughly dry before sealant is applied and applying primer. (A) Contraction and longitudinal joints (15 mm. deep x 8 mm.wide)	Rum	4139.00	338.31	14,00,247.71
<b>SUB TOTAL AMOUNT-A</b>					<b>22,64,34,132.33</b>
B	<b>Architectural-BOQ</b>				
	<b>MASONRY WORK</b>				
1	Providing and laying Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in: Cement mortar 1:4 (1 cement : 4 coarse sand) as per specifications, drawings including racking of joints and curing etc. as directed by Engg-in-Charge.	Cum	210.00	8,139.28	17,09,249.26

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
2	Providing and laying Random rubble masonry with hard stone in foundation and plinth as per approved drawing including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20 mm nominal size) upto plinth level with :Cement mortar 1:6 (1 cement : 6 coarse sand) including curing etc. complete as directed by Engineer-in-charge.	Cum	5.00	7,868.98	39,344.90
3	Providing and laying Random rubble masonry with hard stone in superstructure above plinth level and upto floor five level, including leveling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20 mm nominal size) at window sills, ceiling level and the like. Cement mortar 1:6 (1 cement : 6 coarse sand) including curing etc. complete as directed by Engineer-in-charge.	Cum	5.00	9,787.61	48,938.05
4	Providing and applying Pointing on stone work with cement mortar 1:3 (1 cement : 3 fine sand) :including curing all complete as per direction of Engineer-in-Charge. Flush/ Ruled pointing	Sqm.	5.00	377.70	1,888.52
5	Providing and applying Pointing on stone work with cement mortar 1:3 (1 cement : 3 fine sand) :including curing all complete as per direction of Engineer-in-Charge. Raised and cut pointing	Sqm.	5.00	686.27	3,431.34
6	Providing and laying autoclaved aerated cement blocks masonry with 150mm/230mm/300 mm thick AAC blocks in super structure above plinth level up to floor V level with RCC band at sill level and lintel level with approved block laying polymer modified adhesive mortar , including scaffolding, curing all complete as per direction of Engineer-in-Charge. (The payment of RCC band and reinforcement shall be made for seperately).	Cum	1,290.00	8,271.92	1,06,70,778.45
7	Providing and laying autoclaved aerated cement blocks masonry with 150mm/230mm/300 mm thick AAC blocks in super structure above V floor up to floor IX floor with RCC band at sill level and lintel level with approved block laying polymer modified adhesive mortar all complete as per direction of Engineer-in-Charge., for each four floors or part thereof by mechanical means, including scaffolding, curing all complete as per direction of Engineer-in-Charge. (The payment of RCC band and reinforcement shall be made for seperately).	Cum	204.00	8,439.87	17,21,732.92
8	Providing and laying Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in : including scaffolding, curing , Cement mortar 1:4 (1 cement : 4 coarse sand) etc. complete as directed by Engg-in-Charge.	Cum	7.00	10,067.20	70,470.37
9	Providing and laying Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above 5th floor level up to floor 9th level in all shapes and sizes in : including scaffolding, curing, Cement mortar 1:4 (1 cement : 4 coarse sand) etc. complete as directed by Engg-in-Charge.	Cum	10.00	10,235.13	1,02,351.31
10	Providing and laying Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level including scaffolding, curing, Cement mortar 1:4 (1 cement :4 coarse sand) etc. as directed by Engg-in-Charge.	Sqm.	10.00	1,204.05	12,040.50
11	Providing and laying Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above 5th floor level up to floor 9th level, including scaffolding, curing, Cement mortar 1:4 (1 cement :4 coarse sand) etc. as directed by Engg-in-Charge.	Sqm.	10.00	1,218.95	12,189.47

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
12	Reinforced cement concrete work in beams, suspended floors, roofs having slope up to 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases at all level, excluding the cost of centering, shuttering, finishing and reinforcement with 1:1.5:3 (1 cement : 1.5 coarse sand(zone-III) : 3 graded stone aggregate 20 mm nominal size).	Cum	74.00	12,677.63	9,38,144.27
13	Centering and shuttering including strutting, propping etc. and removal of form for : Small lintels not exceeding 1.5 m clear span, moulding as in cornices, window sills, string courses, bands, copings, bed plates, anchor blocks and the like	Sqm.	1,505.00	364.22	5,48,145.32
14	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level. Mild steel and Medium Tensile steel bars	Kg	9,607.00	105.21	10,10,712.12
B	<b>DOORS AND DOOR FRAMES</b>			-	-
15	"Providing & fixing in position 38 mm thk solid commercial approved brand flush door including laminate on both sides, finished with 1 mm thk. Laminate of approved pattern from bothside,38X12mm T W beading all around the shutter, inclusive of heavy duty brass hinges of 100 x 25mm along with approved make S. S. handles/mortice lock/tribolt, S. S. finish Tower bolt, door stopper, door closer, indicator bolt, baby latch etc as per approval and complete all as per drg.,details and as directed.all complete & as directed by Engineer / Architect. complete all as per drg.,details and etc. as directed by Engg-in-Charge. (Vision panel paid saperately)	Sqm.	5.00	13,932.12	69,660.59
16	"Providing & fixing in position 50 mm thk solid commercial approved brand flush door including laminate on both sides, finished with 1.0 mm thk. Laminate of approved pattern from bothside,50X12mm T W beading all around the shutter, Vision panel with 50X12mm T W beading all around the panel with 5.5mm thick glass inclusive of heavy duty brass hinges of 100 x 25mm along with approved make S. S. Handles/Mortice lock, S. S. finish Tower bolt, door stopper, etc. as directed by Engg-in-Charge.	Sqm.	5.00	15,312.60	76,562.99
17	Providing and fixing 50 mm solid core marine shutter, with 25X40X1.5mm thick aluminium box section with 12mm thick marine plywood on both side with 50mm x12 mm tw beading and vision panel made of 5.5mm thk float glass ,finished with 1mm thick laminate on both side, with door closure , Cylinder/Mortice lock,ss finished handle ,Concealed hinges, door stopper etc. complete.	Sqm.	189.00	10,851.06	20,50,851.10
18	"Providing & fixing in position 38 mm thk solid marine ply approved brand flush door including laminate on both side, finished with 1 mm thk. Laminate of approved pattern from bothside,38X12mm T W beading all around the shutter, inclusive of heavy duty brass hinges of 100 x 25mm along with approved make S. S. handles , S. S. finish Tower bolt, door stopper, door closer, S S Mortise lock, baby latch, robe hook etc as per approval and etc. as directed by Engg-in-Charge.	Sqm.	119.00	14,930.31	17,76,707.37
19	"Providing & fixing in position 38 mm thk solid marine ply approved brand flush door including laminate on both sides, finished with 1 mm thk. Laminate of approved pattern from bothside,38X12mm T W beading all around the shutter, inclusive of heavy duty brass hinges of 100 x 25mm along with approved make S. S. Handles outside & Grab bar inside, S. S. finish Tower bolt, door stopper, door closer, indicator bolt, robe hook etc as per approval and etc. as directed by Engg-in-Charge.	Sqm.	24.00	15,609.93	3,74,638.32

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
20	Providing and fixing 18mm thick compact cubicle of approved make; Size of cubicle - 1000mm (W) X 1550mm (D) X 2100mm (H), Door Size - 610mm (W) X 1995mm (H), Divider size - 1945mm (H), Overall height of cubicle - 2100mm ( Including bottom gap of 100mm) SS accessories - SS 'U' channel, SS 'F' channel, SS Door stopper channel, SS Top rail, SS Coat hook, SS privacy thumb turn c/w occupancy indicator, SS door knob, SS spring loaded butt hinges with cover, SS shoe box leg 12mm-316grade, rubber lining for groove, SS screws 304grade & PVC wall plugs etc. complete. As per manufacturer specifications. etc. as directed by Engg-in-Charge.	Nos	58.00	52,276.69	30,32,048.29
21	Providing and fixing Fully Glazed Door Shutters with 12mm thick toughened glass fixed on patch fittings includes top pivot, bottom patch , top patch , Patch lock of approved make and as per design and details given by the architect/ including accessories door handle, floor spring approved make etc. as directed by Engg-in-Charge.	Sqm.	28.00	11,489.76	3,21,713.22
22	Providing and fixing 50 mm thickness G.I. flush door shutter out of 1.2mm thick G.I.sheet of size 650mm x2400mm with galvanized frame size of 150 x 75 mm,single leaf with,bottom and stile edges for fire rating with vision panel of approved fire rated glass ,metal frame having fire rating of 120 minutes fabricated out of 16BWG thickness GI sheet with suitable rebate finished with zinc phosphate chroming primer 2 coats of PU paint , including S S ball bearing hinges, Heavy duty door closer, ss D type handle inside, panic bar outside, ss tower bolt, dead lock as per the drawings etc. as directed by Engg-in-Charge.	Sqm.	8.00	23,021.99	1,84,175.94
23	Providing and fixing 50 mm thickness G.I. flush door shutter out of 1.2mm thick G.I.sheet of size 650mm x2400mm with galvanized frame size of 125 x 75 mm,single leaf with,bottom and stile edges for fire rating with vision panel of approved fire rated glass ,metal frame having fire rating of 120 minutes fabricated out of 16BWG thickness GI sheet with suitable rebate finished with zinc phosphate chroming primer 2 coats of PU paint , including lock, door closer, ss D type handle, ss tower bolt , panic bar or as per the drawings etc. as directed by Engg-in-Charge.	Sqm.	249.00	19,708.86	49,07,507.14
24	Providing and fixing 30 mm thick Glass Fibre Reinforced Plastic (FRP) panelled door shutter of required colour and approved brand and manufacture, made with fire - retardant grade unsaturated polyester resin, moulded to 3 mm thick FRP laminate for forming hollow rails and styles, with wooden frame and suitable blocks of seasoned wood inside at required places for fixing of fittings, cast onolithically with 5 mm thick FRP laminate for panels conforming to IS: 14856, including fixing to frames. etc. as directed by Engg-in-Charge.	Sqm.	5.00	4,135.58	20,677.89
25	Glazed Partitions: Providing and fixing fully glazed partition for External/Internal, using 12mm thick toughened glass, fixed with approved patch fittings at top & bottom, including all hardware as per detailed drawings, etc. as directed by Engg-in-Charge.	Sqm.	202.00	7,348.35	14,84,366.30
26	Providing and fixing vision panel not exceeding 0.5 sqm in all type of flush doors including 8mm thick toughened glass etc. as directed by Engg-in-Charge. (Only vision panel area will be measured)	Sqm.	3.00	2,742.29	8,226.88
27	Providing and fixing aluminium extruded section body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 36 kg to 80 kg and door width from 701 mm to 1000 mm), with double speed adjustment with necessary accessories and screws etc. complete.	Nos	5.00	1,012.74	5,063.71

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
28	Providing and fixing stainless steel (Whole body) heavy duty automatic double action hydraulic floor springs of approved make including cover plates with stainless steel pivot & single piece SS sheet outer box and slide plate for door including the cost of cutting the floor a required, embedding in floors, making good the floors etc. complete as directed Engineer-in-charge.	Nos	5.00	3,291.89	16,459.45
29	Providing and fixing in position Aluminium louvered window of size as per drawing with Aluminium frame as per drawing, with 3mm thick Aluminium anodised louvers as per design, including labour for fixing of the fittings & fixtures etc. as directed by Engg-in-Charge.	Sqm.	22.00	8,516.44	1,87,361.64
30	Providing and fixing Motorized Rolling shutter including curtain made of single skinned, Galvalume steel laths with natural finish, 600mm deep grill, pressed galvalume steel hood & motor cover with natural finish, CRC compact gear P R C make indicator drive operator, three station push button with deaman control. Galvalume with natural finish, Partial Bright Steel with one coat of grey epoxy primer by spray, Curtain Weight 13 kg/m2 approx, Support Brackets Mild Steel with one coat of grey epoxy primer by spray, complete as per manufacturer specifications. etc. as directed by Engg-in-Charge. Shaft Shaft is manufactured from mild steel tube of suitable outside diameter and wall thickness to suit the shutter application and is unsprung, Finish One coat of grey epoxy primer by spray Side Guides 2.0mm thick heavy duty TG Galvanised Steel, Finish One coat of grey epoxy primer by spray Bottom Profile Bend-resistant double-skinned extruded Aluminium profile for additional strength. The bottom rail is fitted with extruded rubber bottom seal that will seal against the floor when the door is fully closed. Galvanised steel profile available on request, Finish One coat of grey epoxy primer by spray Locking arrangement Optional [applicable only for Galvanised steel Bottom profile] Hood & Motor Cover Pressed galvalume steel hood box complete with reinforced bracket as required to suit the shutter width with natural finish, Motor of PRC, European Make	Sqm	28.00	10,500.53	2,94,014.94
31	Providing and fixing Motorized Rolling shutter including curtain made of single skinned, Galvalume steel laths with natural finish, 600mm deep grill, pressed galvalume steel hood & motor cover with natural finish, CRC compact gear P R C make indicator drive operator, three station push button with deaman control. Galvalume with natural finish, Partial Bright Steel with one coat of grey epoxy primer by spray, Curtain Weight 13 kg/m2 approx, Support Brackets Mild Steel with one coat of grey epoxy primer by spray, complete as per manufacturer specifications. etc. as directed by Engg-in-Charge. Shaft Shaft is manufactured from mild steel tube of suitable outside diameter and wall thickness to suit the shutter application and is unsprung, Finish One coat of grey epoxy primer by spray Side Guides 2.0mm thick heavy duty TG Galvanised Steel, Finish One coat of grey epoxy primer by spray Bottom Profile Bend-resistant double-skinned extruded Aluminium profile for additional strength. The bottom rail is fitted with extruded rubber bottom seal that will seal against the floor when the door is fully closed. Galvanised steel profile available on request, Finish One coat of grey epoxy primer by spray Locking arrangement Optional [applicable only for Galvanised steel Bottom profile] Hood & Motor Cover Pressed galvalume steel hood box complete with reinforced bracket as required to suit the shutter width with natural finish, Motor of PRC. European make	Sqm	23.00	14,649.85	3,36,946.51

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
32	<p>Providing and fixing Motorized Rolling shutter including curtain made of single skinned, Galvalume steel laths with natural finish, 600mm deep grill, pressed galvalume steel hood &amp; motor cover with natural finish, CRC compact gear P R C make indicator drive operator, three station push button with deaman control. Galvalume with natural finish, Partial Bright Steel with one coat of grey epoxy primer by spray, Curtain Weight 13 kg/m<sup>2</sup> approx, Support Brackets Mild Steel with one coat of grey epoxy primer by spray, complete as per manufacturer specifications. etc. as directed by Engg-in-Charge.</p> <p>Shaft Shaft is manufactured from mild steel tube of suitable outside diameter and wall thickness to suit the shutter application and is unsprung, Finish One coat of grey epoxy primer by spray</p> <p>Side Guides 2.0mm thick heavy duty TG Galvanised Steel, Finish One coat of grey epoxy primer by spray</p> <p>Bottom Profile Bend-resistant double-skinned extruded Aluminium profile for additional strength. The bottom rail is fitted with extruded rubber bottom seal that will seal against the floor when the door is fully closed. Galvanised steel profile available on request, Finish One coat of grey epoxy primer by spray</p> <p>Locking arrangement Optional [applicable only for Galvanised steel Bottom profile]</p> <p>Hood &amp; Motor Cover Pressed galvalume steel hood box complete with reinforced bracket as required to suit the shutter width with natural finish, Motor of PRC, European make</p>	Sqm	14.00	15,575.46	2,18,056.47
33	<p>Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - part 1 and M.S. top cover of required thickness for rolling shutters, painting. 80x1.20 mm M.S. laths with 1.20 mm thick top cover etc. as directed by Engg-in-Charge.</p>	Sqm.	29.00	3,392.32	98,377.28
34	<p>Providing and fixing ball bearing for rolling shutters. etc. as directed by Engg-in-Charge.</p>	each	4.00	501.69	2,006.77
35	<p>Extra for providing grilled rolling shutters manufactured out of 8 mm dia M.S. bar instead of laths as per design approved by Engineer-in-charge, (area of grill to be measured). etc. as directed by Engg-in-Charge.</p>	Sqm	5.00	791.16	3,955.81
36	<p>Providing and fixing M.S. grills of required pattern in frames of windows at all height etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer, two coats of synthetic enamel paint of approved brand etc. complete as per approved drawing &amp; etc. as directed by Engg-in-Charge.</p>	Kg	1,055.00	220.82	2,32,968.69
37	<p>Providing and fixing G.I. chain link fabric fencing of required width in mesh size 25x25 mm made of G.I. wire of dia 3 mm including 50X50X6mm MS Channel ,strengthening with 2 mm dia wire or nuts, bolts and washers as required complete as per the direction of Engineer-in-charge.</p>	Sqm	39.00	1,149.46	44,829.05
C	<b>ALUMINIUM WINDOWS</b>			-	-

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
38	Providing and fixing aluminium work for fixed portion for doors, windows, ventilators and partitions at all height with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and etc. as directed by Engg-in-Charge. Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15) (For fixed portion)	Kg	2,260.00	513.22	11,59,886.33
39	For <b>shutters</b> of sliding/open able/top hung/fixed windows and ventilators at all height including providing and <b>fixing hinges / pivots</b> and making provision of <b>locking arrangement</b> and for fixing of fittings wherever required including the cost of PVC / neoprene gasket required. Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and etc. as directed by Engg-in-Charge.	Kg	1,828.00	628.96	11,49,730.84
40	Providing and fixing glass in aluminium door, window, ventilator shutters and partitions at all height etc. with EPDM rubber / neoprene gasket all complete with : 5.5 mm thick glass panes etc. as directed by Engg-in-Charge.	Sqm.	466.00	1,470.67	6,85,334.33
41	Glazing System: Carrying out detailed engineering for the Semi Unitized structural glazing system with double glazed units at all heights based on Architects schematic drawings including load design analysis, preparation of detailed shop drawings, and fabricating, supplying, delivering at site, assembling, installing/fixing in position including framework for structural glazing with sections of extruded Aluminum including thresholds, smoke seals, cills, trims,beads, flashings, copings and such other accessory members as required, mild steel brackets (painted with PU coating or hot dipped galvanizing) and fixings with stainless steel bolts and nuts, EPDM gaskets, silicon sealant and weather trims as required, cutting, drilling and all operations required for the work to complete. All aluminum members shall be finished with 35 micron thick PVDF coated including installing in position glazed panels in above framework consisting of glass as described below, cut to exact required sizes and fixed in position with silicon sealant as required to complete the installation and work includes detailing and sealing the expansion joint to take care of wind load and seismic load. etc. as directed by Engg-in-Charge. Glass panels : Semi-Unitised Str. Glazing Systems-Vision Glass 24mm D.G.U. Consisting of 6mm KT 455 HS Glass + 12mm AG + 6mm Clear HS Glass Panel size shall be as per drawing. (Including all aluminium extruded sections)	Sqm	2,526.00	11,128.70	2,81,11,100.34

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
42	Glazing System: Carrying out detailed engineering for the Semi Unitized structural glazing with single glass system at all heights based on analysis, preparation of detailed shop drawings, and fabricating, supplying, delivering at site, assembling, installing/ fixing in position framework for structural glazing with sections of extruded Aluminum including thresholds, smoke seals, cills, trims, beads, flashings, copings and such other accessory members as required, mild steel brackets (painted with PU coating or hot dipped galvanizing) and fixings with stainless steel bolts and nuts, EPDM gaskets, silicon sealant and weather trims as required, cutting, drilling and all operations required for the work to complete. All aluminum members shall be finished with 35 micron thick PVDF coating including installing in position glazed panels in above framework consisting of glass as described below, cut to exact required sizes and fixed in position with silicon sealant as required to complete the installation and work includes detailing and sealing the expansion joint to take care of wind load and seismic load. etc. as directed by Engg-in-Charge. Glass panels :Providing & fixing 12 mm thick toughened clear glass of 6mm plus 6mm with PVB (Polyvinyl butyral) inter layer sheet of 0.76mm thickness. Panel sizes shall be as per drawing.	Sqm	5.00	8,091.68	40,458.39
43	Providing and supplying aluminium extruded tubular and other aluminium sections as per the architectural drawings and approved shop drawings , the aluminium quality as per grade 6063 T5 or T6 as per BS 1474, including super durable Anodising 15 micron of required colour and shade as approved by the Engineer-in-Charge. (The item includes cost of material such as cleats, sleeves, screws etc. as directed by Engg-in-Charge.	Kg	3,732.00	410.93	15,33,588.52
44	Providing and fixing Mosquito net with stainless steel jali of 304 grade to anodised aluminium frames / shutters with necessary fixtures, fittings etc. as directed by Engg-in-Charge.	Sqm.	5.00	675.37	3,376.84
D	<b>FLOORING, SKIRTING AND DADO</b>			-	-
45	Providing and laying 52 mm thick cement concrete flooring with concrete hardener topping, under layer 40 mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) and top layer 12 mm thick cement hardener consisting of mix 1:2 (1 cement hardener mix : 2 graded stone aggregate 6 mm nominal size) by volume, hardening compound mixed @ 2 litre per 50 kg of cement or as per manufacturer's specifications. This includes cost of cement slurry, crack filling but excluding the cost of nosing of steps etc. as directed by Engg-in-Charge.	Sqm.	727.00	1,012.27	7,35,916.83
46	Providing & laying Mirror polish Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : etc. as directed by Engg-in-Charge. 25 mm thick	Sqm.	916.00	2,018.39	18,48,842.49
47	Providing & laying Mirror polish Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing etc. as directed by Engg-in-Charge.	Sqm.	111.00	2,410.98	2,67,618.69

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
48	Providing and laying vitrified floor tiles at all heights in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments, groove, Covered with plastic sheet & POP layer etc. as directed by Engg-in-Charge. Size of Tile 600x600 mm (Basic rate of Vitrified tile of Rs. 1488/- Sq.mt.)	Sqm.	4,876.00	2,595.18	1,26,54,097.68
49	Providing and laying vitrified floor tiles at all heights in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments, groove, Covered with plastic sheet & POP layer etc. as directed by Engg-in-Charge. Size of Tile 1000x1000 mm (Basic rate of Vitrified tile of Rs. 1860/- Sq.mt.)	Sqm.	648.00	3,058.27	19,81,760.26
50	Providing and laying Vitrified tiles at all heights in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3 kg/sqm including grouting the joint with white cement & matching pigments, groove etc. as directed by Engg-in-Charge. Size of Tile 600x600 mm (Basic rate of Vitrified tile of Rs. 1496/- Sq.mt.)	Sqm.	1,310.00	2,637.66	34,55,329.36
51	Providing and laying Anti-skid vitrified floor tiles, cladding, skirting at all heights in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), cladding fixed with approved adhesive, including grouting the joints with white cement and matching pigments, Covered with plastic sheet & POP layer etc. as directed by Engg-in-Charge. (Basic Rate of Vitrified tile of Rs. 1496/-Sq.mt.) Size of Tile 600x600 mm	Sqm.	5.00	2,595.18	12,975.90
52	Providing and laying Anti-skid vitrified floor tiles, cladding, skirting at all heights in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), cladding fixed with approved adhesive, including grouting the joints with white cement and matching pigments, Covered with plastic sheet & POP layer etc. as directed by Engg-in-Charge. (Basic Rate of Vitrified tile of Rs. 1496/-Sq.mt.) Size of Tile 300x300 mm	Sqm.	884.00	2,442.37	21,59,055.08
53	Providing and fixing Composite Marble/ Agglomerate for floor, cill, jambs, skirting toilet partition set in 20mm thick cement mortar 1:4 bedding/back coat plaster, white cement paste floating, joints finished neatly with matching coloured cement, curing, hand polishing, cleaning, groove, nosing, Covered with plastic sheet & POP layer etc. as directed by Engg-in-Charge. (Basic cost of composite marble/ Agglomerate Rs. 3117/- per sq.mt.)	Sqm.	10.00	5,734.26	57,342.60

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
54	Providing and Fixing River washed Granite of 18mm thick gang saw cut mirror polished premoulded and prepolished machine cut for kitchen platforms, vanity counters, window sills, facias, staircase tread & risers and similar location 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 pigments, epoxy touch ups, including rubbing, curing, moulding and polished to edge to give high gloss finish, groove, Covered with plastic sheet & POP layer etc. as directed by Engg-in-Charge. - Granite of any colour and shade (Basic rate of Granite of Rs. 2494/- Sq.mt.)	Sqm.	273.00	5,649.31	15,42,261.08
55	Providing and fixing Stepping Stone for treads Full body vitrified double (full) bull nosed with tread lines (self embossed Tread lines) for tread part of Johnson Endura Stepping Stone series or approved equivalent make, upto 1200 mm length in single piece in length and upto 300mm widex15mm thick laid over upto 35mm thick cement mortar of CM 1:4 bedding etc. complete ,finish surface shall cover with 2-3mm thick POP protection over polythene covering sheet to flooring area and POP coating shall be removed and disposed of prior to handing over and cleaning all as per specifications and etc. as directed by Engg-in-Charge.	Sqm.	742.00	2,314.94	17,17,686.96
56	Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including groove, nosing, rubbing , curing and polishing, Covered with plastic sheet & POP layer etc. as directed by Engg-in-Charge. Polished Granite stone slab jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent. (Basic rate of Granite of Rs. 2232/- Sq.mt.)	Sqm.	565.00	4,622.90	26,11,939.27
57	Providing and fixing Heat Resistant Terrace Tiles (300 mm x 300 mm x 20 mm) with SRI (solar refractive index) > 78, solar reflection > 0.70 and initial emittance > 0.75 on waterproof and sloped surface of terrace, laid on 20 mm thick cement sand mortar in the ratio of 1:4 (1 cement : 4 coarse sand) and grouting the joints with mix of white cement & marble powder in ratio of 1:1, including rubbing and polishing of the surface upto 3 cuts complete, including providing skirting upto 150 mm height along the parapet walls in the same manner. etc. as directed by Engg-in-Charge.	Sqm.	25.00	1,708.87	42,721.79
58	Providing and erecting 600mm deep Pantry counter in shape and design as directed. With approved 20mm thk granite top of approved shade, including 18MM cement mortar and LOCAL marble base, with LOCAL marble verticals and shelves as indicated, making cut-outs for sink, plumbing fixtures, gas cylinder pipes, etc, cost to include for all granite vertical patties, facias, splash - back patties, granite skirting etc. Polishing including edge polishing, washing, cleaning, and including necessary cement mortar backing complete details as directed. running length of counters to be measured along their centre lines and paid for. (Basic cost of granite Rs. 2494/- Sq.mt.)	Rmt	8.00	13,592.32	1,08,738.56

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
59	Providing & laying wash basin counter of 500-550 mm depth(clear) and at 700mm to 800 mm ht (top) above fl. Of approved 20mm thk granite slab laid on 20mm thk white marble support with required cement mortar base & 100-150 mm thk champhered and machine polished edge facia.it shall be supported on side walls & with white marble vertical supports as shown in the drawing, making cut-outs for sink, plumbing fixtures, pipes, etc. as directed by Engg-in-Charge. (Basic granite rate=Rs 2494 per sqm)	Rmt	43.00	8,919.96	3,83,558.28
60	Providing and fixing stone slab with table rubbed, edges rounded and polished, of size 75x50 cm deep and 1.8 cm thick, fixed in urinal partitions by cutting a chase of appropriate width with chase cutter and embedding the stone in the chase with epoxy grout or with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6 mm nominal size) etc. as directed by Engg-in-Charge. and finished smooth. Granite Stone of approved shade etc. as directed by Engg-in-Charge.	Sqm.	19.00	4,190.10	79,611.94
61	Providing & laying Fibre mesh reinforced concrete M30 using RMC including pumping for Vaccum dewatered concrete flooring on grade, ramps, workshops, parking, including compaction using double beam surface vibrator and also initial poker vibration for thickness exceeding 150 mm,shuttering for sides using MS channels, power floting after vacuum dewatering using skim floater, to give an anti-skid finish, All equipment shall be of TREMIX make or approved equivalent. The rate shall be inclusive of all taxes towards plants & machinery, dosage of Fibre mesh reinforcement as per manufacturer's specifications labour, all leads & lifts, all floors, all charges required, including transportation etc complete,Reinforcement shall be paid seperately. Cutting grooves 6 mm wide x 20 mm deep within 24 to 48 hours of casting panels, forming 20x20mm groove at all construction joints using appropriate strip such as thermocole, & filling of the groove with non shrink cement grout of approved etc.complete.	Cum	353.00	12,233.09	43,18,280.06
62	Providing and fixing 15mm thick rubberised flooring of Nora, Sandick make, fixed on concrete with approved adhesive, as per manufacturer specifications etc. complete as per design or as directed. --Basic rate of rubberised flooring Rs. 2618 /SQ.MT"	Sqm.	727.00	4,714.84	34,27,685.77
<b>E</b>	<b>FINISHING WORKS</b>			-	-
63	Providing and applying 25 mm thick external Plaster in Ready mix cement plaster (Readiplast/Soundplast PMC-1) of approved make with first layer of 15 mm thickness with approved waterproofing compound and second layer of 10 mm thickness, including curing, scaffolding etc., complete ready to receive wall finish. The rates shall also include moulding and grooves wherever specified, scaffolding, curing etc complete as per drawings & specification and as directed by Engineer-in-charge. Cement Mortar 1:4 (1 cement : 4 coarse sand) (Height - Upto 10mt Providing & applying External plaster including scaffolding, chicken mesh made out of PVC with opening of 25X25mm over junction of RCC/Brick/Blockwork or any other similar materials , nailing the chicken mesh with wire nails @ 200-250mm C/C, preparing the surfaces, sand face finishing with rendering with sponge to correct line or as required to receive architectural finish , level and plumb, curing complete as per specifications and drawings and etc. as directed by Engg-in-Charge.	Sqm.	1,410.00	737.63	10,40,061.12

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
64	<p>Providing and applying 25 mm thick external Plaster in Ready mix cement plaster (Readiplast/Soundplast PMC-1) of approved make with first layer of 15 mm thickness with approved waterproofing compound and second layer of 10 mm thickness, including curing, scaffolding etc., complete ready to receive wall finish. The rates shall also include moulding and grooves wherever specified, scaffolding, curing etc complete as per drawings &amp; specification and as directed by Engineer-in-charge. Cement Mortar 1:4 (1 cement : 4 coarse sand) (Height - above 10mt upto 20mt Providing &amp; applying External plaster including scaffolding, chicken mesh made out of PVC with opening of 25X25mm over junction of RCC/Brick/Blockwork or any other similar materials , nailing the chicken mesh with wire nails @ 200-250mm C/C, preparing the surfaces, sand face finishing with rendering with sponge to correct line or as required to receive architectural finish , level and plumb, curing complete as per specifications and drawings and etc. as directed by Engg-in-Charge.</p>	Sqm.	1,410.00	1,018.39	14,35,927.08
65	<p>Providing and applying 25 mm thick external Plaster in Ready mix cement plaster (Readiplast/Soundplast PMC-1) of approved make with first layer of 15 mm thickness with approved waterproofing compound and second layer of 10 mm thickness, including curing, scaffolding etc., complete ready to receive wall finish. The rates shall also include moulding and grooves wherever specified, scaffolding, curing etc complete as per drawings &amp; specification and as directed by Engineer-in-charge. Cement Mortar 1:4 (1 cement : 4 coarse sand) (Height - above 20mt upto 30mt Providing &amp; applying External plaster including scaffolding, chicken mesh made out of PVC with opening of 25X25mm over junction of RCC/Brick/Blockwork or any other similar materials , nailing the chicken mesh with wire nails @ 200-250mm C/C, preparing the surfaces, sand face finishing with rendering with sponge to correct line or as required to receive architectural finish , level and plumb, curing complete as per specifications and drawings and etc. as directed by Engg-in-Charge.</p>	Sqm.	1,410.00	1,393.42	19,64,722.20
66	<p>Providing and applying 25 mm thick external Plaster in Ready mix cement plaster (Readiplast/Soundplast PMC-1) of approved make with first layer of 15 mm thickness with approved waterproofing compound and second layer of 10 mm thickness, including curing, scaffolding etc., complete ready to receive wall finish. The rates shall also include moulding and grooves wherever specified, scaffolding, curing etc complete as per drawings &amp; specification and as directed by Engineer-in-charge. Cement Mortar 1:4 (1 cement : 4 coarse sand) (Height - above 30mt upto 40mt Providing &amp; applying External plaster including scaffolding, chicken mesh made out of PVC with opening of 25X25mm over junction of RCC/Brick/Blockwork or any other similar materials , nailing the chicken mesh with wire nails @ 200-250mm C/C, preparing the surfaces, sand face finishing with rendering with sponge to correct line or as required to receive architectural finish , level and plumb, curing complete as per specifications and drawings and etc. as directed by Engg-in-Charge.</p>	Sqm.	1,410.00	1,674.18	23,60,588.16

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
67	Providing and applying 25 mm thick external Plaster in Ready mix cement plaster (Readiplast/Soundplast PMC-1) of approved make with first layer of 15 mm thickness with approved waterproofing compound and second layer of 10 mm thickness, including curing, scaffolding etc., complete ready to receive wall finish. The rates shall also include moulding and grooves wherever specified, scaffolding, curing etc complete as per drawings & specification and as directed by Engineer-in-charge. Cement Mortar 1:4 (1 cement : 4 coarse sand) (Height - above 40mt upto 46mt Providing & applying External plaster including scaffolding, chicken mesh made out of PVC with opening of 25X25mm over junction of RCC/Brick/Blockwork or any other similar materials , nailing the chicken mesh with wire nails @ 200-250mm C/C, preparing the surfaces, sand face finishing with rendering with sponge to correct line or as required to receive architectural finish , level and plumb, curing complete as per specifications and drawings and etc. as directed by Engg-in-Charge.	Sqm.	25.00	1,861.69	46,542.30
68	Providing & applying <b>external cement plaster</b> as specified below at all heights and locations, preparing the surfaces, neat cement sponge finishing to correct line or as required to receive architectural finish , level and plumb, curing where ever required complete as per specifications and drawings. including chicken mesh made out of PVC with opening of 25X25mm over junction of RCC/Brick/Blockwork or any other similar materials , nailing the chicken mesh with wire nails @ 200-250mm C/C, 18 mm cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement : 5 coarse sand) finished with a top layer 6 mm thick cement plaster 1:6 (1 cement : 6 fine sand). etc. as directed by Engg-in-Charge.	Sqm.	2,279.00	534.23	12,17,519.56
69	Providing and applying Ready mix internal cement plaster Cement Mortar 1:4 (1 cement : 4 coarse sand) on masonry / concrete, one coat of plaster up to 12 mm thick to walls (Readiplast/Soundplast PMC-1) or approved make including curing, scaffolding , chicken mesh made out of PVC with opening of 25X25mm over junction of RCC/Brick/Blockwork or any other similar materials , nailing the chicken mesh with wire nails @ 200-250mm C/C, etc., complete ready to receive wall finish. The rates shall also include moulding and grooves wherever specified complete as per drawings & specification and etc. as directed by Engg-in-Charge.	Sqm.	15,257.00	430.98	65,75,400.83
70	Providing and applying 12 mm cement plaster of mix : 1:4 (1 cement: 4 fine sand) in line, level and plumb with river sand including rough marking to take in POP punning or any cladding, prewetting of walls, curing, Scaffolding, chicken mesh made out of PVC with opening of 25X25mm over junction of RCC/Brick/Blockwork or any other similar materials , nailing the chicken mesh with wire nails @ 200-250mm C/C, etc. as directed by Engg-in-Charge.	Sqm.	962.00	348.72	3,35,466.33
71	Providing and applying Ready mix internal cement plaster Cement Mortar 1:4 (1 cement : 4 coarse sand) Ceiling, one coat of plaster up to 6 mm thick to ceiling (Readiplast/Soundplast PMC-1) or approved make including curing, scaffolding etc., complete. as per drawings & specification and etc. as directed by Engg-in-Charge.	Sqm.	11,438.00	341.88	39,10,423.44
72	Providing and applying 6 mm cement plaster for ceiling at all heights of mix : 1:3 (1 cement : 3 fine sand) faced finished for R.C.C slabs & beams complete in all respects including scaffolding, curing and etc. as directed by Engg-in-Charge. 1:3 (1 cement : 3 fine sand)	Sqm.	420.00	299.28	1,25,697.47

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
73	Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth including scaffolding etc. as directed by Engg-in-Charge.	Sqm.	26,695.00	253.45	67,65,768.73
74	Providing & applying Finishing walls with water proofing cement paint of required shade :New work (Two or more coats applied @ 3.84 kg/10 sqm), Scaffolding etc. as directed by Engg-in-Charge.	Sqm.	3,029.00	183.26	5,55,088.60
75	Providing & applying <b>Acrylic plastic paint</b> having VOC (Volatile Organic Compound ) content less than 50 grams/ liter, of approved brand and manufacture and approved shade finished with roller to ceilings surfaces, in 2 coats over a coat of approved quality primer on the plastered / POP surface, POP board / gypsum board surfaces including scaffolding, preparation of surface, sanding, light sanding, work platform, painting equipment / apparatus, lambi, putti, primer etc. required to complete interior grade finish etc. at all heights & levels complete as per drawings & specification and etc. as directed by Engg-in-Charge.	Sqm.	11,858.00	386.53	45,83,491.71
76	Providing and Applying 2 coats of <b>luster paint</b> of approved make on wall and partitions at all height as per design and approved shade by the Architect. Cost to include preparing the surface, applying lambi, primer, putty, etc. complete. All jambs, trims, edges, grooves to be included in rate etc. as directed by Engg-in-Charge.	Sqm.	16,352.00	363.17	59,38,552.57
77	Providing and Applying 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, scaffolding etc. as directed by Engg-in-Charge.	Sqm.	5,932.00	357.58	21,21,137.27
78	Providing and Applying walls with Acrylic Smooth exterior paint of required shade :New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm), Scaffolding etc. as directed by Engg-in-Charge.	Sqm.	8,323.00	265.15	22,06,875.41
79	Providing and Applying with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, Scaffolding etc. as directed by Engg-in-Charge. On steel work	Sqm.	10.00	306.38	3,063.76
80	Providing and Applying with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, Scaffolding etc. as directed by Engg-in-Charge. On concrete work	Sqm.	10.00	302.47	3,024.71
81	Providing and Applying White wash (three or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, Scaffolding etc. as directed by Engg-in-Charge.	Sqm.	10.00	106.20	1,062.00
F	<b>CARPENTRY &amp; STAINLESS STEEL WORKS</b>			-	-
82	Providing and fixing stainless steel ( Grade 304) railing made of Hollow tubes, S.S wires, 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/anchor fastener of HILTI make 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.).	kg	7,613.00	724.11	55,12,666.18

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
83	Providing wood work in frames of doors, windows, clerestory windows and other frames for handrail top, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length etc. as directed by Engg-in-Charge. Second class teak wood	Cum	2.00	1,55,614.88	3,11,229.75
84	Providing and fixing <b>Teakwood frames</b> 25mm x 40mm with Shutters to pantry counter/ wash basin counters /counter for Cupboards made out of 18mm Marine Plywood finished with 1.0mm approved laminate on all exposed faces and all inner surfaces to be finished with 1.0 mm thick laminate, including all hardware (concealed hinges, magnetic stopper, concealed handles for shutter opening) shall be as per drawings etc. as directed by Engg-in-Charge.	Sqm.	37.00	8,431.49	3,11,964.98
85	Providing and fixing mirror panelling with 25X40x1.5mm aluminium box section @ 600X600mm C/C @ horizontal & vertically, 9mm thick marine plywood fixed on aluminium framework, & 6mm thick mirror of approved make, including all hardware etc. as directed by Engg-in-Charge.	Sqm.	20.00	7,858.06	1,57,161.20
G	<b>FALSE CEILING WORK / MISCELLANEOUS WORKS</b>			-	-
86	Providing and fixing false ceiling at all height including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dashfastener 12.5 mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the spacing of 1200 mm centre to centre, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm centre to centre, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I. wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3 layers covering upto 150 mm on	Sqm.	4,162.00	1,355.31	56,40,781.74

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
87	<p>Providing and fixing mineral fibre false ceiling tiles at all heights of size 595X595mm of approved texture, design and pattern. The tiles should have Humidity Resistance (RH) of 99%, Light Reflectance &gt; 85%, Thermal Conductivity k = 0.052 - 0.057 w/m K, Fire Performance as per (BS 476 pt - 6 &amp;7) in true horizontal level suspended on interlocking T-Grid of hot dipped all round galvanized iron section of 0.33 mm thick (galvanized @120 gsm) comprising of main T runners of 15x32 mm of length 3000 mm, cross T of size 15x32mm of length 1200 mm and secondary intermediate cross T of size 15x32 mm of length 600 mm to form grid module of size 600x600 mm suspended from ceiling using galvanized mild steel item (galvanised@80gsm) 50 mm long 8mm outer diameter M-6 dash fasteners, 6 mm diameter fully threaded hanger rod up to 1000 mm length and L-shape level adjuster of size 85x25x2 mm, spaced at 1200 mm centre to centre along main 'T'. The system should rest on periphery walls /partitions with the help of GI perimeter wall angle of size 24x24X3000 mm made of 0.40 mm thick sheet, to be fixed to the wall with help of plastic rawl plug at 450 mm centre to centre &amp; 40 mm long dry wall S.S. screws. The exposed bottom portion of all T-sections used in false ceiling support system shall be pre-painted with polyester baked paint, for all heights. The work shall be carried out as per specifications, drawings and as per directions of the engineer-in-charge.</p> <p>With 16 mm thick beveled tegular mineral fibre false ceiling tile (NRC 0.55 to 0.6</p>	Sqm.	240.00	2,448.06	5,87,533.83
88	<p>Providing and fixing Dry cladding of size as per drawing with 3mm thick Techlam / H.R Johnson or approved equivalent porcelain sheet as approved by Project Architect with matt &amp; slip resistant finish, framework with aluminium channel of 40X50X2 to 3mm thick @ 500mm C/C with anodising angle of size 5X25X2mm thick fixed with anchor fastener, &amp; SS self tapping screws. tile should be clean &amp; structural silicon is applied &amp; gaps between the tiles should be sealed with weather silicon etc. as directed by Engg-in-Charge.</p>	Sqm.	5.00	10,109.29	50,546.44
89	<p>Providing and fixing double scaffolding system (cup lock type) on the exterior side, up to seven story height made with 40 mm dia M.S. tube 1.5 m centre to centre, horizontal &amp; vertical tubes joining with cup &amp; lock system with M.S. tubes, M.S. tube chollies, M.S. clamps and M.S. staircase system in the scaffolding for working platform etc. and maintaining it in a serviceable condition for the required duration as approved and removing it there after .The scaffolding system shall be stiffened with bracings, runners, connection with the building etc wherever required for inspection of work at required locations with essential safety features for the workmen etc. complete as per directions and approval of Engineerin-charge .The elevational area of the scaffolding shall be measured for payment purpose .The payment will be made once irrespective of duration of scaffolding.Note: - This item to be used for maintenance work judicially, necessary deduction for scaffolding in the existing item to be done.</p>	Sqm.	590.00	337.07	1,98,873.05

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
90	Providing and fixing double scaffolding system (cup lock type) on the exterior side, Seven floor up to 14th floor story height made with 40 mm dia M.S. tube 1.5 m centre to centre, horizontal & vertical tubes joining with cup & lock system with M.S. tubes, M.S. tube chollies, M.S. clamps and M.S. staircase system in the scaffolding for working platform etc. and maintaining it in a serviceable condition for the required duration as approved and removing it there after .The scaffolding system shall be stiffened with bracings, runners, connection with the building etc wherever required for inspection of work at required locations with essential safety features for the workmen etc. complete as per directions and approval of Engineer-in-charge .The elevational area of the scaffolding shall be measured for payment purpose .The payment will be made once irrespective of duration of scaffolding.Note: - This item to be used for maintenance work judicially, necessary deduction for scaffolding in the existing item to be done.	Sqm.	317.00	605.54	1,91,956.81
91	Providing and Fixing trap Doors for accessing the services and utilities in marine plywood 18mm thick, with necessary sized salwood framework, suspended from true ceiling bolted by anchor fasteners. Doors to be finished with laminate internally & paint on external sides, edged with PVC transparent seal to prevent smells being sucked into the trap door space. Small sized trap doors to be locked with Ellen Key locks with safety chain stays. Larger sized Doors to be divided into removable panels with notched removable framework etc. as directed by Engg-in-Charge.	Sqm.	5.00	7,093.49	35,467.46
H	<b>WATERPROOFING WORKS</b>			-	-
92	Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying : (a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/ sqm. This layer will be allowed to air cure for 4 hours. (b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry etc. as directed by Engg-in-Charge.	Sqm.	607.00	610.98	3,70,865.47
93	Providing & laying water proofing treatment to the toilet flooring by giving injections with cement solution with waterproofing compound into the floor slab so as to make it consistent, homogenous and impervious against leakage, seepage etc. The sunk portion shall then be covered with necessary brick bat waterproof coba in C.M.(1:5) of 100mm average thickness in required slope mixed with approved waterproofing compound as per manufacturer's specifications finished rough with joint less waterproof cement plaster in C.M.(1:3) 12mm to 15mm thk in all positions extending the water proofing upto 300 mm height, curing, leakage test after impounding the water for 7 days, etc. complete with 5 years guarantee etc.(Measurement in plan area ) etc. as directed by Engg-in-Charge.	Sqm.	607.00	2,527.32	15,34,084.45

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
94	Providing & laying water proofing treatment to the toilet flooring by giving injections with cement solution with waterproofing compound into the floor slab so as to make it consistent, homogenous and impervious against leakage, seepage etc. The sunk portion shall then be covered with necessary brick bat waterproof coba in C.M.(1:5) of 100mm average thickness in required slope mixed with approved waterproofing compound as per manufacturer's specifications finished rough with joint less waterproof cement plaster in C.M.(1:3) 12mm to 15mm thk in all positions extending the water proofing upto 300 mm height, curing, leakage test after Extra for providing additional thickness of brick bats over average thickness of 100mm in 1:5 cement mortar mixed with waterproofing compound of approved make as per manufacturers specification as directed.	Cum.	122.00	8,240.34	10,05,321.97
<b>WATERPROOFING ON TERRACE :</b>				-	-
95	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations: (a) Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300 mm height including cleaning the surface before treatment.			-	-
	(b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs. (c) After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineerin-charge.			-	-
	(d) Finishing the surface with 20 mm thick joint less cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineering-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep. (e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. All above operations to be done in order and as per approved manufacturer specification & as directed and specified by the Engineer-in-Charge :			-	-
i)	With average thickness of 120 mm and minimum thickness at khurra as 65 mm.	Sqm.	2,742.00	1,801.18	49,38,833.48
96	Crazy ceramic tile flooring, with under layer 12 mm thick cement mortar 1:4 (1 cement: 4 coarse sand), with joints not exceeding 5 mm, including filling the gaps with ordinary cement mixture & mixing with synthetic polyester fibre, triangular in shape having specific gravity of 1.34 to 1.40, cross section size ranging from 10 to 40 micron & length upto 6 mm , mixing fibre @ 125 grams per 50 kg of cement in cement mortar, including providing and mixing water proofing material in mortar @ 1 kg per 50 kg of cement , all complete as per direction of Engineer-in-charge.	Sqm.	2,814.00	964.42	27,13,885.65

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
97	Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels / subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI- 212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage. For vertical surface two coats @ 0.70 kg per sqm	Sqm.	331.00	480.48	1,59,037.58
98	Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels / subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI- 212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage. For horizontal surface one coat @1.10 kg per sqm.	Sqm.	623.00	368.41	2,29,520.65
99	Providing and laying damp-proof course 40mm thick with cement concrete 12.5mm nominal size)1:2:4 (1 cement : 2 coarse sand (zone-III): 4 graded stone aggregate with water proofing compound etc. as directed by Engg-in-Charge.	Sqm.	320.00	438.60	1,40,352.31
100	Providing and filling styrofill geofoam of density 24kg/m3 including of Fixing, Cutting, Sticking of EPS Thermocole (Geofoam), Specification : ASTM D6817 – EPS 22, Water absorption : max. 3.0% of volume by total immersion etc. complete as per manufacturer specifications.	Cum	345.00	6,881.11	23,73,983.64
J	<b>ROAD WORK</b>			-	-
101	Providing and laying 60mm thick factory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with line sand etc. all complete as per the direction of Engineer-in-charge.	Sqm.	2,790.00	1,124.74	31,38,035.09
K	<b>HORTICULTURE</b>			-	-

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
102	Providing and planting lawn as specified including excavation of the ground upto 30 cms deep , removing and conveying unwanted stuff to a distance of 50mts radius as directed and providing & filling the ground with fresh garden soil manure at 3:1 proportion to a required height of 30cms and mixing garden soil manure thoroughly well, leveling, as directed, watering previous night, planting required variety of lawn grass as directed ,per specification and maintaining till well established by watering, weeding, stirring of soil replacing of casualty's etc. complete including the cost of manure and mixing with good quality of earth and manure as directed. etc. as directed by Engg-in-Charge.	Sqm.	1,250.00	1,571.61	19,64,515.00
103	Providing and planting well routed shrubs including excavation of pit 60cms x 60cms x 60 cms, removing and conveying unwanted stuff to a distance of 50mts radiues as directed and filling the pit with approved excavated material upto 30cms and remaining height of 30cms with fresh garden soil and manure thoroughly well, levelling, as directed, watering previous night, planting shrubs as specified in the drawings and sapling as per specification and maintaining till well established by watering, weeding, stirring of soil replacing of casualty's etc. complete including the cost of manure and mixing with good quality of earth and manure in 3:1as directed and staking with flat bamboo of 1 1/2" - 2" thickness and 1.3mtrs height bamboo. Type of shrubs includes Dombeya Wallichii, Calliandra Haemotocephata, Pellionia pulchera, Hamelia patens, Hibiscus pink tips ,ixora chinensis Furcraea glgantia 'Medico-Picta', Allamanda Scnotti, Golden duranta, Lantana camera red, Duranta plumeril, Russelia juncea, Nerium Olender,Areca lutescenes, Mussaenda philiphica Galphimia Glauca or equivalent price range shrubs. etc. as directed by Engg-in-Charge.	Sqm.	300.00	1,728.77	5,18,631.96
104	<b>TREES:-</b> Excavation of pit 90cms x 90cms x 90 cms, removing and conveying unwanted stuff to a distance of 50mts radiues as directed and filling the pit with approved excavated material upto 30cms and remaining height of 60cms with fresh garden soil and manure thoroughly well, levelling, as directed, watering previous night, providing and planting 1.5mts heigh healthy trees sapling as per specification and maintaining till well established by watering, weeding, stirring of soil replacing of casualty's etc. complete including the cost of manure and mixing with good quality of earth and manure in 3:1as directed. and staking with 2.0mtrslong and 1 1/2" - 2" dia bamboo. Type of plants includes Peltophonon Ferrugineum, Acocia Aurculiformis, Cordia Sebestena,Spathodea Campanulata, Brassia Actinophylla, Michelia Campaca, Pisonia Alba,Plumeria Alba, Alstonia Scholaris, Ravenala Madagas Cariensrs, Ficus benjamina,bauhinia blakeana, ficus panda, plumeria rubra, Callophyllum inophyllum, Spathodia Campanulata, Arjun, Neem, Barringtonia speciosa, Gravellia Robusta, Filicium Decipiens, plumeria alba or equivalent price range plants. etc. as directed by Engg-in-Charge.	Nos.	255.00	2,994.56	7,63,612.29

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
105	GROUND COVERS :-Providing and planting ground covers as specified including excavation of the ground upto 30 cms deep, removing and conveying unwanted stuff to a distance of 50mts radius as directed and providing & filling the ground with fresh garden soil manure at 2:1 proportion to a required height of 30cms and mixing garden soil manure thoroughly well, leveling, as directed, watering previous night, planting ground covers as specified in the drawings and sapling as per specification and maintaining till well established by watering, weeding, stirring of soil replacing of casualty's etc. complete including the cost of manure and mixing with good quality of earth and manure as directed. etc. as directed by Engg-in-Charge.	Sqm.	100.00	1,091.63	1,09,163.32
L	<b>GENERAL ITEMS</b>			-	-
106	Covering the scaffolding with <b>Bardan (Agro Knitted Fabric)</b> by sewing, knotting as required at any height of the building /structure while carying out external work of the building/structure etc. as directed by Engg-in-Charge.	Sqm.	5,640.00	189.02	10,66,062.65
107	Providing & fixing the Safety Net with 12mm Border rope, 4mm knotted, 1mm fishnet size -15mm X 15mm mesh to prevent the debris falling on ground /walkway including framework etc. as per the direction of Engineer in charge.	Sqm.	1,382.00	764.57	10,56,632.98
108	Providing. Erection & fabrication of tensile fabrication roof designed to withstand wind speed of 64meters per second with PVDF coated polyster of ferrari make suitable for structure Ferrari or equivalent. Weight -750 g/m2, Width- 267cm-105 inch, Tensile Strength (warp/weft) - 280/280daN/5CM, Tear resistance (warp/weft) - 30/28daN, Adhesion- 10/10 daN/5CM, Surface Treatment - Formula S: Weld able fluorinated varnish , Light Transmission- 13.5% All cables & fittings confirming to I.S. Standards, shape , form & shop drawing will be submitted by vendor for Architects approval. Including MS framework finished with sand blasting, primer coat & 2 coat of Epoxy etc. complete as per manufacturer specifications. (Plan area will be measured)	Sqm.	865.00	5,075.78	43,90,548.32
109	Felling trees of the girth (measured at a height of 1 m above ground level), including cutting of trunks and branches, removing the roots and stacking of serviceable material and disposal of unserviceable material. Beyond 30 cm girth upto and including 60 cm girth	Each	1.00	519.50	519.50
110	Felling trees of the girth (measured at a height of 1 m above ground level), including cutting of trunks and branches, removing the roots and stacking of serviceable material and disposal of unserviceable material. Beyond 60 cm girth upto and including 120 cm girth	Each	1.00	2,314.71	2,314.71
111	Felling trees of the girth (measured at a height of 1 m above ground level), including cutting of trunks and branches, removing the roots and stacking of serviceable material and disposal of unserviceable material. Beyond 120 cm girth upto and including 240 cm girth	Each	3.00	10,743.63	32,230.89
112	Felling trees of the girth (measured at a height of 1 m above ground level), including cutting of trunks and branches, removing the roots and stacking of serviceable material and disposal of unserviceable material. Above 240 cm girth	Each	1.00	21,523.45	21,523.45
113	Demolition of Existing Structure - Demolition of Existing Ground floor structure Total floor area size approx. 15 x 11m, including removal of electrical wiring & all fittings; underground facilities rerouting / removal based on MDL instructions . The work includes carting away unserviceable debris to approved Municipal allotted area outside MDL Premises.	Sqm.	165.00	3,079.51	5,08,119.15

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
114	Manufacture & Supply of Lift & Shift type .S.Containerised Cabin With Glasswool Insulation on all side walls, with Internal decorative laminated paneling, with PVC Vinyl Flooring, False Ceiling, with Doors and Aluminium sliding windows, Unit with concealed conduit wiring with necessary power/ socket points, Tube light fittings, Main incoming junction box / Metal clad plug sockets, Unit complete in all respect, and ready to use . Three side Windows One side Door M.S. CABIN. AS PER SKETCH (Security cabin) 8 FT X 20 FT X 8.6" FT	Nos	4.00	3,82,284.00	15,29,136.00
115	Supplying and fixing Automatic sliding gate of size 9000mm X 2300mm ht., MS tubular section 100 x 100 x 3.2mm thick, Internal Members - MS tubular section 40 x 40 x 2mm With Gap Center To Center 150mm, Full Height Column - MS tubular section 100 x 100 x 3.2mm thick, Bottom rail - Single Track - Polished Bright bar 20 mm dia rail welded over Bottom I-Beam ISMB 100 x 50, Bottom Rollers - Single Track - Heavy Duty bottom rollers with dual bearing mechanism for free sliding movement fixed at the bottom member of gate frame, Drive - (1) Imported Make Electric motor , (2) Power Supply Single/Three Phase 50/60 Hz, (3) Inbuilt magnetic Limit switch ,(4) Inbuilt control panel,(5) Protection class IP 54,(6) CE Certified, Emergency Operation - Rotating release device easy to operate & key protected (Standard), Push Button - from Inside on Full Height Column (Optional: placement of push button as per client requirement), Finished with enamel paint, etc. complete as per manufacturer specifications.	Sqm	22.00	32,268.50	7,09,906.98
116	Supplying and fixing Manual MS Swing gate of Size 2400mm X 2700mm ht. Gate Frame - MS tubular section 100 x 100 x 3.2 thick, Internal Members - MS tubular section 40 x 40 x 2 mm thick with gap between center to center 150, Hinges - Heavy Duty Hinges, finished with enamel paint etc. complete as per design & manufacturer specifications.	Sqm	7.00	20,383.92	1,42,687.45
M	<b>SIGNAGE</b>			-	-
117	Providing and fixing of retro- reflectorised informatory sign board rectangular/Square in shape having area less than 0.9 square meter made out of ___mm aluminum sheet bonded with white retro reflective sheeting of Class __ ( Type IV High intensity micro-prismatic grade sheeting-HIP) having pressure sensitive/heat activated adhesive retoreflective specified back ground, border and back side retoreflective symbols, letters, numerals, arrow as per IRC:67-2012 Table No 8.3, supported with back support frame 25mm x 25mm x 3mm, duly painted on back side with two coats of grey stove enamel paint and supported on one no. mild steel angle iron post 75 mm x 75 mm x 6 mm, 3.5 mt long firmly fixed to the ground by means of properly designed foundation with M25 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing The angle iron post shall be duly painted with one coat of epoxy primer and two coats of epoxy finish paints having alternate black and white bands of 25 cm width including GI fixtures and transportation etc.complete.The nut bolts of board with angle iron post/supporting structure after fixing at site has to be electrically welded. Class B (Type IV High intensity micro-prismatic grade sheeting-HIP) sheeting shall have 7 years written warranty from the manufacturer and authorised distributor/convertor issued for field performance including the screen printed areas and cut-out sheeting and cut-out durable transparent overlay film and this warranty certificate in original should be submitted to the Engineer in charge by the	Sqm.	5.00	10,515.76	52,578.81

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
118	Providing and fixing of retro- reflectorised informatory sign board rectangular/Square in shape having area greater than 0.9 square meter made out of ___mm aluminum sheet bonded with white retro reflective sheeting of Class __ ( Type IV High intensity micro-prismatic grade sheeting-HIP) having pressure sensitive/heat activated adhesive retoreflective specified back ground, border and back side retoreflective symbols, letters, numerals, arrow as per IRC:67-2012 Table No 8.3, supported with back support frame 25mm x 25mm x 3mm, duly painted on back side with two coats of grey stove enamel paint and supported on two no. mild steel angle iron post 75 mm x 75 mm x 6 mm, 3.5 mt long firmly fixed to the ground by means of properly designed foundation with M25 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing The angle iron post shall be duly painted with one coat of epoxy primer and two coats of epoxy finish paints having alternate black and white bands of 25 cm width including GI fixures and transportation etc.complete.The nut bolts of board with angle iron post/supporting structure after fixing at site has to be electrically welded. Class B (Type IV High intensity micro-prismatic grade sheeting-HIP) sheeting shall have 7 years written warranty from the manufacturer and authorised istributor/convertor issued for field performance including the screen printed areas and cut-out sheeting and cut-out durable transparent overlay film and this warranty certificate in	Sqm.	36.00	13,449.56	4,84,184.13
119	Providing and fixing LOGO of size 9000MM X 9000MM The scope also includes Logo to be made up in 3MM Aluminium "C" Shape Hallow effect logo with approved PU exterior grade paint. . LED modules will be OSRAM or Equivalent with 5 years warranty M.S Structures for logo & letters installation 21900MM X 2900MM The scope also includes Logo to be made up in 3MM Aluminium "C" Shape Hallow effect logo with approved PU exterior grade paint. . LED modules will be OSRAM or Equivalent with 5 years warranty including M.S Structures for logo & letters installation etc. complete as per manufacturer specifications.	nos	1.00	29,36,675.64	29,36,675.64
<b>SUB TOTAL AMOUNT-B</b>					<b>18,98,07,049.55</b>
<b>Section C- Plumbing BOQ.</b>					
1	Providing and fixing UPVC 110 mm Dia.soil/waste pipe (type-B) on wall as per I.S. 13592: 1992 or latest, applicable to all floor levels including all necessary fittings such as bends; tees, single/double junction, sloted vents, offsets on wall or in the ground including fixing the pipe on wall using approved cleats projecting 25 mm to 40 mm from face of wall & fixing with clips filling the joints with solvent cement incl. scaffolding etc complete as directed by Engg in charge.	Rmt	309.00	674.09	208295.080
2	Providing and fixing UPVC 75 mm Dia.soil/waste pipe (type-B) on wall as per I.S. 13592: 1992 or latest, applicable to all floor levels including all necessary fittings such as bends; tees, single/double junction, sloted vents, offsets on wall or in the ground including fixing the pipe on wall using approved cleats projecting 25 mm to 40 mm from face of wall & fixing with clips filling the joints with solvent cement incl. scaffolding etc complete as directed by Engg in charge.	Rmt	284.00	474.03	134625.130
3	Providing and fixing UPVC 32 mm Dia.soil/waste pipe (type-B) on wall as per I.S. 13592: 1992 or latest, applicable to all floor levels including all necessary fittings such as bends; tees, single/double junction, sloted vents, offsets on wall or in the ground including fixing the pipe on wall using approved cleats projecting 25 mm to 40 mm from face of wall & fixing with clips filling the joints with solvent cement incl. scaffolding etc complete as directed by Engg in charge.	Rmt	68.000	277.79	18889.930

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
4	Providing and fixing UPVC 50 mm Dia.soil/waste pipe (type-B) on wall as per I.S. 13592: 1992 or latest, applicable to all floor levels including all necessary fittings such as bends; tees, single/double junction, sloted vents, offsets on wall or in the ground including fixing the pipe on wall using approved cleats projecting 25 mm to 40 mm from face of wall & fixing with clips filling the joints with solvent cement incl. scaffolding etc complete as directed by Engg in charge.	Rmt	48.00	352.98	16942.830
5	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 applicalbe to all floor levels. <b>Concealed work.</b> <b>15 mm nominal outer dia Pipes</b>	Rmt	134.00	521.74	69913.150
6	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge applicable to all floor level. Internal work - <b>Exposed on wall.</b> <b>20 mm nominal outer dia Pipes</b>	Rmt	21.00	384.49	8074.300
7	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. <b>Concealed work</b> , including cutting chases and making good the walls etc. <b>20 mm nominal outer dia Pipes</b>	Rmt	271.00	607.61	164663.390
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. <b>Concealed work</b> , including cutting chases and making good the walls etc. <b>25 mm nominal outer dia Pipes</b>	Rmt	175.00	740.42	129573.300
9	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 applicable to all floor level. Internal work - <b>Exposed on wall</b> <b>25 mm nominal outer dia Pipes</b>	Rmt	41.00	483.19	19810.810

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
10	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 applicale to all floor level. Internal work - <b>Exposed on wall</b> <b>32 mm nominal outer dia Pipes</b>	Rmt	430.00	592.47	254761.100
11	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 applicale to all floor level. Internal work - <b>Exposed on wall</b> <b>40 mm nominal outer dia Pipes</b>	Rmt	104.00	797.54	82944.560
12	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 applicale to all floor level. Internal work - <b>Exposed on wall</b> <b>50 mm nominal outer dia Pipes</b>	Rmt	23.00	1,096.35	25215.980
13	Providing and fixing UPVC 75 mm Dia.soil/waste pipe (type-A) on wall as per I.S. 13592: 1992 or latest, applicable to all floor levels including all necessary fittings such as bends; tees, single/double junction, sloted vents, offsets on wall or in the ground including fixing the pipe on wall using approved cleats projecting 25 mm to 40 mm from face of wall & fixing with clips filling the joints with solvent cement incl. necessary scaffolding and maintainenace for 1 year for any leakages or dislocation of pipes etc. complete.	Rmt	187.00	307.10	57427.980
14	Providing and fixing UPVC 110 mm Dia rain water pipe (type-A) on wall as per I.S. 13592: 1992 or latest, applicable to all floor levels including all necessary fittings such as bends; tees, single/double junction, sloted vents, offsets on wall or in the ground including fixing the pipe on wall using approved cleats projecting 25 mm to 40 mm from face of wall & fixing with clips filling the joints with solvent cement incl. necessary scaffolding and maintainenace for 1 year for any leakages or dislocation of pipes etc. complete.	Rmt	155.00	523.73	81178.010
15	Providing & fixing of 20mm Dia. Lever operated bronze Ball valves (Zolotto or equivalent) in pipeline including all specials, flanges / union, nuts, bolts, washer, Plastic floats etc., complete as required. as per drawings & as directed. Valves shall be of screwed end type of approved make to IS 778, 781 complete with PTFE seating & gland packing. Maximum working pressure shall be 16 bar. etc. complete as directed and accepted by the Engineer In Charge.	Nos	80.00	1,178.71	94296.720

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
16	Providing & fixing of 25mm Dia.Lever operated bronze Ball valves (Zolotto or equivalent) in pipeline including all specials, flanges / union, nuts, bolts, washer, Plastic floats etc., complete as required. as per drawings & as directed. Valves shall be of screwed end type of approved make to IS 778, 781 complete with PTFE seating & gland packing. Maximum working pressure shall be 16 bar. etc. complete as directed and accepted by the Engineer In Charge.	Nos	35.00	1,428.47	49996.380
17	Providing & fixing of 32 mm Dia. Lever operated bronze Ball valves (Zolotto or equivalent) in pipeline including all specials, flanges / union, nuts, bolts, washer, Plastic floats etc., complete as required. as per drawings & as directed. Valves shall be of screwed end type of approved make to IS 778, 781 complete with PTFE seating & gland packing. Maximum working pressure shall be 16 bar. etc. complete as directed and accepted by the Engineer In Charge.	Nos	18.00	2,627.57	47296.180
18	Providing & fixing of 40mm Dia. Lever operated bronze Ball valves (Zolotto or equivalent) in pipeline including all specials, flanges / union, nuts, bolts, washer, Plastic floats etc., complete as required. as per drawings & as directed. Valves shall be of screwed end type of approved make to IS 778, 781 complete with PTFE seating & gland packing. Maximum working pressure shall be 16 bar. etc. complete as directed and accepted by the Engineer In Charge.	Nos	1.00	3,733.64	3733.640
19	Providing & fixing of 50mm Dia.Lever operated bronze Ball valves (Zolotto or equivalent) in pipeline including all specials, flanges / union, nuts, bolts, washer, Plastic floats etc., complete as required. as per drawings & as directed. Valves shall be of screwed end type of approved make to IS 778, 781 complete with PTFE seating & gland packing. Maximum working pressure shall be 16 bar. etc. complete as directed and accepted by the Engineer In Charge.	Nos	1.00	5,740.63	5740.630
20	Providing & fixing Pressure reducing Valve 25 mm PN 16 rating, Brass construction including rubber gasket, flanges, union, nuts, bolts, washers & painting complete as required.	Nos	1.00	5,661.63	5661.630
21	Providing & fixing Pressure reducing Valve 32 mm PN 16 rating, Brass construction including rubber gasket, flanges, union, nuts, bolts, washers & painting complete as required.	Nos	5.00	8,164.31	40821.560
22	Supplying and erecting 20/25mm dia gun metal air release cock, with necessary G.I. coupling to be fitted on top of air vessel or on wet riser complete as per specification no. FF-FFA/ARV	Nos	2.00	870.24	1740.480
23	Providing, Fixing, testing and commissioning of 100mm x 100mm size UPVC Nahani Traps / Clean Out of approved make with water seal(10) along with cover including making holes in RCC /masonry work, including if, required extension pipe, fixing NT to correct level & line, sealant clamps etc complete. Fixing of grating circular type in SS. etc. complete as directed and accepted by the Engineer In Charge.	Nos	92.00	619.30	56975.610
<b>SANITARY FIXTURES</b>					

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
24	Providing & fixing Wall hung Vitreous European Water Closet of pure white along with Seat Cover as per approved sample by Eng-in-charge & EWC fixed on CI chair bracket & fixing shall be done with SS bolt with <b>P or S trap</b> & with necessary fittings as per direction of Engineer in Charge. <b>(Make : Hindware Model twilight or Jaquar Equivalent make ) (Seat Cover Make : Hindware or equivalent) Basic Rate - 12,158/- (WC), 3367/- (Seat cover)</b>	Nos	46.00	30,469.31	1401588.220
25	Providing and fixing water closet squatting pan (Indian type W.C. pan ) P or S trap with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required: White Vitreous Orissa pattern with integral type foot rests <b>(Make : Hindware - Model No. - 20076 or other Jaquar Equivalent make) Basic Rate - 2993/-</b>	Nos	20.00	6,725.65	134513.000
26	Providing & fixing Dual Flow Flush Valve - 32 mm including inlet / outlet connections, PVC fittings fixtures, cutting hole, testing etc <b>(Make : Jaquar, Model No : METROPOLE FLV-CHR-1089G OR Equivalent) Basic Rate - 3491/-</b>	Nos	66.00	5,563.51	367191.430
27	Providing and fixing health faucet with 8 mm dia.1.5 m long flexible tube having wall hook with approved make including necessary sockets/union nutetc.complete as directed by Engineer in charge. <b>(Make : Jaquar, Model No : ALLIED ALD-CHR-563G, 1.5 mtr long Tube in Crome Finish &amp; Wall Hook OR Equivalent) Basic Rate - 1184/-</b>	Nos	46.00	1,801.83	82884.270
28	Providing and fixing C.P.BIB cock with wall flange of approved make including necessary sockets/union nut etc.complete as directed by Engineer in charge. <b>(Make : Jaquar, Model No :ORP-CHR-10037PM -GA OR Equivalent) Basic Rate - 1496/-</b>	Nos	20.00	2,224.89	44497.860
29	Providing & fixing of two way Bib cock with wall flanges & necessary fittings as per direction of Engineer in Charge. <b>(Make : Jaquar, Model No : FON-CHR-40041GA OR Equivalent) Basic Rate - 1808/-</b>	Nos	46.00	2,653.05	122040.340
30	Providing & Fixing White glazed Vitreous Semi recessed Wash Basin & all necessary fittings including wate couplin etc complete as per direction of Engineer in Charge. <b>(Make : Jaquar , Model No : JDS-WHT-25501 OR Hindware equivalent make) Basic Rate - 7482/-</b>	Nos	70.00	11,743.76	822063.510
31	Providing & Fixing C.P brass Pillar Cock for Semi recessed type basin with necessary fittings as per direction of Engineer in Charge. <b>(Make : Jaquar, Model No : Jaquar - FON-CHR-40011GA OR Equivalent Make) Basic Rate - 1777/-</b>	Nos	70.00	3,316.95	232186.560
32	Providing and fixing Stainless Steel kitchen sink of Size <b>Super 585 mm x 485 mm (Make : NIRALI, Model No : NIRALI GLISTER (SUPER) OR Equivalent)</b>	Nos	2.00	10,113.96	20227.920

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
33	Providing, Fixing, Testing and Commissioning of Sink Cock with Regular Swinging Spout (Wall Mounted Model) With Wall Flange. <b>(Make : Jaguar, Model No : ARI-39347 or Equivalent Make)</b> <b>Basic Rate - 1621/-</b>	Nos	2.00	4,871.57	9743.140
34	Providing & Fixing C.P brass Angular Stop Cock with necessary fittings as per direction of Engineer in Charge.15 mm nominal bore <b>(Make : Jaquar, Model No : VGP-CHR-81053 OR Equivalent Make ) (For Wash Basin &amp; Pantry)</b> <b>Basic Rate - 1010/-</b>	Nos	70.00	1,615.79	113105.090
35	Providing and fixing <b>Waste Coupling</b> 32mm Size Half Thread with 80mm height for wash basin & Pantry Sink of approved quality and colour. <b>(Make : JAQUAR Model: ALD-709 or equivalent)</b>	Nos	118.00	744.18	87813.180
36	<b>Providing and fixing Bottle Trap</b> for Wash basin & Pantry Sink, <b>(Make : Parryware T-3202A1, Jaquar -ALD-CHR-769L 300x900)</b>	Nos	118.00	1,962.39	231562.160
37	Providing and fixing white vitreous flat back lipped front urinal basin of 425 x 797 (back inlet) sizes respectively flush pipe and C.P. brass spreaders with brass unions and G.I clamps, all necessary fittings complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required as directed by Engg-in-charge: <b>(Make : Jaquar, Model No : URS-WHT-132530 OR Hindware equivalent make)</b> <b>Basic Rate - 6235/-</b>	Nos	46.00	12,318.46	566649.380
38	Providing and fixing push cock <b>(Self closing tap)</b> wall flange type including necessary socket, testing etc. complete. <b>(Make : Jaquar, Model No : PRS-CHR-073 OR Hindware equivalent make)</b> <b>Basic Rate - 1870/-</b>	Nos	46.00	2,590.61	119168.120
39	Providing & Fixing Toilet Roll Holder with necessary fittings as per direction of Engineer in Charge. <b>(Make : Jaquar, Model No : AKP-35753P OR Hindware or equivalent)</b> <b>Basic Rate - 1496/-</b>	Nos	46.00	2,236.36	102872.620
40	Providing and fixing liquid soap container with bracket of the same materials with snap fittings of approved quality and colour <b>(Make : Jaquar, Model No : ACN-CHR-1137N OR Hindware equivalent)</b> <b>Basic Rate - 2930/-</b>	Nos	70.00	3,677.57	257430.050
41	Providing & fixing of L Shape Disabled Grab Bar with necessary fittings as per direction of Engineer in Charge. <b>(Make : Jaquar, Model No : WAC-SAP-BAI090CS)</b>	Nos	8.00	19,541.08	156328.670
42	Providing & fixing of Disabled Grab Bar (Straight) with necessary fittings as per direction of Engineer in Charge. <b>(Make : Jaquar, Model No : WAC-SAP-BR0750CS)</b>	Nos	8.00	13,266.53	106132.230
43	Providing & fixing of Swing handicap Grab Bar with necessary fittings as per direction of Engineer in Charge. <b>(Make : Jaquar, Model No : WAC-SAP-BG0800CS)</b>	Nos	8.00	30,247.58	241980.670
44	Providing and fixing Towel Ring Round With Round Flange. <b>(Make : Jaquar, Model No :ACN-CHR-1121BN OR Hindware equivalent)</b> <b>Basic Rate - 810/-</b>	Nos	66.00	1,415.73	93437.860

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
45	Providing & Fixing Double Coat Hook with necessary fittings as per direction of Engineer in Charge. <b>(Make : Jaquar, Model No : AKP-CHR-35761P OR Hindware equivalent)</b>	Nos	66.00	1,134.11	74851.210
46	Supplying and installation of 3 stage cooler cum purifire of size 750mm x 570mm x 1350mm with water storage capacity of 120 Ltr./hr capacity. Body material should be of SS 304 and rest in pre coated steel and operating on 230 V single phase A.C. supply. <b>(Make : Aquagaurd, Model No : Aquagaurd pure chill 120 PSS UV or equivalent)</b>	Nos	8.00	97,440.37	779522.950
	<b>EXTERNAL PLUMBING BOQ</b>				
47	Providing and fixing chlorinated polyvinyl chloride (CPVC) 32 mm pipes (Astral or equivalent SDR 11 schedule 40) confirming to IS:15778.This includes jointing of pipes and fittings with one step CPVC solvent cement and testing of joints in trenches including necessary fittings,Refilling trenches etc.complete. <b>External Water Supply from U.G tank</b>	Rmt	22.00	521.18	11465.970
48	Providing and fixing chlorinated polyvinyl chloride (CPVC) 40 mm pipes (Astral or equivalent SDR 11 schedule 40) confirming to IS:15778.This includes jointing of pipes and fittings with one step CPVC solvent cement and testing of joints in trenches including necessary ,fittings,Refilling trenches etc.complete. <b>External Water Supply from U.G tank</b>	Rmt	77.00	616.75	47489.870
49	Providing and fixing chlorinated polyvinyl chloride (CPVC) 50 mm pipes (Astral or equivalent SDR 11 schedule 40) confirming to IS:15778.This includes jointing of pipes and fittings with one step CPVC solvent cement and testing of joints in trenches including necessary ,fittings,Refilling trenches etc.complete. <b>External Water Supply from U.G tank</b>	Rmt	457.00	895.82	409389.210
50	Providing and fixing chlorinated polyvinyl chloride (CPVC) 65 mm pipes (Astral or equivalent SDR 11 schedule 40) confirming to IS:15778.This includes jointing of pipes and fittings with one step CPVC solvent cement and testing of joints in trenches including necessary ,fittings,Refilling trenches etc.complete. <b>External Water Supply from U.G tank</b>	Rmt	226.00	2,794.50	631556.110
51	Providing and fixing square-mouth 300mm x 300mm x 300mm size <b>gully trap</b> 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 less than 4.50 kg and frame to be not less than 2.70 kg as per standard design: <b>100x100 mm size P type With Sewer bricks conforming to IS : 4885 Waste Water Drainage</b>	Nos	36.00	10,006.92	360249.150
52	Providing and constructing Brick Masonry inspection trap Chamber 90cm x 45cm x 45cm including 1:4:8 C.C foundation, 1:2:4 C.C.channels/half round glazed stoneware pipe channel, salt glazed stone-ware intercepting trap with rodding pipe set in 1:4:8 cement concrete block, brick masonry plastering inside and Outside, fixed in cement concrete with R.C.C. Cover medium duty 140 kg. etc complete. <b>For Rain water harvesting</b>	Nos	47.00	37,956.98	1783977.980
53	Providing and constructing Brick Masonry inspection trap Chamber 200cm x 150cm x 100 cm including 1:4:8 C.C foundation, 1:2:4 C.C.channels/half round glazed stoneware pipe channel, salt glazed stone-ware intercepting trap with rodding pipe set in 1:4:8 cement concrete block, brick masonry plastering inside and Outside, fixed in cement concrete with R.C.C. Cover medium duty 140 kg. etc complete. <b>For Rain water harvesting @ Reccharge Pit</b>	Nos	4.00	71,869.39	287477.570

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
54	Providing and constructing Brick Masonry Inspection Chamber 60cm x 60cm x 45cm including 1:4:8 cement concrete foundation 1:2:4 cement concrete channels half round G.S.W. pipes, Brick Masonry, plastering from inside and with frame fixed in cement concrete with R.C.C. Cover medium duty 140 kg with frame etc complete. <b>For Waste Water Drainage</b>	Nos	41.00	25,281.72	1036550.320
55	Providing and constructing Brick Masonry Inspection Chamber 90cm x 60cm x 45cm including 1:4:8 cement concrete foundation 1:2:4 cement concrete channels half round G.S.W. pipes, Brick Masonry, plastering from inside and with frame fixed in cement concrete with R.C.C. Cover medium duty 140 kg with frame etc complete. <b>For Waste Water Drainage</b>	Nos	16.00	38,585.20	617363.170
56	Providing and laying non-pressure 150 mm Dia.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 : <b>For Waste Water Drainage &amp; Rain water harvesting</b>	Rmt	220.00	583.19	128300.730
57	Providing and laying concrete pipes o I.S.NP. class of 225mm diameter in properline, level and slope including necessary collars, excavation ,laying, fixing with collar since mentmortar 1:1 and refilling the trench complete. <b>For Waste Water Drainage &amp; Rain water harvesting</b>	Rmt	193.00	610.26	117779.370
58	Providing and laying non-pressure 250mm Dia.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 : <b>For Waste Water Drainage &amp; Rain water harvesting</b>	Rmt	83.00	959.35	79625.750
59	Providing and making ISI Mark ferrule connection of 50 mm dia. To water main including ferrule coupling cast iron bell mouth cover, built in non return valve and fixing including excavation and reinstatement complete. <b>For Commercial U.G Tank from Municipal supply main</b>	Nos	1.00	15,801.07	15801.070
60	Providing and making ISI Mark ferrule connection of 40mm dia. To water main including ferrule coupling cast iron bell mouth cover, built in non return valve and fixing including excavation and reinstatement complete. <b>For Residencial U.G Tank from Municipal supply main</b>	Nos	1.00	12,509.61	12509.610
	<b>Landscaping</b>				
61	Providing,laying , testing & commissioning of PVC pipes including all necessary fittings such as bends; tees, single/double junction, filling the joints with solvent cement incl. necessary trenching & refilling etc. complete. <b>50 mm dia</b>	Rmt	29.00	186.04	5395.300
62	Providing,laying , testing & commissioning of PVC pipes including all necessary fittings such as bends; tees, single/double junction, filling the joints with solvent cement incl. necessary trenching & refilling etc. complete. <b>40 mm dia</b>	Rmt	72.00	136.35	9817.050
63	Providing,laying , testing & commissioning of PVC pipes including all necessary fittings such as bends; tees, single/double junction, filling the joints with solvent cement incl. necessary trenching & refilling etc. complete. <b>32 mm dia</b>	Rmt	173.00	121.06	20942.790

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
64	Providing,laying , testing & commissioning of PVC pipes including all necessary fittings such as bends; tees, single/double junction, filling the joints with solvent cement incl. necessary trenching & refilling etc. complete <b>25mm dia</b> (For Sprinkler inlet connection taping & Ring Main)	Rmt	1299.00	81.55	105938.540
65	Providing,laying , testing & commissioning of PVC pipes including all necessary fittings such as bends; tees, single/double junction, filling the joints with solvent cement incl. necessary trenching & refilling etc. complete <b>20 mm dia</b>	Rmt	90.00	61.17	5504.890
66	Supply Installation testing & comissioning of Pop up sprinkler having flow of 3 LPM. & working pressure 4kg/cm2. Rotator 2.0 -3.0 M Radius 5°-360° adjustable arc.	Nos.	24.00	815.54	19572.940
67	Media filter 2.5" horizontal is 14606, bsp flanged 100 mic; maximum operating pressure 10 kgf. silica sand media no. 16 & 98% purity - 0.7 mm. to 1.2 mm., ms. body 40 cumh. IS: 14606.	Nos.	1.00	71,496.03	71496.030
68	Supply installation testing & comissioning of Pressure Relief Valve Plastic,Threaded.25 mm	Nos.	2.00	4,315.99	8631.970
69	Providing and laying concrete pipes of I.S. NP.class of 100mm diameter in properline,level and slope including necessary collars,excavation,laying,fixing with collar since ment mortar 1:1 and refilling the trench complete.	Rmt	187.00	546.08	102116.140
70	Providing, laying, testing and commissioning of brick masonry inspection chamber / Manhole of the sizes below in brick work in cement mortar 1:5 (1 cement:5 fine sand), With FRP cover as below including frame, including RCC foundation slab. 1:2:4 mix both inside and outside of plastering 12 mm thick with cement mortar 1:3 with a floating coat of neat cement on inside face, proper water proofing to ensure no ground water seepage in the manhole. excavation, in all kind of soil, dewatering, refilling, watering, ramming and removing the surplus excavated earth, making good the same complete as required. <b>600(L) X 600(W) X 600(D) mm with Solid FRP recessed cover of 20 T capacity.</b>	Nos.	8.00	25,281.72	202253.720
71	<b>Extra for additional depth for manhole</b> of any size. The Payment will be made as against the additional quantity of brick work in cumt to be constructed to achieve the required depth.	Cumt	18.00	8,789.36	158208.510
72	<b>Excavating trenches</b> of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, <b>depth upto 1.5 m</b> , 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 : <b>All kind of Soil</b> Pipes, cables etc, <b>not exceeding 80 mm dia.</b>	Rmt	978.00	302.23	295583.170
73	<b>Excavating trenches</b> of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, <b>depth upto 1.5 m</b> , 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 : <b>All kind of Soil</b> Pipes, cables etc, <b>exceeding 80 mm dia. but not exceeding 300 mm dia</b>	Rmt	238.00	493.60	117477.320

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
74	<b>Excavating trenches</b> of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, <b>depth exceeding 1.5 m, but not exceeding 3 m.</b> , 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 : <b>All kind of Soil</b> Pipes, cables etc, <b>not exceeding 80 mm dia.</b>	Rmt	245.00	452.44	110848.270
75	<b>Excavating trenches</b> of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, <b>depth exceeding 1.5 m, but not exceeding 3 m.</b> , 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 : <b>All kind of Soil</b> Pipes, cables etc, <b>exceeding 80 mm dia. but not exceeding 300 mm dia</b>	Rmt	60.00	643.80	38628.090
76	<b>Excavating trenches</b> of required width for pipes, cables, etc, including excavation for sockets, <b>depth upto 1.5 m</b> , including getting out the excavated materials, returning the soil as required in layers not exceeding 20 cm in depth, including consolidating each deposited layers by ramming, watering etc., stacking serviceable material for measurements and disposal of unserviceable material as directed, within a lead of 50 m : <b>Ordinary Rock/ Murrum</b> Pipes, cables etc. <b>not exceeding 80 mm dia</b>	Rmt	367.00	445.81	163612.830
77	<b>Excavating trenches</b> of required width for pipes, cables, etc, including excavation for sockets, <b>depth upto 1.5 m</b> , including getting out the excavated materials, returning the soil as required in layers not exceeding 20 cm in depth, including consolidating each deposited layers by ramming, watering etc., stacking serviceable material for measurements and disposal of unserviceable material as directed, within a lead of 50 m : <b>Ordinary Rock/ Murrum</b> Pipes, cables etc. <b>exceeding 80 mm dia but not exceeding 300 mm dia</b>	Rmt	90.00	1,103.87	99348.150
78	<b>Excavating trenches</b> of required width for pipes, cables, etc, including excavation for sockets, <b>depth exceeding 1.5 m in depth but not exceeding 3 m.</b> , including getting out the excavated materials, returning the soil as required in layers not exceeding 20 cm in depth, including consolidating each deposited layers by ramming, watering etc., stacking serviceable material for measurements and disposal of unserviceable material as directed, within a lead of 50 m : <b>Ordinary Rock/ Murrum</b> Pipes, cables etc. <b>not exceeding 80 mm dia</b>	Rmt	367.00	568.52	208645.140
79	<b>Excavating trenches</b> of required width for pipes, cables, etc, including excavation for sockets, <b>depth exceeding 1.5 m in depth but not exceeding 3 m.</b> , including getting out the excavated materials, returning the soil as required in layers not exceeding 20 cm in depth, including consolidating each deposited layers by ramming, watering etc., stacking serviceable material for measurements and disposal of unserviceable material as directed, within a lead of 50 m : <b>Ordinary Rock/ Murrum</b> Pipes, cables etc. <b>exceeding 80 mm dia but not exceeding 300 mm dia</b>	Rmt	90.00	1,223.02	110071.680

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
80	<b>Excavating trenches</b> of required width for pipes, cables, etc, including excavation for sockets, <b>depth upto 1.5 m</b> , including getting out the excavated materials, returning the soil as required in layers not exceeding 20 cm in depth, including consolidating each deposited layers by ramming, watering etc., stacking serviceable material for measurements and disposal of unserviceable material as directed, within a lead of 50 m : <b>Hard rock (blasting prohibited)</b> Pipes, cables etc. <b>not exceeding 80 mm dia</b>	Rmt	49.00	859.40	42110.770
81	<b>Excavating trenches</b> of required width for pipes, cables, etc, including excavation for sockets, <b>depth upto 1.5 m</b> , including getting out the excavated materials, returning the soil as required in layers not exceeding 20 cm in depth, including consolidating each deposited layers by ramming, watering etc., stacking serviceable material for measurements and disposal of unserviceable material as directed, within a lead of 50 m : <b>Hard rock (blasting prohibited)</b> Pipes, cables etc. <b>exceeding 80 mm dia but not exceeding 300 mm dia</b>	Rmt	12.00	2,128.08	25536.940
82	<b>Excavating trenches</b> of required width for pipes, cables, etc, including excavation for sockets, <b>depth exceeding 1.5 m in depth but not exceeding 3 m.</b> , including getting out the excavated materials, returning the soil as required in layers not exceeding 20 cm in depth, including consolidating each deposited layers by ramming, watering etc., stacking serviceable material for measurements and disposal of unserviceable material as directed, within a lead of 50 m : <b>Hard rock (blasting prohibited)</b> Pipes, cables etc. <b>not exceeding 80 mm dia</b>	Rmt	440.00	982.11	432127.200
83	<b>Excavating trenches</b> of required width for pipes, cables, etc, including excavation for sockets, <b>depth exceeding 1.5 m in depth but not exceeding 3 m.</b> , including getting out the excavated materials, returning the soil as required in layers not exceeding 20 cm in depth, including consolidating each deposited layers by ramming, watering etc., stacking serviceable material for measurements and disposal of unserviceable material as directed, within a lead of 50 m : <b>Hard rock (blasting prohibited)</b> Pipes, cables etc. <b>exceeding 80 mm dia but not exceeding 300 mm dia</b>	Rmt	107.00	2,250.78	240833.730
84	<b>Earth work in Excavation</b> (including for foundation) by mechanical means/ manual means in all types of soils such as Earth, Marine Clay, Marshy Land, Running Sand, Garbage, Slush, Murum, Rock Boulders, RCC boulders, any type of road layer etc. as directed by Engineer in-charge. The rate includes pumping out water if required, removing the rank vegetation and refilling the excavated materials wherever required as directed including leveling, ramming etc. The rate also includes supporting public utilities such as cables, drains services pipes water mains, but shall not include the cost of shoring. (cutting of MS plates & old RCC foundation coming during excavation shall be paid separately). <b>Depth Upto 1.5 m</b>	Cum	140.00	667.75	93485.530
<b>SUB TOTAL AMOUNT-C</b>					<b>1,59,74,091.40</b>
<b>I</b>	<b>TOTAL AMOUNT (Civil Work) : A+B+C</b>				<b>43,22,15,273.28</b>

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
<b>ELECTRICAL WORK</b>					
<b>A</b>	<b>INFRA BOQ</b>				
	1) Bidder should refer Drawings, SLDs, Specification and BOQ before quoting. Any discrepancy in documents shall be brought to notice of Consultant / Client before bidding. 2) Bidder shall be bound to the Quoted rates to complete the Job satisfactorily as per Tender without any extra cost implication. 3) Length of Cable, Cable trays, Hume pipe are measured on layout, Contractor shall ascertain the actual quantities required at site. 4) Liasoning works, Load sanction, and necessary Approvals for the Electrical System Revamping and upgradation from MSEDCL/ PWD Electrical incharge / Local Authority shall be in Contractor's Scope.				
<b>1</b>	<b>HT ITEMS/ TRANSFORMER/ SUBSTATION EQUIPMENT</b>				
1.1	Supplying, erecting, testing & commissioning 11kV, 630A, 21kA/3sec, 6 way outdoor, extensible motorised SCADA compatible RMU, internal arc tested consisting of 2 nos. feeder with 2 LBS and 4 nos. feeder with 4 VCB compliant to IEC 62271 -100, 200 and 102, as per specification no. SW-HTS/RMU SCADA	Nos	1.00	1221778.68	12,21,778.68
1.2	Supplying, erecting, testing and commissioning 11KV HT metering cubical (compact / vertical type) approved by MSEDCL / licensee fabricated with 2 mm (14 SWG) M.S. sheets with supporting angle, painted with powder coating / epoxy paint of required shade, copper bus bar size 25 x 6 mm, heavy duty mechanical lock, with counter meter for measuring no of times the opening of meter door, top side cover (CT, PT cover) interlock with meter door, epoxy casted 3 nos. CT having required ratio between 50/5A to 200/5A, VA 10 or 15, Class 0.2S, epoxy casted 3 nos. PT having ratio 11000/V3/110/V3 VA 50, Class 0.2 suitable for provided trivector meter, and provision for incoming and outgoing cables complete duly tested by licensee with necessary test certificates and erected on provided plinth/ cc foundation.	Nos	1.00	180298.31	1,80,298.31
1.3	Supplying and erecting approved make 630kVA, 3 phase, 50Hz Oil immersed and naturally cooled outdoor type, copper wound transformer with delta conn.on HV side & star connection on LV side with additional neutral brought out on load side, voltage rating 11/0.433kV with OLTC HV tapping from -15% to +5% in steps of 1.25%,Efficiency Level-3, continuously rated for full laod with OLTC+RTCC+AVR and standard accessories complete with Test Certificate with lossess the permissible total loss values shall not exceed by 5 percent of the maximum total loss values mentioned in Table 6 of I.S 1180 (2014) i.e (3300W @ 50% Load and 9200W @ 100% Load) other specifications shall comply with IS 2026 & IS 1180 and Tender specifications.	Nos	1.00	3579189.78	35,79,189.78
1.4	Supplying and erecting approved make 2000kVA, 3 phase, 50Hz Oil immersed and naturally cooled outdoor type, copper wound transformer with delta conn.on HV side & star connection on LV side with additional neutral brought out on load side, voltage rating 11/0.433kV with OLTC HV tapping from -15% to +5% in steps of 1.25%,Efficiency Level-3, continuously rated for full laod with OLTC+RTCC+AVR and standard accessories complete with Test Certificate with lossess the permissible total loss values shall not exceed by 5 percent of the maximum total loss values mentioned in Table 6 of I.S 1180 (2014) i.e (7050W @ 50% Load and 23000W @ 100% Load) other specifications shall comply with IS 2026 & IS 1180 and Tender specifications.	Nos	1.00	6696639.90	66,96,639.90
1.5	Supplying and spreading stone metal 25 mm size for 100 mm depth above the ground level complete.	Cu.m	6.20	111.69	692.48

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
1.6	Supplying and erecting fencing of section having size 2450 mm in height from ground level and 1200 mm width with angle iron frame work erected in CC foundation and painted complete as per specification no SS-AS/FSG	Nos	60.00	7508.28	4,50,496.80
1.7	Supplying and erecting double leaf hinged door each 1500 mm in width x 1850 mm in height using B class, GI pipe with angle iron supports, chain link wire mesh (jali) complete supported on channel iron, erected in foundation, and painted complete as per specification no SS-AS/DLD	Nos	2.00	21496.65	42,993.30
	<b>Misce. Items</b>				-
1.8	Providing printed instruction chart for treating persons suffering from electric shock, printed in English & Marathi and duly laminated complete.	Nos	2.00	165.34	330.68
1.9	Providing pair of duly tested rubber hand gloves as per IS :47705 suitable for working up to 22 kV supply complete.	Nos	4.00	745.68	2,982.72
1.10	Providing round bottom FIRE bucket of 9 liters capacity as per I.S 2546 made out of 24 guage GI sheet with extra handle at bottom duly painted white inside and red outside with FIRE mark, on provided stand/Wall.	Nos	4.00	441.71	1,766.84
1.11	Providing floor mounting stand for keeping 4 Nos. of FIRE buckets 1500mm in length, 900mm in height frame made out of 30x30x4 mm angle iron with cross supports for legs, welded with 4 hooks and duly painted with one coat of red lead and two coats of silver paint.	Nos	1.00	3389.36	3,389.36
1.12	Supplying standard first aid box with necessary antiseptic cream, medicine for use on wounds due burn, crepe bandage, gauge bandage, medicated ready to use bandage (Band-Aid) adhesive tape for medicinal use, scissors, anti-septic solution, etc. (All above contents shall be of standard makes)	Nos	1.00	972.34	972.34
1.13	Supplying and fixing PVC synthetic elastomer electrically insulating mat with class A insulation conforming to IS: 15652-2006 having 2 mm thickness up to 3.3 kV	Sq.m	38.00	5618.34	2,13,496.92
1.14	Supplying and fixing PVC synthetic elastomer electrically insulating mat with class B insulation conforming to IS: 15652-2006 having 2.5 mm thickness up to 11 kV	Sq.m	94.67	6431.91	6,08,887.48
1.15	Supplying & erecting Carbon Dioxide (CO2) fire extinguisher of 4.5 kg. capacity cartridge type conform to IS 2878 /15683 complete erected with necessary clamp made from 50 x 6 mm. M. S. flat with nut & bolts grouted in wall complete.	Nos	4.00	8825.43	35,301.72
					-
<b>2</b>	<b>DG SET</b>				-

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
2.1	Supplying, erecting, testing and commissioning of diesel generating set with alternator of 15 kVA output continuous rating, 3 Phase, 415 V, 50c/s 0.8 p. f. A.C a totally enclosed air cooled / liquid cooled multi-cylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours, along with standard accessories, self-excited, self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 %, with performance class G2 and maximum fuel consumption of 3.0 Ltr/hr @75% loading. Both the engine and alternator direct coupled on a common fabricated steel base frame and mounted on anti vibrating pads with standard control panel comprising meters, switchgears, indicators connected with suitable wires/cables, the complete set enclosed in composite Acoustic enclosure as fully assembled integral unit made of 16 SWG CRCA Sheet, sound absorbing material to restrict sound level up to 75 dB at 1.0 m, provided with first filling of oil, diesel not less than 40 Ltr etc. on provided M20 Grade CC Foundation as per specification no. GEN-DG	Nos	2.00	393241.26	7,86,482.52
2.2	Supplying, erecting, testing and commissioning of Microprocessor based Generator Control Unit (Synchronization panel) panel suitable for diesel generating set of 320 kVA capacity Three phase, 415 Volts, 50Hz A.C. with all standard features and safeties etc as per specification no. GEN-SYNC.	Nos	1.00	763554.74	7,63,554.74
					-
	<b>LT PANELS</b>				-
<b>3</b>	<b>CORPORATE OFFICE, ATS BUILDING &amp; INFRA MAIN LT PANEL</b>				-
3.1	INCOMER: 1 No - 3200A FP EDO MP based ACB with RS 485 port, of fault breaking capacity 50 KA (Ics=Icu=100% upto 415 V) with R-Y-B & On/off/trip lamps, ammeter, voltmeter & multifunction meter 1 No - 1000A FP EDO MP based ACB with RS 485 port, of fault breaking capacity 50 KA (Ics=Icu=100% upto 415 V) with R-Y-B & On/off/trip lamps, ammeter, voltmeter & multifunction meter Bus coupler- 1 No - 3200A FP EDO MP based ACB with RS 485 port, of fault breaking capacity 50 KA (Ics=Icu=100% upto 415 V) with R-Y-B lamps, bus coupler 1 No. type 1+2 SPD BUSBAR: 3200A, 50kA FP Aluminium Busbar with heat shrinkable Sleeves with copper earth bus bar. OUTGOING: (50kA Ics=Icu=100% upto 433V) with on/off/trip indication lamps. 2No : 2500 Amps 4P EDO MP ACB, 50kA with E/F protection & RS 485 port + 1 No. spare 1No : 800 Amps 4P EDO MP ACB, 50kA with E/F protection & RS 485 port+ 1 No. spare 1No : 400 Amps 4P MP MCCB, 50kA with E/F protection & RS 485 port+ 1 No. spare 1No : 200 Amps 4P MP MCCB, 50kA with E/F protection & RS 485 port 2No : 63 Amps 4P MP MCCB, 50kA with E/F protection & RS 485 port + 4 No. spare 1No : 32 Amps 4P MP MCCB, 50kA with E/F protection & RS 485 port (As per IEC 61439)	Nos	1.00	6641403.29	66,41,403.29
					-
<b>4</b>	<b>CISF &amp; HOSTEL BUILDING MAIN LT PANEL</b>				-

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
4.1	<p>INCOMER: 1 No -1250A FP EDO MP based ACB with RS 485 port, of fault breaking capacity 36 KA (Ics=Icu=100% upto 415 V) with R-Y-B &amp; On/off/trip lamps, ammeter, voltmeter &amp; multifunction meter 1 No. type 1+2 SPD BUSBAR: 1250A, 36kA FP Aluminium Busbar with heat shrinkable Sleeves with copper earth bus bar.</p> <p>OUTGOING: (36kA Ics=Icu=100% upto 433V) with on/off/trip indication lamps.</p> <p>2No : 1000 Amps 4P EDO MP ACB, 50kA with E/F protection &amp; RS 485 port + 1 No. spare 2No : 800 Amps 4P MP ACB, 50kA with E/F protection &amp; RS 485 port + 1 No. spare (As per IEC 61439)</p>	Nos	1.00	3683001.03	36,83,001.03
<b>5</b>	<b>DOMESTIC WATER PUMP PANEL</b>				-
5.1	<p>INCOMER: 1 No -63A FP MP based MCCB with RS 485 port, of fault breaking capacity 36 KA (Ics=Icu=100% upto 415 V) with R-Y-B &amp; On/off/trip lamps, ammeter, voltmeter &amp; multifunction meter 1 No. type 1+2 SPD BUSBAR: 63A, 36kA FP Aluminium Busbar with heat shrinkable Sleeves with copper earth bus bar.</p> <p>OUTGOING: (36kA Ics=Icu=100% upto 433V) with on/off/trip indication lamps.</p> <p>4No : 32 Amps 4P MPCB, 36kA with SC, OC, &amp; SPP protection+ 4 no. star delta starter 1No : 40 Amps 4P MCB, 36kA with SC, OC protection (As per IEC 61439)</p>	Nos	1.00	643853.04	6,43,853.04
<b>6</b>	<b>FLUSHING WATER PUMP PANEL</b>				-
6.1	<p>INCOMER: 1 No -40A FP MCB with OC, SC protection having fault breaking capacity 25 KA (Ics=Icu=100% upto 415 V) with R-Y-B &amp; On/off/trip lamps, ammeter, voltmeter &amp; multifunction meter 1 No. type 1+2 SPD BUSBAR: 40A, 25kA FP Aluminium Busbar with heat shrinkable Sleeves with copper earth bus bar.</p> <p>OUTGOING: (25kA Ics=Icu=100% upto 433V) with on/off/trip indication lamps.</p> <p>4No : 32 Amps 4P MPCB, 25kA with SC, OC, &amp; SPP protection+ 4 no. star delta starter 2No : 16 Amps 4P MPCB, 25kA with SC, OC, &amp; SPP protection+ 2 no. DOL starter (As per IEC 61439)</p>	Nos	1.00	552387.08	5,52,387.08
<b>7</b>	<b>1080kVAR APFC PANEL</b>				-
7.1	<p>APFC Panel - 1080kVar INCOMER: 1 No -2500 A TPN EDO MP based ACB with RS 485 port, of fault breaking capacity 50 KA (Ics=Icu=100% upto 415 V) with R-Y-B &amp; On/off/trip lamps, 16 stage APFC Relay, power factor meter, ammeter, voltmeter &amp; multifunction meter BUSBAR: 2500A, 50 kA TPN Aluminium Busbar with heat shrinkable Sleeves with copper earth bus bar. OUTGOING: (36kA Ics=Icu=100% upto 433V) with on/off indication lamps &amp; start / stop push buttons, timer 7 No: 100kVar Bank + 250A MCCB + 7% detuned reactor + capacitor duty contactor 4 No: 50kVar Bank + 125A MCCB + 7% detuned reactor + capacitor duty contactor 6 No: 25kVar Bank + 63A MCCB + 7% detuned reactor + capacitor duty contactor 1 No: 15kVar Bank + 32A MCCB + 7% detuned reactor + capacitor duty contactor 1 No: 15kVar fixed type Bank + 32A MCCB + 7% detuned reactor + capacitor duty contactor (As per IEC 61439)</p>	Nos	1.00	5146754.07	51,46,754.07
<b>8</b>	<b>335kVAR APFC PANEL</b>				-

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
8.1	APFC Panel - 335kVAr INCOMER: 1 No -800 A TPN EDO MP based ACB with RS 485 port, of fault breaking capacity 50 KA (Ics=Icu=100% upto 415 V) with R-Y-B & On/off/trip lamps, 16 stage APFC Relay, power factor meter, ammeter, voltmeter & multifunction meter BUSBAR: 800A, 25 kA TPN Aluminium Busbar with heat shrinkable Sleeves with copper earth bus bar. OUTGOING: (36kA Ics=Icu=100% upto 433V) with on/off indication lamps & start / stop push buttons, timer 2 No: 100kVAr Bank + 250A MCCB + 7% detuned reactor + capacitor duty contactor 1 No: 50kVAr Bank + 125A MCCB + 7% detuned reactor + capacitor duty contactor 1 No: 25kVAr Bank + 63A MCCB + 7% detuned reactor + capacitor duty contactor 1 No: 20kVAr Bank + 63A MCCB + 7% detuned reactor + capacitor duty contactor 1 No: 15kVAr Bank + 32A MCCB + 7% detuned reactor + capacitor duty contactor 2 No: 10kVAr Bank + 25A MCCB + 7% detuned reactor + capacitor duty contactor 1 No: 5kVAr fixed type Bank + 16A MCCB + 7% detuned reactor + capacitor duty contactor (As per IEC 61439)	Nos	1.00	1923821.22	19,23,821.22
					-
	<b>DISTRIBUTION BOARDS</b>				-
<b>9</b>	<b>VTPN DISTRIBUTION BOARD</b>				-
9.1	Supplying & erecting triple pole and neutral distribution board (TPNDB), SP/TP MCBs total 12 ways /36 poles, with door, 1.2mm thickness surface/flush mounted, IP 43 Protection on iron/GI frame (vertical busbar type) as per specification no. SW-SWR/MCBDB	Nos	2.00	8388.64	16,777.28
	INCOMER				-
9.2	Supplying, erecting & commissioning 4 pole RCCB 80A, electromagnetic type with 30/100/300 mA sensitivity with earth leakage trip indication complete as per specification no. SW-RCCB/RCCB	Nos	2.00	5459.57	10,919.14
	OUTGOING				-
9.3	Supplying, erecting & marking TPMCB 6A to 32A, with rated short- circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	12.00	822.33	9,867.96
9.4	Supplying, erecting & marking SPMCB 6A to 32A, C-series with rated short circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	18.00	190.53	3,429.54
9.5	Supplying, erecting & marking SPMCB 6A to 32A, B-series with rated short circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	18.00	189.43	3,409.74
					-
<b>10</b>	<b>POINT WIRING &amp; PVC CONDUIT</b>				-
	Note for point wiring-				-
	1. Point wiring shall include all necessary " <b>HMS rigid PVC CONDUIT</b> ", with all fittings , accessories , couplings,collars etc., junction / pull / inspection boxes, wires, supports,bushings lamp holders, ceiling rose, flexible conduit, fan hooks wherever required, modular switch, switch box, Fan electronic regulator & terminations using tinned copper lugs of crimping type. The scope of sub mains wiring from DB to room switch board and room switch boards are excluded.				-
	2. All lighting fixture wiring shall be carried out for primary point using 1.5sqmm copper stranded & for secondary wiring 1.5sqmm copper stranded conductor 660/1100V grade PVC insulated wire in " <b>PVC Conduit</b> ". Individual junction/inspection boxes shall be provided for each lighting fitting for the purpose of looping from fitting to fitting.				-

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
	3. From switch board/DB to first light fitting will be termed as primary point and First fitting to subsequent fitting on the same circuit shall be as termed secondary point. Light point wiring shall excluded submains wiring from D.B. to room switch board and switch board to switch board. The scope of light point wiring starts after switch board/DB where switching control is directly from DB.				-
	4. Point wiring for light/fan/bell concealed type in min 20 mm ISI marked HMS PVC conduit with 1.5 sq.mm. (2+1E) FR grade copper wires, modular type switch, earthing and required accessories as per specification				-
	5. Earth Wire of minimum 1.5 sq mm Shall be terminated in each point				-
	6. Point wiring starts from Main board/Intermediate switch board and suitable circuit mains are to be provided from D.B. to first board and between boards.				-
	7. For concealed type wiring multistrand wires shall be used preferably.				-
					-
10.1	Point wiring for light/bell concealed type in min 20 mm FRLS grade HMS PVC conduit with 1.5 sq.mm. (2+1E) FRLSH grade copper wires, modular type switch, earthing and required accessories as per specification No: WGPW/CW	Point	50.00	785.10	39,255.00
10.2	Secondary point wiring for additional light/ bell point, concealed type in min 20 mm FRLS grade PVC conduit with 1.5 sq.mm. (2+1E) FRLSH grade copper wires with required accessories as per specification No: WG-PW/CW	Point	10.00	223.38	2,233.80
	Note for wiring-				
	1) Double the rate of two wire bunch for calculating rate of four wire bunch up to 10 sq. Mm				
	2) Continuous running earth wire should be provided of min. 1.5 sq. mm. up to phase wire of 2.5 sq. mm. and further earth wire of half of the size of phase wire is to be used only for light & power load .				
	3) Rates for the earth wire shall be calculated as one half rate of mains of bunch of two wire.				
	Earth wire should be of green colour.				
	4) For all types of wiring stranded copper wires shall be invariably used.				
	5) For FRLS wire subtract 2% from total rate of FRLSH wire.				
	5) Earth wire should be of green colour.				
	6) For all types of wiring stranded copper wires shall be invariably used.				
	7) Earth wire should be of green colour.				
	8) For all types of wiring stranded copper wires shall be invariably used.				
10.3	Supplying and erecting main swith 2x4 sq.mm FRLSH copper PVC insulated wire laid in provided conduit/trunking/ insidepole/ Busbarsoranyotherplaces. as per specification No: WG-MA/BW	Mtrs	1,000.00	97.45	97,450.00
10.4	Supplying and erecting mains with 2x1.5 sq.mmFRLSH copper PVC insulatedwire laid inprovidedconduit/trunking/insidepole/ Busbarsor any other places as per specification No: WG-MA/BW	Mtrs	1,000.00	43.80	43,800.00
10.5	Supplying and erecting mains with 2x2.5 sq.mm FRLSHcopper PVC insulatedwire laid in provided conduit/ trunking/insidepole/Busbarsor any other places. as per specification No: WG-MA/BW	Mtrs	500.00	67.89	33,945.00
10.6	Supplying and erecting HMS PVC conduit FRLS grade 25mm dia. With PVC accessories on wall /ceiling as per specification No: WG-MA/CON.	Mtrs	250.00	105.12	26,280.00

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
10.7	Supplying and erecting HMS PVC conduit FRLS grade 20mm dia.with PVC accessories on wall / ceiling as per specification No: WG-MA/CON.	Mtrs	100.00	89.79	8,979.00
10.8	Supplying and erecting rigid steel conduit 16SWG 25mm dia.with necessary accessories inwall/floorwithchiselling appropriately as per specificationNo: WG-MA/CC.	Mtrs	1,500.00	262.80	3,94,200.00
10.9	Supplying and erecting HMS PVC conduit FRLS grade 25mm dia.with necessary accessories in wall/floor with chiselling appropriately as per specification No: WG-MA/CC.	Mtrs	200.00	139.06	27,812.00
<b>11</b>	<b>SWICH SOCKETS/BLANK PLATES/BACK BOXES</b>				
11.1	Supplying and erecting modular type switch 6A/10A duly erected on provided plate and box with wiring connections complete.	Nos	9.00	78.84	709.56
11.2	Supplying and erecting modular type switch16A duly erected on provided plate and box with wiring connections complete.	Nos	31.00	116.07	3,598.17
11.3	Supplying and erecting modular type 3pin6A multi socket with safety shutter, duly erected on provided plate and box withwiring connections complete.	Nos	9.00	122.64	1,103.76
11.4	Supplying and erecting modular type 3pin 6/16A multi socket with safety shutter, duly erected on provided plate and box withwiring connections complete.	Nos	31.00	175.20	5,431.20
11.5	Supplying & erecting CRCA sheet metal enclosures of 1.2mm thickness with 20A, 2 pin plug & earth socket and 20A, 3 pin plug top with 20A/30A single pole MCB having rated short- circuit breaking capacity (Icn) 10kA complete erected on angle iron/ GI frame.	Nos	21.00	902.26	18,947.46
11.6	Supplying and erecting modular type (twomodule) electronic step regulator for fan, duly erected on provided plate and box with wiring connections complete.	Nos	3.00	418.28	1,254.84
11.7	Supplying and erecting modular type telephone socket one gang with safety shutter, duly erected on provided plate and box with wiring connections complete.	Nos	4.00	105.12	420.48
11.8	Supplying and erecting modular type computer Jack RJ45 with safety shutter, duly erected on provided plate and box with wiring connections complete.	Nos	9.00	142.35	1,281.15
11.9	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 2 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background.	Nos	8.00	241.99	1,935.92
11.10	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 3 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background.	Nos	1.00	273.75	273.75
11.11	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 4 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background..	Nos	5.00	303.31	1,516.55
11.12	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 6 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background.	Nos	5.00	366.82	1,834.10

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
11.13	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 8 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background.	Nos	3.00	456.61	1,369.83
11.14	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 12 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background.	Nos	1.00	572.67	572.67
					-
<b>12</b>	<b>H.T. CABLES &amp; ACC.</b>				-
12.1	Supplying , erecting & terminating XLPE insulated, galvanised steel formed wire armoured (strip) cable 11 kV(E), 3 x 400 sq. mm. aluminium conductor laid in provided trench / pipe as per specification no. CB-HT	Mtrs	600.00	3738.26	22,42,956.00
12.2	Supplying , erecting & terminating XLPE insulated, galvanised steel formed wire armoured (strip) cable 11 kV(E), 3 x 300 sq. mm. aluminium conductor laid in provided trench / pipe as per specification no. CB-HT	Mtrs	72.00	3014.48	2,17,042.56
12.3	Earth work in <b>Excavation</b> (including for foundation) by mechanical means/ manual means <b>in all types of soils</b> such as Earth, Marine Clay, Marshy Land, Running Sand, Garbage, Slush, Murum, Rock Boulders, RCC boulders, any type of road layer etc. as directed by Engineer in-charge. The rate includes pumping out water if required, <b>removing the rank vegetation and refilling the excavated materials wherever required as directed including leveling, ramming etc.</b> The rate also includes supporting public utilities such as cables, drains services pipes water mains, but shall not include the cost of shoring. (cutting of MS plates & old RCC foundation coming during excavation shall be paid separately). <b>Depth Upto 1.5 m</b>	Cum	990.00	323.66	3,20,423.40
12.4					-
12.5	12.4	Mtrs	7.00	26654.00	1,86,578.00
12.6	Providing and erecting Heat shrinkable indoor termination kit for 11 kV (UE)/ 22 kV ( E ) XLPE HT cable 3x240 to 400 sq. mm. with necessary material as per specification no. CB-JT/HT	Mtrs	4.00	17574.43	70,297.72
<b>13</b>	<b>L.T. CABLES</b>				-
13.1	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 3½core 400 sq. mm. aluminium conductor complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Mtrs	3,552.00	2234.85	79,38,187.20
13.2	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 3½ core 300 sq. mm. aluminium conductor complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Mtrs	1,428.00	1791.39	25,58,104.92
13.3	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 3½core 240 sq. mm. aluminium conductor complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Mtrs	240.00	1499.03	3,59,767.20

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
13.4	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 3½ core 150 sq. mm. aluminium conductor complete erected with glands & lugs, on wall/trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Mtrs	174.00	977.82	1,70,140.68
13.5	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 3½ core 50 sq. mm. aluminium conductor complete erected with glands & lugs, on wall/trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Mtrs	528.00	417.19	2,20,276.32
13.6	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 3½ core 35 sq. mm. aluminium conductor complete erected with glands & lugs, on wall/trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Mtrs	240.00	320.83	76,999.20
13.7	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 4 core 4 sq. mm. aluminium conductor complete erected with glands & lugs, on wall/trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Mtrs	3,060.00	147.82	4,52,329.20
					-
					-
<b>14</b>	<b>LANDSCAPE LIGHT FIXTURES &amp; ACCESSORIES</b>				-
	System efficacy shall not be less than 90 lumens/watt,				-
	CRI shall be more than 80.				-
	Total harmonic distortion voltage and current shall be less than 10%				-
	Operating voltage range shall be in range of 160V to 270V				-
	Power Factor of Luminaire shall be more than 0.95				-
	Luminaire shall conform to respective IS.				-
	Luminaire shall withstand surge protection upto 2 kV				-
	Luminaire shall carry minimum three years warrantee.				-
	Correlated Colour Temperature (CCT) shall be required between 2700K-6500K.				-
14.1	Supplying & erecting ready touse Retrofit T8LED18/20 tubelight with polycarbonate body, heat sink, integrated HF electronic driver complete & compatible toT8 /T12 LED luminaire by disconnecting starter & ballast if necessary.	Nos	198.00	686.55	1,35,936.90
14.2	Supplying and erecting 40W LED post top made in cast aluminium spigot housing with decorative clear opal acrylic diffuser and IP65 protection on provided pole/ bracket	Nos	1.00	6786.69	6,786.69
14.3	Supplying and erecting cylindrical shaped integral decorative with high power 12W-16W LED bollard upto 1000mm with opal acrylic diffuser and IP65 protection on provided foundation complete.	Nos	39.00	3858.71	1,50,489.69
14.4	Supplying and erecting 9W spike light with all accessories, IP 65	Nos	139.00	2161.47	3,00,444.33
14.5	Supplying and erecting round shape in ground 9W Deck light with all accessories, IP 65	Nos	118.00	6451.15	7,61,235.70
					-
<b>15</b>	<b>STREET LIGHT/ POLES/ ACCESSORIES</b>				-

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
15.1	Supplying and erecting integrated LED street light fitting 26 to 30W IP65 & IK08 class having single piece pressure die-cast aluminium housing , having system lumens output of Min. 2600 Lumens, min. efficacy of 100 lumen/W, CRI>70, CCT upto 6500K, THD<10%, p.f. >0.95, operating range of 140-270V, inbuilt surge protection of 10 kV, Life class of 50,000 Hrs. at L70B50, including driver complete with 3 Years warranty as per specification No FG-ODF/FLS2.	Nos	87.00	2814.10	2,44,826.70
15.2	Providing & erecting 6 m high (clear height) galvanised octagonal pole with foundation bolts having bottom of 130 mm A/F, top 70 mm A/F on provided foundation as per specification no. OH-PL/OPL	Nos	62.00	16498.06	10,22,879.72
15.3	Providing and erecting galvanised 1000mm single arm sword type bracket with FRP dome and ball as per specification no. OH PL/PBKT	Nos	37.00	2976.16	1,10,117.92
15.4	Providing and erecting galvanised 1000mm double arm sword type bracket with FRP dome and ball as per specification no. OH PL/PBKT	Nos	25.00	4892.37	1,22,309.25
15.5	Supplying and erecting GI pipe 15mmdia. 'B' class at position with accessories complete as per specification no. CW-PLB/GP.	MTR	186.00	211.33	39,307.38
15.6	Supplying & erecting FRP box of size 300mmx200mmx125mm, 2.7mm thick complete on pole/wall as per specification No. CB-SB	Nos	62.00	860.65	53,360.30
15.7	Making M- 20 grade reinforced cement concrete foundation by considering the safe soil bearing capacity as 10 T/sq.m at 1.5 m depth including supply of steel, concrete, excavation, fixing provided nut bolts with the help of template, duly plastered as per design complete (for 3 to 5m octagonal / conical GI pole).	Nos	62.00	3350.64	2,07,739.68
					-
<b>16</b>	<b>FANS/ EXHAST FAN</b>				-
16.1	Supplying and erecting regular/standard model ceiling fan of 900/1050mm. sweep complete erected in position as per specification no. FG-FN/CF	Nos	3.00	2290.70	6,872.10
16.2	Supplying and erecting fan clamp of 30 x 5 mm. M.S. flat of required length and 10 mm. M.S. bolt and nuts erected with necessary hook of 10 mm. M.S. round bar and painted.	Nos	3.00	213.52	640.56
16.3	Supplying and erecting 'B' class G.I .pipe / M.S. pipe down rod duly painted for fan complete erected with PVC three core flexible cable 1 sq. mm copper PVC wire.	Mtrs	3.00	250.75	752.25
16.4	Supplying and erecting exhaust fan medium duty 230 V A.C. 50 cycles 225 mm. 1400 RPM with condenser complete erected in position with necessary materials. Fan motor with moisture proof treatment and 'E' class insulation.	Nos	15.00	2225.00	33,375.00
					-
<b>17</b>	<b>EARTHING</b>				-
17.1	Supplying, installation and testing of maintenance free earthing comprising of Electrode of 17.2 mm diameter Low Carbon Steel with 250 micron molecular copper bonded earthing rod of Length 3m along with 25 kg Carbon based environment friendly back fill ground enhancing compound required to fill up the excavated earth with required quantity complete, and recording the results Specification no. EA-MOBI	Nos	10.00	15116.20	1,51,162.00
17.2	Supplying and erecting copper strip of high purity required size used for earthing on wall and/or any other purpose with necessary copper clamps fixed on wall painted with bituminous paint with joints required. As per specification no. EA EP.	Kg	395.72	966.87	3,82,609.80

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
17.3	Providing earthing with galvanized iron earth plate size 60 x 60 x 0.6 cm complete with all materials, testing & recording the results as per specification no. EA-EP	Nos	22.00	5161.74	1,13,558.28
17.4	Supplying and erecting GI strip of high purity required size used for earthing on wall and/or any other purpose with necessary GI clamps fixed on wall painted with bituminous paint with joints required. As per specification no EA-EP.	Kg	1,032.00	243.09	2,50,868.88
17.5	Supplying and erecting GI wire of high purity of required sizes used for earthing or any other purposes on wall with necessary G. I. Clamps fixed on wall/cable/ conduit with screws complete.	Kg	19.00	169.72	3,224.68
17.6	Providing pipe type earthing with 40mm. dia. G.I. pipe or 20 mm dia. G.I. Rod complete with all materials testing and recording the results as per specification no. EA-EP	Nos	21.00	1642.47	34,491.87
					-
<b>18</b>	<b>Telephone</b>				-
18.1	Supplying, fixing, and configuring 48 Ports managed gigabit switch 10/100/1000 Mbps + 4 SFP ports erected in provided rack complete.	Each	1.00	77707.45	77,707.45
18.2	Supplying & erecting 10 pair telephone copper cable 0.5 mm dia. with high density polyethylene insulation, polyester taped, Nylon Rip Cord & grey colour sheathed with FR PVC, conforming to ITD specification S/WS 113C laid in provided PVC casing capping/conduit as per specification No. WG-TW	Mtrs.	1.00	83.22	83.22
18.3	Supplying, installing, testing & commissioning push button telephone instrument desk top/wall mount with caller ID & Speaker unit as per specification complete.	Each	4.00	1087.32	4,349.28
18.4	Supplying & erecting 2 pair telephone copper cable 0.5 mm dia. with high density polyethylene insulation, polyester taped, Nylon Rip Cord & grey colour sheathed with FR PVC, conforming to ITD specification S/WS 113C laid in provided PVC casing capping/conduit as per specification No. WG-TW	Mtrs.	430.00	25.18	10,827.40
					-
<b>19</b>	<b>DATA</b>				-
19.1	Supplying and erecting LSZH armoured multimode optical fibre cable with 6 fibres, core dia 50/125 µm (OM4) suitable up to 10 GBPS ethernet distance at 850 nm of wavelength, on wall/ceiling or laid in provided pipe/trench as per specification No. WG-COC/OFC	Mtrs.	900.00	1316.17	11,84,553.00
19.2	Supplying and fixing 12 ports light guide unloaded interconnect unit, rack mounted type, with adapter panel for termination of optical fibre cables in provided U rack complete as per specification no. WG-NAS/ LIU	Each	2.00	5313.94	10,627.88
19.3	Supplying and fixing SC/LC type multimode duplex adapter to couple two connectors between OFC & Fibre switch/Fibre module as per specification no. WG-NAS/MMA	Each	12.00	605.52	7,266.24
19.4	Supplying and fixing SC/LC type multimode pigtails (OM4) as per specification complete. WG-NAS/LIU2	Each	24.00	1393.91	33,453.84
19.5	Supplying and plugging 3m fibre patch cord LC-SC MM(50)OM4 LSZH duplex complete as per specification no. WG-COC/FPC	Each	4.00	3329.83	13,319.32
19.6	Supplying and fixing tool-less IO (Ethernet) flush/surface type in provided modular box as per specification no. WG-NAS/IO	Each	1.00	554.06	554.06
19.7	Supplying, fixing, and configuring 8-ports managed gigabit, Layer-2 switch, 10/100/1000 base-T, POE smart switch plus 2 SFP erected in provided rack complete.	Each	1.00	27902.28	27,902.28

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
19.8	Supplying, fixing, and configuring 20 SFP ports+4 Combo SFP10 /100/1000 Base-T erected in provided rack complete.	Each	1.00	223827.05	2,23,827.05
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<b>20</b>	<b>SITC of CCTV SYSTEM</b>				-
20.1	<b>2MP IR Dome PTZ with 32x Zoom</b> 1/2.8" Progressive Scan CMOS, 1920 × 1080 at 60fps, 4.8 mm to 153 mm, 32× Optical, 16x digital zoom, Color: 0.005 Lux at F1.6, B/W: 0.001 Lux at F1.6, ICR, ONVIF, support H.265,MJPEG, 120 dB WDR, 3D Digital Noise Reduction, HLC, BLC, Defog, EIS, Tripple individually configurable stream, 24 VAC & Hi PoE, IR range: 150m, Pan: 360° endless, Tilt: From -15° to 90° (auto-flip), Pan Speed - from 0.1°/s to 160°/s, Preset Speed: 240°/s, Tilt Speed- from 0.1°/s to 120°/s, Preset Speed: 200°/s, Presets- 300, Alarm Input-2-ch alarm input, Alarm Output-1-ch alarm output, Audio-1 channel input & output, Support on-board storage up to 256 GB (SD card not included), IP66, IK10, Face Detection, Intrusion Detection, Line Crossing Detection, Region Entrance Detection, Region Exiting Detection, Audio Exception Detection, UL, CE, FCC certified.	Nos	11.00	383587.18	42,19,458.98
20.2	<b>32ch Network Video Recorder</b> -Connect Up to 32 IP Cameras, Dual OS, Up to 12 Megapixels Resolution, Two independent HDMI & Two VGA outputs, Atleast one HDMI output of 4K resolution, atleast 1 VGA output with output upto 1920 × 1080, Support H.265, MJPEG, Supports N+1 hot spare system,Supports RAID0, RAID1, RAID5, RAID6 and RAID10 ,Supports HDD hot swap, Supports Dual Power-Redundant, Incoming Bandwidth 320 Mbps, 8 SATA Hard Disks, ANR Technology, 8 SATA interfaces for 8 HDDs and capacity of each HDD upto 8TB, 3 × USB at least 1 × USB with 3.0, Alarm I/O 16/4, RS-485, RS-232, 2 RJ-45 10 /100/1000 Mbps self-adaptive Ethernet interface, Multiple network monitoring: Web viewer, CE, FCC, UL certified.	Nos	1.00	438078.58	4,38,078.58
20.3	32" LCD Monitor	Nos	1.00	58076.78	58,076.78
20.4	6TB hard disk	Nos	2.00	68400.44	1,36,800.88
20.5	Dismantling the existing light, fan, bell, clock, independent plug point, wiring including circuit mains of all types along with accessories etc. complete as per specification No: WG-DM/PW	Point	3.00	7.66	22.98
20.6	Supplying and installing cat-6 LSZHcable suitable for networking as per specification no. WG-COC/NC	Mtrs	1,100.00	72.27	79,497.00
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<b>21</b>	<b>HUME PIPE/ DWC PIPE</b>				-
21.1	Supplying & laying (including excavation) reinforced cement concrete pipe of IS 458:2003 NP-2 class of 250 mm internal diameter in proper line, level and slope including providing and fixing collars in cement mortar 1:2 and curing etc. complete.	Each	1,680.00	700.79	11,77,327.20
21.2	Supplying & laying (including excavation) reinforced cement concrete pipe of IS 458:2003 NP-2 class of 150 mm internal diameter in proper line, level and slope including providing and fixing collars in cement mortar 1:2 and curing etc. complete.	Mtrs.	850.00	623.04	5,29,584.00
21.3	Supplying and laying (including excavation of suitable width & depth up to 90 cm) 50 mm outside dia. double wall corrugated pipes (DWC) of HDPE for enclosing cable below ground/road surface, to required depth complete.	Mtrs.	2,500.00	229.95	5,74,875.00
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<b>22</b>	<b>METAL WORK (MISCELLENOUS)</b>				-

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
22.1	Supplying and erecting iron work, sheet metal work consisting of CRCA sheets, various sections of iron, plates, chequered plates, rods, bars, MS pipes, etc. for panel board or any other purpose with bending, cutting, drilling and welding complete erected at the position with necessary materials duly painted with one coat of red oxide and two coats of enamel paint to match the switchgears or as per directions by the authority.	kg	50.00	203.67	10,183.50
<b>TOTAL COST INFRA BOQ (A)</b>					<b>6,17,03,550.20</b>
<b>B</b>	<b>ATS Building</b>				
	1) Bidder should refer Drawings, SLDs, Specification and BOQ before quoting. Any discrepancy in documents shall be brought to notice of Consultant / Client before bidding. 2) Bidder shall be bound to the Quoted rates to complete the Job satisfactorily as per Tender without any extra cost implication. 3) Length of Cable, Cable trays, Hume pipe are measured on layout, Contractor shall ascertain the actual quantities required at site. 4) Liaisoning works, Load sanction, and necessary Approvals for the Electrical System Revamping and upgradation from MSEDCL/ PWD Electrical incharge / Local Authority shall be in Contractor's Scope.				
<b>1</b>	<b>BUS RISER &amp; ACCESSORIES</b>				
1.1	Supplying, installing by suspension on ceiling, testing and commissioning of following capacity Sandwich Type Rising Mains for use on 3 phase 4 wire 415 volts, 50Hz A.C. supply with metal clad enclosure having IP-54 rating after fixing the tap off boxes and all accessories, made of 1.6mm thick steel sheet duly powder coated in convenient sections complete with 4 Nos aluminium bus bars having current density of 130 A/ sq cm at nominal current rating, necessary joints, elbow joints & expansion joints and bends, fire barrier at each floor, provision of tapping at every metre, adopter box and copper flexible for joints, continuous earthing with 2 Nos aluminium strip of suitable size (one on each side) including, G.I. clamping brackets, suspenders, angle iron bracket, steel fasteners, connecting to earthing system etc. as required	RM	38.00	14642.80	556426.40
	400 A 25kA SC for 1 sec				
1.2	Supplying, installing, testing and commissioning of following capacity TPN tap off box / plug-in box made of 1.6mm thick sheet steel enclosure duly painted with powder coating on existing overhead bus bar system complete with TPN disconnecter FSU and HRC fuses, connections, earthing etc. as required.				
a	FP tap off unit with for 100A FP 25KA TMD MCCB	Each	16.00	8107.50	129720.00
b	Supplying, installing, testing and commissioning end cover for 400A four pole sandwich type bus riser	Each	16.00	31647.36	506357.76
	<b>LT PANELS</b>				
<b>2</b>	<b>ATS BUILDING LT PANEL</b>				
2.1	INCOMER: 1 No - 2500A FP EDO MP based ACB with RS 485 port, of fault breaking capacity 50 KA (Ics=Icu=100% upto 415 V) with R-Y-B & On/off/trip lamps, ammeter, voltmeter & multifunction meter 1 No. type 2 SPD BUSBAR: 2500A, 36kA FP Aluminium Busbar with heat shrinkable Sleeves with copper earth bus bar.  OUTGOING: (36kA Ics=Icu=100% upto 433V) with on/off/trip indication lamps.  1No : 2000 Amps 4P MP EDO ACB, 50kA with E/F protection & RS 485 port+ 1 No. spare 2No : 400 Amps 4P MP MCCB, 36kA with E/F protection & RS 485 port 2No : 160 Amps 4P TM MCCB, 36kA with O/C & SC protection E/F protection & RS 485 port (As per IEC 61439)	Nos	1.00	2925886.98	2925886.98
<b>3</b>	<b>ATS BUILDING EQUIPMENT PANEL</b>				

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
3.1	<p>INCOMER: 1 No - 2000A FP EDO MP based ACB with RS 485 port, of fault breaking capacity 50 KA (Ics=Icu=100% upto 415 V) with R-Y-B &amp; On/off/trip lamps, ammeter, voltmeter &amp; multifunction meter 1 No. type 2 SPD BUSBAR: 2000A, 36kA FP Aluminium Busbar with heat shrinkable Sleeves with copper earth bus bar.</p> <p>OUTGOING: (36kA Ics=Icu=100% upto 433V) with on/off/trip indication lamps.</p> <p>1No : 630 Amps 4P TM MCCB, 36kA with O/C &amp; SC protection+1 No. spare 1No : 500 Amps 4P MP MCCB, 36kA with O/C &amp; SC protection 1No : 315 Amps 4P MP MCCB, 36kA with O/C &amp; SC protection 1No : 250 Amps 4P MP MCCB, 36kA with O/C &amp; SC protection 1No : 100 Amps 4P MP MCCB, 36kA with O/C &amp; SC protection 2No : 32 Amps 4P MCB, 36kA with O/C &amp; SC protection 1No : 32 Amps TP MCB, 36kA with O/C &amp; SC protection (As per IEC 61439)</p>	Nos	1.00	1984513.71	1984513.71
<b>4</b>	<b>PIPING WORKSHOP PANEL</b>				
4.1	<p>INCOMER: 1 No - 500A FP TM MCCB with O/C, S/C protection, having fault breaking capacity 16KA (Ics=Icu=100% upto 415 V) with R-Y-B &amp; On/off/trip lamps, ammeter, voltmeter &amp; multifunction meter 1 Nos. type 2 SPD BUSBAR: 500A, 16kA FP Aluminium Busbar with heat shrinkable Sleeves with copper earth bus bar.</p> <p>OUTGOING: (16kA Ics=Icu=100% upto 433V) with on/off/trip indication lamps.</p> <p>12Nos : 32 Amps 4P TM MCCB, 16kA with O/C &amp; SC protection+2 No. spare 16Nos : 16 Amps 4P TM MCCB, 16kA with O/C &amp; SC protection 2Nos : 16 Amps 2P MCB, 16kA with O/C &amp; SC protection+1 No. spare (As per IEC 61439)</p>	Nos	1.00	2405742.83	2405742.83
<b>5</b>	<b>PLATER &amp; ASSEMBLY WORKSHOP PANEL</b>				
5.1	<p>INCOMER: 1 No - 630A FP TM MCCB with O/C, S/C protection, having fault breaking capacity 16 KA (Ics=Icu=100% upto 415 V) with R-Y-B &amp; On/off/trip lamps, ammeter, voltmeter &amp; multifunction meter 1 Nos. type 2 SPD BUSBAR: 630A, 16kA FP Aluminium Busbar with heat shrinkable Sleeves with copper earth bus bar.</p> <p>OUTGOING: (16kA Ics=Icu=100% upto 433V) with on/off/trip indication lamps.</p> <p>4Nos : 100Amps 4P TM MCCB, 16kA with O/C &amp; SC protection+1 No. spare 2Nos : 63 Amps 4P TM MCCB, 16kA with O/C &amp; SC protection 2Nos : 32 Amps 4P TM MCCB, 16kA with O/C &amp; SC protection 5Nos : 32 Amps 2P MCB, 16kA with O/C &amp; SC protection 7Nos : 16 Amps 2P MCB, 16kA with O/C &amp; SC protection+1 spare (As per IEC 61439)</p>	Nos	1.00	1507926.77	1507926.77
<b>6</b>	<b>FITTING WORKSHOP PANEL</b>				

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
6.1	<p>INCOMER: 1 No - 250A FP TM MCCB with O/C, S/C protection, having fault breaking capacity 16 KA (Ics=Icu=100% upto 415 V) with R-Y-B &amp; On/off/trip lamps, ammeter, voltmeter &amp; multifunction meter 1 Nos. type 2 SPD BUSBAR: 250A, 16kA FP Aluminium Busbar with heat shrinkable Sleeves with copper earth bus bar.</p> <p>OUTGOING: (16kA Ics=Icu=100% upto 433V) with on/off/trip indication lamps.</p> <p>4Nos : 63 Amps 4P TM MCCB, 16kA with O/C &amp; SC protection 2Nos : 32 Amps 2P MCB, 16kA with O/C &amp; SC protection 2Nos : 16 Amps 2P MCB, 16kA with O/C &amp; SC protection+1 No. spare (As per IEC 61439)</p>	Nos	1.00	673113.64	673113.64
<b>7</b>	<b>SHEET METAL WORKSHOP PANEL</b>				
7.1	<p>INCOMER: 1 No -315A FP TM MCCB with O/C, S/C protection, having fault breaking capacity 16 KA (Ics=Icu=100% upto 415 V) with R-Y-B &amp; On/off/trip lamps, ammeter, voltmeter &amp; multifunction meter 1 Nos. type 2 SPD BUSBAR: 315A, 16kA FP Aluminium Busbar with heat shrinkable Sleeves with copper earth bus bar.</p> <p>OUTGOING: (16kA Ics=Icu=100% upto 433V) with on/off/trip indication lamps.</p> <p>8Nos : 32 Amps 4P TM MCCB, 16kA with O/C &amp; SC protection+ 1 No. spare 7Nos : 16 Amps 4P TM MCCB, 16kA with O/C &amp; SC protection 2Nos : 16 Amps 2P TM MCCB, 16kA with O/C &amp; SC protection+1 No. spare (As per IEC 61439)</p>	Nos	1.00	1491128.18	1491128.18
<b>8</b>	<b>ELECTRICAL &amp; INSTRUMENT WORKSHOP PANEL</b>				
8.1	<p>INCOMER: 1 No -100A FP TM MCCB with O/C, S/C protection, having fault breaking capacity 16 KA (Ics=Icu=100% upto 415 V) with R-Y-B &amp; On/off/trip lamps, ammeter, voltmeter &amp; multifunction meter 1 Nos. type 2 SPD BUSBAR: 100A, 16kA FP Aluminium Busbar with heat shrinkable Sleeves with copper earth bus bar.</p> <p>OUTGOING: (16kA Ics=Icu=100% upto 433V) with on/off/trip indication lamps.</p> <p>1Nos : 63 Amps 4P TM MCCB, 16kA with O/C &amp; SC protection+ 1 No. spare 2Nos : 32 Amps 4P TM MCCB, 16kA with O/C &amp; SC protection 1Nos : 16 Amps 4P MCCB, 16kA with O/C &amp; SC protection 6Nos : 10 Amps 2P MCB, 16kA with O/C &amp; SC protection+1 No. spare (As per IEC 61439)</p>	Nos	1.00	764040.89	764040.89
<b>9</b>	<b>ATS BUILDING COMMON LOAD PANEL</b>				
9.1	<p>INCOMER:1 No - 200A FP TM MCCB with O/C, S/C protection, having fault breaking capacity 25 KA (Ics=Icu=100% upto 415 V) with R-Y-B &amp; On/off/trip lamps, ammeter, voltmeter &amp; multifunction meter 2 Nos. type 2 SPD</p> <p>BUSBAR: 160A, 25kA FP Aluminium Busbar with heat shrinkable Sleeves with copper earth bus bar.</p> <p>OUTGOING: (25kA Ics=Icu=100% upto 433V) with on/off/trip indication lamps.</p> <p>7No : 40 Amps TP MCB, 25kA with O/C &amp; SC protection+1 No. spare 1No : 32 Amps 4P MCB, 16kA with O/C &amp; SC protection (As per IEC 61439)</p>	Nos	1.00	221925.10	221925.10
<b>10</b>	<b>ATS BUILDING HVAC PANEL(outdoor type IP-65)</b>				

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
10.1	INCOMER: 1 No - 400A FP TM based MCCB of fault breaking capacity 25 KA (Ics=Icu=100% upto 415 V) with R-Y-B & On/off/trip lamps, ammeter, voltmeter & multifunction meter. BUSBAR: 400A, 25kA FP Aluminium Busbar with heat shrinkable Sleeves with copper earth bus bar. OUTGOING: (25kA Ics=Icu=100% upto 433V) with on/off/trip indication lamps. 12No : 40 Amps TP MCB, 25kA with O/C & SC protection+1 No. spare 3No : 32 Amps TP MCB, 25kA with O/C & SC protection+1 No. spare (As per IEC 61439)	Nos	1.00	707958.81	707958.81
<b>ISOLATORS FOR HVAC ODU</b>					
10.2	Supplying erecting and marking four pole isolators (IP66) only switch version of miniature circuit breakers of 40A in provided distribution board complete.	Nos	15.00	8065.60	120984.00
<b>DISTRIBUTION BOARDS</b>					
<b>11</b>	<b>UPS MAIN VTPN DISTRIBUTION BOARD (Ground floor)</b>				
11.1	Supplying & erecting triple pole and neutral distribution board (TPNDB), SP/TP MCBs total 12 ways /36 poles, with door, 1.2mm thickness surface/flush mounted, IP 43 Protection on iron/GI frame (vertical busbar type) as per specification no. SW-SWR/MCBDB	Nos	1.00	8388.64	8388.64
INCOMER					
11.2	Supplying, fixing and commissioning 4 pole RCBO 63A, with overcurrent, rated short-circuit breaking capacity (10 kA) and earth leakage protection, with 30/100/300 mA sensitivity and short circuit and earth leakage trip indication as per specification no SW-RCCB/RCBO	Nos	1.00	5109.18	5109.18
OUTGOING					
11.3	Supplying, erecting & marking FPMCB 6A to 32A, with rated short- circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	2.00	1159.58	2319.16
11.4	Supplying, erecting & marking SPMCB 6A to 32A, C-series with rated short circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	15.00	190.53	2857.95
11.5	Supplying, erecting & marking SPMCB 6A to 32A, B-series with rated short circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	15.00	189.43	2841.45
<b>12</b>	<b>12 WAY TPN LIGHTING &amp; POWER DISTRIBUTION BOARD (GROUND FLOOR)</b>				
12.1	Supplying & erecting triple pole and neutral distribution board (TPNDB), SPMCB of 12 ways /phase (36 poles), with door, 1.2mm thickness surface/flush mounted, IP 43 Protection on iron/GI frame (horizontal busbar type) as per specification no. SW-SWR/MCBDB	Nos	1.00	5046.76	5046.76
INCOMER					
12.2	Supplying, fixing and commissioning 4 pole RCBO 63A, with overcurrent, rated short-circuit breaking capacity (10 kA) and earth leakage protection, with 30/100/300 mA sensitivity and short circuit and earth leakage trip indication as per specification no SW-RCCB/RCBO	Nos	1.00	5109.18	5109.18
OUTGOING					

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
12.3	Supplying, erecting & marking SPMCB 6A to 32A, C-series with rated short circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	18.00	190.53	3429.54
12.4	Supplying, erecting & marking SPMCB 6A to 32A, B-series with rated short circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	18.00	189.43	3409.74
<b>13</b>	<b>12 WAY SPN UPS LIGHTING &amp; POWER DISTRIBUTION BOARD (PER FLOOR)</b>				
13.1	Supplying and erecting single pole and neutral distribution board (SPNDB), with 2 ways for incoming and 10 ways (10 poles) for outgoing SP MCBs, with door, 1.2mm thickness surface / flush mounted, IP 43 Protection on iron / GI frame as per specification no. SW-SWR/MCBDB	Nos	7.00	1637.00	11459.00
	INCOMER				
13.2	Supplying, fixing and commissioning 2 pole, RCBO 6/10/16/20/25A, with overcurrent, rated short-circuit breaking capacity (10 kA) and earth leakage protection, with 30/100/300 mA sensitivity and short circuit and earth leakage trip indication as per specification no SW-RCCB/RCBO	Nos	7.00	3269.61	22887.27
	OUTGOING				
13.3	Supplying, erecting & marking SPMCB 6A to 32A, C-series with rated short circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	5.00	190.53	952.65
13.4	Supplying, erecting & marking SPMCB 6A to 32A, B-series with rated short circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	5.00	189.43	947.15
<b>14</b>	<b>8 WAY VTPN POWER DISTRIBUTION BOARD (PER FLOOR)</b>				
14.1	Supplying & erecting triple pole and neutral distribution board (TPNDB), 3 pole/4 pole MCCB as incomer & outgoing SP MCB (24 poles) or TP MCB of 8 ways (24 poles), with door, 1.2mm thickness, surface/flush mounted, on iron/GI frame (vertical busbar type) as per specification no. SW-SWR/MCBDB1	Nos	8.00	8530.99	68247.92
	INCOMER				
14.2	Providing & erecting 4 Pole MCCB, 415 V, 100A, rated short-circuit breaking capacity 25 kA (Ics=100% of Icu), adjustable thermal (overload) setting and fixed magnetic setting with provided leads, provision for installation of shunt/UV/trip alarm contact. MCCB with phase barriers on both sides, insulation withstand capacity 800V, no line-load bias in provided enclosure/panel as per specification no. SW-SWR/MCCB	Nos	8.00	6975.90	55807.20
	OUTGOING				
14.3	Supplying, erecting & marking TPMCB 40A to 63A, with rated short- circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	32.00	1086.22	34759.04
14.4	Supplying, erecting & marking SPMCB 6A to 32A, C-series with rated short circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	48.00	190.53	9145.44

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
14.5	Supplying, erecting & marking SPMCB 6A to 32A, B-series with rated short circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	48.00	189.43	9092.64
<b>15</b>	<b>12 WAY VTPN POWER DISTRIBUTION BOARD (AT ALL WORKSHOPS)</b>				
15.1	Supplying & erecting triple pole and neutral distribution board (TPNDB), SP/TP MCBs total 12 ways /36 poles, with door, 1.2mm thickness surface/flush mounted, IP 43 Protection on iron/GI frame (vertical busbar type) as per specification no. SW-SWR/MCBDB	Nos	8.00	8388.64	67109.12
	INCOMER				
15.2	Supplying and erecting blanking plate of suitable size on MCBDB.	Nos	8.00	16.42	131.36
	OUTGOING				
15.3	Supplying, erecting & marking TPMCB 40A to 63A, with rated short- circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	8.00	1086.22	8689.76
15.4	Supplying, erecting & marking SPMCB 6A to 32A, C-series with rated short circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	120.00	190.53	22863.60
15.5	Supplying, erecting & marking SPMCB 6A to 32A, B-series with rated short circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	120.00	189.43	22731.60
<b>16</b>	<b>12 WAY TPN LIGHTING &amp; POWER DISTRIBUTION BOARD (@GROUND FLOOR)</b>				
16.1	Supplying & erecting triple pole and neutral distribution board (TPNDB), SPMCB of 12 ways /phase (36 poles), with door, 1.2mm thickness surface/flush mounted, IP 43 Protection on iron/GI frame (horizontal busbar type) as per specification no. SW-SWR/MCBDB	Nos	1.00	5046.76	5046.76
	INCOMER				
16.2	Supplying, erecting & marking FPMCB 40A to 63A, with rated short- circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	1.00	1455.23	1455.23
	SUB- INCOMER				
16.3	Supplying, erecting & commissioning 2 pole RCCB 40A, electromagnetic type with 30/100/300 mA sensitivity with earth leakage trip indication complete as per specification no. SW-RCCB/RCCB	Nos	1.00	2416.62	2416.62
	OUTGOING				
16.4	Supplying, erecting & marking SPMCB 6A to 32A, C-series with rated short circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	15.00	190.53	2857.95
16.5	Supplying, erecting & marking SPMCB 6A to 32A, B-series with rated short circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	15.00	189.43	2841.45
<b>17</b>	<b>12 WAY VTPN POWER DISTRIBUTION BOARD (AT ALL WORKSHOPS)</b>				

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
17.1	Supplying & erecting triple pole and neutral distribution board (TPNDB), SP/TP MCBs total 12 ways /36 poles, with door, 1.2mm thickness surface/flush mounted, IP 43 Protection on iron/GI frame (vertical busbar type) as per specification no. SW-SWR/MCBDB	Nos	8.00	8388.64	67109.12
	INCOMER				
17.2	Supplying, fixing and commissioning 4 pole RCBO 63A, with overcurrent, rated short-circuit breaking capacity (10 kA) and earth leakage protection	Nos	8.00	5109.18	40873.44
	OUTGOING				
17.3	Supplying, erecting & marking TPMCB 40A to 63A, with rated short- circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	8.00	1086.22	8689.76
17.4	Supplying, erecting & marking SPMCB 6A to 32A, C-series with rated short circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	120.00	190.53	22863.60
17.5	Supplying, erecting & marking SPMCB 6A to 32A, B-series with rated short circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	120.00	189.43	22731.60
<b>18</b>	<b>8 WAY TPN LIGHTING &amp; POWER DISTRIBUTION BOARD (@ALL FLOOR)</b>				
18.1	Supplying & erecting triple pole and neutral distribution board (TPNDB), SPMCB of 8 ways / phase (24 poles), with door, 1.2mm thickness surface/ flush mounted, IP 43 Protection on iron/GI frame (horizontal busbar type) as per specification no. SW-SWR/MCBDB	Nos	19.00	3701.03	70319.57
	INCOMER				
18.2	Supplying, erecting & marking FPMCB 6A to 32A, with rated short- circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	19.00	1159.58	22032.02
	SUB- INCOMER				
18.3	Supplying, erecting & commissioning 2 pole RCCB 40A, electromagnetic type with 30/100/300 mA sensitivity with earth leakage trip indication complete as per specification no. SW-RCCB/RCCB	Nos	57.00	2416.62	137747.34
	OUTGOING				
18.4	Supplying, erecting & marking SPMCB 6A to 32A, C-series with rated short circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	171.00	190.53	32580.63
18.5	Supplying, erecting & marking SPMCB 6A to 32A, B-series with rated short circuit breaking capacity (Icn) 10kA in provided distribution board as per specification no. SW-SWR/MCB	Nos	171.00	189.43	32392.53
<b>19</b>	<b>POINT WIRING &amp; PVC CONDUIT</b>				
	Note for point wiring-				
	1. Point wiring shall include all necessary "HMS rigid PVC CONDUIT", with all fittings , accessories , couplings,collars etc., junction / pull / inspection boxes, wires, supports,bushings lamp holders, ceiling rose, flexible conduit, fan hooks wherever required, modular switch, switch box, Fan electronic regulator & terminations using tinned copper lugs of crimping type. The scope of sub mains wiring from DB to room switch board and room switch boards are excluded.				

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
	2. All lighting fixture wiring shall be carried out for primary point using 1.5sqmm copper stranded & for secondary wiring 1.5sqmm copper stranded conductor 660/1100V grade PVC insulated wire in "PVC Conduit". Individual junction/inspection boxes shall be provided for each lighting fitting for the purpose of looping from fitting to fitting.				
	3. From switch board/DB to first light fitting will be termed as primary point and First fitting to subsequent fitting on the same circuit shall be as termed secondary point. Light point wiring shall excluded submains wiring from D.B. to room switch board and switch board to switch board. The scope of light point wiring starts after switch board/DB where switching control is directly from DB.				
	4. Point wiring for light/fan/bell concealed type in min 20 mm ISI marked HMS PVC conduit with 1.5 sq.mm. (2+1E) FR grade copper wires, modular type switch, earthing and required accessories as per specification				
	5. Earth Wire of minimum 1.5 sq mm Shall be terminated in each point				
	6. Point wiring starts from Main board/Intermediate switch board and suitable circuit mains are to be provided from D.B. to first board and between boards.				
	7. For concealed type wiring multistrand wires shall be used preferably.				
	8. Earth Wire of minimum 1.5 sq mm Shall be terminated in each point				
19.1	Point wiring for light/bell concealed type in min 20 mm FRLS grade HMS PVC conduit with 1.5 sq.mm. (2+1E) FRLSH grade copper wires, modular type switch, earthing and required accessories as per specification No: WG PW/CW	Point	590.00	785.10	463209.00
19.2	Secondary point wiring for additional light/ bell point, concealed type in min 20 mm FRLS grade PVC conduit with 1.5 sq.mm. (2+1E) FRLSH grade copper wires with required accessories as per specification No: WG-PW/CW	Point	361.00	223.38	80640.18
	Note for wiring-				
	1) Double the rate of two wire bunch for calculating rate of four wire bunch up to 10 sq. Mm				
	2) Continuous running earth wire should be provided of min. 1.5 sq. mm. up to phase wire of 2.5 sq. mm. and further earth wire of half of the size of phase wire is to be used only for light & power load .				
	3) Rates for the earth wire shall be calculated as one half rate of mains of bunch of two wire.				
	Earth wire should be of green colour.				
	4) For all types of wiring stranded copper wires shall be invariably used.				
	5) For FRLS wire subtract 2% from total rate of FRLSH wire.				
	5) Earth wire should be of green colour.				
	6) For all types of wiring stranded copper wires shall be invariably used.				
	7) Earth wire should be of green colour.				
	8) For all types of wiring stranded copper wires shall be invariably used.				

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
19.3	Supplying and erecting main swith 3x6sq.mm FRLSH copper PVC insulated wire laid in provided conduit/trunking/insidepole/ Busbar or any other places as per specification No: WG-MA/BW	Mtrs	930.00	214.62	199596.60
19.4	Supplying and erecting main swith 2x4 sq.mm FRLSH copper PVC insulated wire laid in provided conduit/trunking/insidepole/ Busbars or any other places. as per specification No: WG-MA/BW	Mtrs	1,860.00	97.45	181257.00
19.5	Supplying and erecting mains with 2x1.5 sq.mmFRLSH copper PVC insulatedwire laid in provided conduit/trunking/insidepole/ Busbarsor any other places as per specification No: WG-MA/BW	Mtrs	13,150.00	43.80	575970.00
19.6	Supplying and erecting mains with 2x2.5 sq.mm FRLSHcopper PVC insulatedwire laid in provided conduit/trunking/insidepole/Busbarsor any other places. as per specification No: WG-MA/BW	Mtrs	13,150.00	67.89	892753.50
19.7	Supplying and erecting HMS PVC conduit FRL Sgrade 25mmdia.with PVC accessories on wall /ceiling as per specification No: WG-MA/CON.	Mtrs	4,224.00	105.12	444026.88
19.8	Supplying and erecting HMS PVC conduit FRLS grade 20mm dia.with PVC accessories on wall / ceiling as per specification No: WG-MA/CON.	Mtrs	1,760.00	89.79	158030.40
19.9	Supplying and erecting rigid steel conduit16SWG 25mm dia.with necessary accessories inwall/floor with chiselling appropriately asper specification No: WG-MA/CC.	Mtrs	2,645.00	262.80	695106.00
19.10	Supplying and erecting 20mm dia. corrugated flexible polypropylene conduit	Mtrs	100.00	17.52	1752.00
19.11	Supplying and erecting HMS PVC conduit FRLS grade 25mm dia.with necessary accessories in wall/floor with chiselling appropriately as per specification No: WG-MA/CC.	Mtrs	1,300.00	139.06	180778.00
19.12	Supplying and erecting HMS PVC conduit FRLS grade 20mmdia. with necessary accessories in wall/floor with chiselling appropriately as per specification No: WG-MA/CC.	Mtrs	600.00	123.73	74238.00
<b>20</b>	<b>SWICH SOCKETS/BLANK PLATES/BACK BOXES</b>				
20.1	Supplying and erecting modular type switch 6A/10A duly erected on provided plate and box with wiring connections complete.	Nos	411.00	78.84	32403.24
20.2	Supplying and erecting modular type switch16A duly erected on provided plate and box with wiring connections complete.	Nos	92.00	116.07	10678.44
20.3	Supplying and erecting modular type 3pin 6 A multi socket with safety shutter, duly erected on provided plate and box withwiring connections complete.	Nos	411.00	122.64	50405.04
20.4	Supplying and erecting modular type 3pin6/16 A multi socket with safety shutter, duly erected on provided plate and box withwiring connections complete.	Nos	92.00	175.20	16118.40
20.5	Supplying & erecting CRCA sheet metal enclosures of 1.2mm thickness with 20A, 2 pin plug & earth socket and 20A, 3 pin plug top with 20A/30A single pole MCB having rated short- circuit breaking capacity (Icn) 10kA complete erected on angle iron/ GI frame.	Nos	31.00	902.26	27970.06
20.6	Supplying and fixing 30 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 30 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	Nos	31.00	3712.46	115086.26

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
20.7	Supplying and erecting modular type (two module) electronic step regulator for fan, duly erected on provided plate and box with wiring connections complete.	Nos	155.00	418.28	64833.40
20.8	Supplying and erecting modular type telephone socket one gang with safety shutter, duly erected on provided plate and box with wiring connections complete.	Nos	42.00	105.12	4415.04
20.9	Supplying and erecting modular type computer Jack RJ45 with safety shutter, duly erected on provided plate and box with wiring connections complete.	Nos	105.00	142.35	14946.75
20.10	Supplying and erecting modular type T.V.socket single outlet, duly erected on provided plate and box with wiring connections complete.	Nos	4.00	104.02	416.08
20.11	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 2 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background.	Nos	205.00	241.99	49607.95
20.12	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 3 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background.	Nos	18.00	273.75	4927.50
20.13	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 4 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background.	Nos	29.00	303.31	8795.99
20.14	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 6 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background.	Nos	12.00	366.82	4401.84
20.15	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 8 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background.	Nos	3.00	456.61	1369.83
20.16	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 12 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background.	Nos	78.00	572.67	44668.26
<b>21</b>	<b>L.T. CABLES</b>				
21.1	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 3½core 400 sq. mm. aluminium conductor complete erected with glands & lugs, on wall/trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Mtrs	180.00	2234.85	402273.00

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
21.2	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 3½ core 300 sq. mm. aluminium conductor complete erected with glands & lugs, on wall/trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Mtrs	84.00	1791.39	150476.76
21.3	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 3½core 240 sq. mm. aluminium conductor complete erected with glands & lugs, on wall/trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Mtrs	36.00	1499.03	53965.08
21.4	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 3½ core 185 sq. mm. aluminium conductor complete erected with glands & lugs, on wall/trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Mtrs	216.00	1196.81	258510.96
21.5	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 3½ core 150 sq. mm. aluminium conductor complete erected with glands & lugs, on wall/trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Mtrs	36.00	977.82	35201.52
21.6	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 3½ core 120 sq. mm. aluminium conductor complete erected with glands & lugs, on wall/trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Mtrs	114.00	825.61	94119.54
21.7	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 3½ core 70 sq. mm. aluminium conductor complete erected with glands & lugs, on wall/trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Mtrs	24.00	540.92	12982.08
21.8	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 3½ core 50 sq. mm. aluminium conductor complete erected with glands & lugs, on wall/trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Mtrs	144.00	417.19	60075.36
21.9	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 3½ core 35 sq. mm. aluminium conductor complete erected with glands & lugs, on wall/trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Mtrs	24.00	320.83	7699.92
21.10	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 3½ core 25 sq. mm. aluminium conductor complete erected with glands & lugs, on wall/trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Mtrs	648.00	264.99	171713.52

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
21.11	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 4 core 6 sq. mm. copper conductor complete erected with glands & lugs, on wall/trusses/ pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	Mtrs	1,644.00	433.61	712854.84
21.12	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 4 core 4 sq. mm. copper conductor complete erected with glands & lugs, on wall/trusses/ pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	Mtrs	228.00	325.21	74147.88
21.13	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 3 core 4 sq. mm. copper conductor complete erected with glands & lugs, on wall/trusses/ pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	Mtrs	528.00	264.99	139914.72
<b>22</b>	<b>LIGHT FIXTURES &amp; ACCESSORIES</b>				
	System efficacy shall not be less than 90 lumens/watt,				
	CRI shall be more than 80.				
	Total harmonic distortion voltage and current shall be less than 10%				
	Operating voltage range shall be in range of 160V to 270V				
	Power Factor of Luminaire shall be more than 0.95				
	Luminaire shall conform to respective IS.				
	Luminaire shall withstand surge protection upto 2 kV				
	Luminaire shall carry minimum three years warrantee.				
	Correlated Colour Temperature (CCT) shall be required between 2700K-6500K.				
22.1	Supplying & erecting ready to use Retrofit T8 LED18/20 tube light with polycarbonate body, heat sink, integrated HF electronic driver complete & compatible to T8 /T12 LED luminaire by disconnecting starter & ballast if necessary.	Nos	63.00	686.55	43252.65
22.2	Supplying and erecting LED square / circular Max. 11 W down lighter/Panel Light having pressure die-cast aluminium housing, polystyrene diffuser having system lumens output of Min. 1200 Lumens, min. efficacy of 110 lumen/W, CRI>80, CCT upto 6500K, Beam Angle of 120 deg., max. ripple of 5%, THD<10%, p.f. >0.95, operating range of 120-270V, surge protection of 2.5 kV, Life class of 50,000 Hrs. at L70B50, including driver, having mounting arrangement with board for surface type or spring loaded mounting clips complete with 3 years warranty.	Nos	129.00	871.60	112436.40

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
22.3	Supplying and erecting LED square / circular Max. 18 W down lighter/ Panel Light having pressure die-cast aluminium housing, polystyrene diffuser having system lumens output of Min. 2000 Lumens, min. efficacy of 110 lumen/W, CRI>80, CCT upto 6500K, Beam Angle of 120 deg., max. ripple of 5%, THD<10%, p.f. >0.95, operating range of 120-270V, surge protection of 2.5 kV, Life class of 50,000 Hrs. at L70B50, including driver, having mounting arrangement with board for surface type or spring loaded mounting clips complete with 3 years warranty.	Nos	388.00	1678.60	651296.80
22.4	Supplying and erecting integrated LED flood light fitting Max. 30W IP65 & IK07 class having pressure die-cast aluminium housing, having system lumens output of Min. 3000 Lumens, min. efficacy of 100 lumen/W, CRI>70, CCT upto 6500K, THD<10%, p.f. >0.90, operating range of 140-270V, inbuilt surge protection of 4 kV, Life class of 50,000 Hrs. at L70B50, including driver with U shaped bracket with 3 Years warranty as per specification No FG-ODF/FLS2.	Nos	20.00	2897.32	57946.40
22.5	Supplying and erecting integrated LED street light fitting 130-140W IP65 & IK08 class having single piece pressure die-cast aluminium housing, having system lumens output of Min. 15600 Lumens, min. efficacy of 120 lumen/W, CRI>70, CCT upto 6500K, THD<10%, p.f. >0.95, operating range of 140-270V, inbuilt surge protection of 10 kV, Life class of 50,000 Hrs. at L70B50, including driver complete with 3 Years warranty as per specification No FG-ODF/FLS2.	Nos	172.00	12481.68	2146848.96
22.6	Supplying and erecting highbay LED fitting IP 65 with lamp200WPF >0.95 duly connected complete with accessories as per.	Nos	49.00	12760.97	625287.53
22.7	Supplying and erecting bulkhead fitting suitable for upto LED upto 12W fixed on wall. As per specification no. FG-IDF/BHF	Nos	65.00	243.09	15800.85
22.8	Supplying & erecting 10-12W, 230V integral type LED Lamp suitable for B-22/E-27 base.	Nos	65.00	251.85	16370.25
22.9	Supplying and erecting double suspension heavy duty lacquered iron chain with hooks for erecting fluo. tube light fitting (for erecting various fixtures like FTL, LED, etc) with necessary shielded copper flexible wire three core of 1 sq mm for connecting leads. (for measurements half of the actual length used)	Mtrs	221.00	53.65	11856.65
<b>23</b>	<b>FANS/ EXHAST FAN</b>				
23.1	Supplying and erecting energy saving ceiling fan 230 V A.C. 50 cycles 1200 mm complete erected in position as per specification no. FG-FN/CF	Nos	70.00	2624.67	183726.90
23.2	Supplying and erecting regular/standard model ceiling fan of 900/1050mm. sweep complete erected in position as per specification no. FG-FN/CF	Nos	35.00	2290.70	80174.50
23.3	Supplying and erecting regular/standard model ceiling fan of 1400mm. sweep complete erected in position as per specification no. FG-FN/CF	Nos	50.00	2491.08	124554.00

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
23.4	Supplying and erecting fan clamp of 30 x 5 mm. M.S. flat of required length and 10 mm. M.S. bolt and nuts erected with necessary hook of 10 mm. M.S. round bar and painted.	Nos	155.00	213.52	33095.60
23.5	Supplying and erecting 'B' class G.I. pipe / M.S. pipe down rod duly painted for fan complete erected with PVC three core flexible cable 1 sq. mm copper PVC wire.	Mtrs	155.00	250.75	38866.25
23.6	Supplying and erecting air circulator 600 mm. sweep oscillating type, wall mounting 1440 RPM without speed regulator, overheat protection unit, totally enclosed, flame proof motor suitable for 230/250 volts single phase, 50 cycles A.C. supply, core lead wire and with moisture proof treatment to winding and with 'E' class insulation.	Nos	104.00	7571.79	787466.16
23.7	Supplying and erecting exhaust fan medium duty 230 V A.C. 50 cycles 225 mm. 1400 RPM with condenser complete erected in position with necessary materials. Fan motor with moisture proof treatment and 'E' class insulation.	Nos	109.00	2225.00	242525.00
<b>24</b>	<b>EARTHING</b>				
24.1	Providing earthing with copper earth plate size 60 x 60 x 0.315 cm with funnel with a wire mesh for watering and brick masonry block C.I. cover with minimum 25 kg Carbon based environment friendly back fill Ground Enhancing compound complete with all materials, testing & recording the results as per specification no ESE -LA	Nos	1.00	17228.42	17228.42
24.2	Supplying and erecting copper strip of high purity required size used for earthing on wall and/or any other purpose with necessary copper clamps fixed on wall painted with bituminous paint with joints required. As per specification no. EA EP.	Kg	21.00	966.87	20304.27
24.3	Providing earthing with galvanized iron earth plate size 60 x 60 x 0.6 cm complete with all materials, testing & recording the results as per specification no. EA-EP	Nos	15.00	5161.74	77426.10
24.4	Supplying and erecting GI strip of high purity required size used for earthing on wall and/or any other purpose with necessary GI clamps fixed on wall painted with bituminous paint with joints required. As per specification no EA-EP.	Kg	315.00	243.09	76573.35
24.5	Supplying and erecting GI wire of high purity of required sizes used for earthing or any other purposes on wall with necessary G. I. Clamps fixed on wall/cable/ conduit with screws complete.	Kg	60.00	168.12	10087.20
<b>25</b>	<b>CABLE TRAY/ RACEWAYS</b>				
25.1	Providing & erecting hot dipped galvanised ladder type cable tray manufactured from 16 SWG (1.6 mm thick) GI sheet of 150 mm width & 75 mm height complete with necessary coupler plates & hardware.	Mtrs.	528.00	672.32	354984.96
25.2	Providing & erecting hot dipped galvanised ladder type cable tray manufactured from 16 SWG (1.6 mm thick) GI sheet of 300 mm width & 100 mm height comprising all required standard accessories.	Mtrs.	198.00	935.11	185151.78

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
25.3	Providing & erecting hot dipped galvanised ladder type cable tray manufactured from 16 SWG (1.6 mm thick) GI sheet of 150 mm width & 100 mm height comprising all required standard accessories.	Mtrs.	163.00	839.85	136895.55
25.4	Providing & erecting hot dipped galvanised ladder type cable tray manufactured from 16 SWG (1.6 mm thick) GI sheet of 400 mm width & 100 mm height comprising all required standard accessories.	Mtrs.	39.00	996.43	38860.77
25.5	Supplying and erecting PVC box trunking of size 100x50mm. with accessories on wall/ceiling as per specification No: WG-MA/BOX .	Mtrs.	200.00	588.00	117600.00
25.6	Providing & erecting GI 100x38 mm raceway with all required accessories	Mtrs.	200.00	845.88	169176.00
25.7	Providing & erecting GI 150x150 mm junction box	Each	60.00	1311.01	78660.60
<b>26</b>	<b>LIGHTNING ARRESTOR</b>				
26.1	Supplying & erecting conventional spike type air termination suitable to carry lightning stroke made up of heavy gauge 40 mm dia copper pipe of standard length with 5 Nos. copper spikes fixed on copper ball as air terminals duly threaded in copper pipe erected on provided foundation complete.	Mtrs.	9.00	6656.38	59907.42
26.2	Providing and back filling ground enhancing compound 25 kg bag complete.	Each	9.00	1359.97	12239.73
<b>27</b>	<b>84KWp ON GRID SOLAR ROOFTOP SYSTEM</b>				
27.1	Supplying, installing, testing and commissioning of 10 kWp ON-GRID Solar PV System / Plant consisting Solar PV Poly Crystalline Panel (335 Wp X 30 Nos.) and Solar ON-GRID Inverter of similar capacity (THD<3%) with interconnecting wires / cables up to solar ON GRID inverter, proper base plate, canopy box to house Inverter and necessary accessories i.e. ACDB/ DCDB , MCB etc. wiring up to solar Inverter in casing and capping, display board, sign board, two distinct earthing, lightning arrester, liaisoning charges, remote monitoring system with maintaining card/chip for 5 years including net charges for RMS System, complete up to net meter installation and export to the grid with 5 year ON-SITE warranty and fully comprehensive maintenance contract as per Specification no. ESD-RT-ONG	Job	1.00	4783320.49	4783320.49
<b>28</b>	<b>UPS/ BATTERIES &amp; ACC.</b>				
28.1	Supplying & erecting on line UPS pure sine wave of 30 kVA 3 phase input & 3 phase output capacity complete with 12 V/100Ah SMF battery with battery terminal wire, duly charged complete with 24 months warranty complete standard features, Fabricated & Powder coated Racks in black shade to house Batteries, Battery Link set & UPS to Battery cable up to 5 Meter..	Nos	1.00	618271.07	618271.07
<b>29</b>	<b>Telephone</b>				
29.1	Supplying, erecting & commissioning MDF Box 100x100 pairs made from min. 1.5mm thick MS sheet as per specification no. WG-TW	Each	1.00	3890.46	3890.46
29.2	Supplying and installing, testing & commissioning of digital (hybrid) type EPABX of 6 x 32 extensions suitable upto 96 extensions complete	Each	1.00	135526.77	135526.77

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
29.3	Supplying & erecting 100 pair telephone copper cable 0.5 mm dia. with high density polyethylene insulation, polyester taped, Nylon Rip Cord & grey colour sheathed with FR PVC, conforming to ITD specification S/WS 113C laid in provided PVC casing capping/conduit as per specification No. WG-TW	Mtrs.	100.00	722.69	72269.00
29.4	Supplying, installing, testing & commissioning push button telephone instrument desk top/wall mount with caller ID&Speaker unit as per specification complete.	Each	42.00	1087.32	45667.44
29.5	Supplying, erecting & commissioning 20 pairs FR junction box with moulded plastic enclosure as per specification no. WG-TW	Each	1.00	937.30	937.30
29.6	Supplying, erecting & commissioning 30 pairs FR junction box with moulded plastic enclosure as per specification no. WG-TW	Each	1.00	1257.04	1257.04
29.7	Supplying & erecting 20 pair telephone copper cable 0.5 mm dia. with high density polyethylene insulation, polyester taped, Nylon Rip Cord & grey colour sheathed with FR PVC, conforming to ITD specification S/WS 113C laid in provided PVC casing capping/conduit as per specification No. WG-TW	Mtrs.	10.00	155.49	1554.90
29.8	Supplying & erecting 50 pair telephone copper cable 0.5 mm dia. with high density polyethylene insulation, polyester taped, Nylon Rip Cord & grey colour sheathed with FR PVC, conforming to ITD specification S/WS 113C laid in provided PVC casing capping/conduit as per specification No. WG-TW	Mtrs.	30.00	369.01	11070.30
29.9	Supplying & erecting 2 pair telephone copper cable 0.5 mm dia. with high density polyethylene insulation, polyester taped, Nylon Rip Cord & grey colour sheathed with FR PVC, conforming to ITD specification S/WS 113C laid in provided PVC casing capping/conduit as per specification No. WG-TW	Mtrs.	2,000.00	25.18	50360.00
<b>30</b>	<b>TV</b>				
30.1	Supplying & erecting co-axial copper cable low voltage grade tri-shielded RG 11 as per specification No. WG-TW	Mtrs.	40.00	76.65	3066.00
30.2	Supplying & erecting co-axial copper cable low voltage grade tri-shielded RG 6 as per specification No. WG-TW	Mtrs.	175.00	51.46	9005.50
30.3	Supplying, Installation, Testing & Commissioning of 4 -Way Coax Cable Splitter unit	Each	1.00	696.82	696.82
<b>31</b>	<b>DATA System</b>				
31.1	Supplying and installing enhanced cat-6 LSZH cable with 4-connector channel Performance test report as per ANSI/TIA-568.2-D suitable for networking complete as per specification.	Mtrs.	5,250.00	84.31	442627.50
31.2	Supplying and fixing 1 m UTP patch cord of Cat 6 type in position as per specification No. WG-COC/PC	Each	105.00	255.13	26788.65
31.3	Supplying and fixing 3m UTP patchcord of Cat 6 type in position as per specification No. WG-COC/PC	Each	105.00	366.82	38516.10
31.4	Supplying, fixing, and configuring 24 ports with 4 (SFP+) port, ethernet managed switch with web view/CLI, 6KV surge protection on ethernet port and console port for management in provided rack as per specification no. WG NWC/GBS	Each	6.00	44514.22	267085.32
31.5	Supplying and fixing 24 port patch panel with tool-less keystone jacks in provided U Rack complete as per specification no. WG-NAS/PP	Each	6.00	11624.31	69745.86

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
31.6	Supplying and fixing 6U wall mount rack (Dimension-DxWxH-500x600x367 mm) as per specification No. WG-NAS/RAK	Each	4.00	9114.61	36458.44
31.7	Supplying and fixing 36U floor mount server rack (Dimension-DxWxH 800x600x1600 mm) as per specification No. WG-NAS/RAK	Each	1.00	65892.61	65892.61
31.8	Supplying and fixing manageable wireless 2x2 Mesh Router, 50 m range, dual band 802.11 n/ac unified wireless access point complete as per specification no. WG-NAS/LAP1	Each	8.00	28386.26	227090.08
<b>32</b>	<b>SITC of CCTV SYSTEM</b>				
32.1	2MP IR Indoor Dome Fixed Camera -1/2.8"Progressive Scan CMOS, 1920 × 1080 at 25fps, 2.8mm Fixed lens, 0.01 Lux at F1.2, ICR, ONVIF (PROFILE S, PROFILE G), support H.265, H.264, MJPEG, 120db WDR, 3D Digital Noise Reduction, Three individually configurable stream, 12 VDC & PoE, Alarm & Audio : 1 input & output, IR range: 40m, Support on-board storage up to 128 GB (SD card not included), IP67, IK10, Edge Analytics-Line crossing detection, Intrusion detection, Motion detection, Scene change detection, Face Detection, Audio exception detection, video tampering, UL, CE, FCC certified.	Nos	72.00	47322.15	3407194.80
32.2	2MP IR Bullet Fixed Camera: 1/2.8"Progressive Scan CMOS, 1920 × 1080 at 25fps, 2.8 mm Fixed lens, 0.01 Lux at F1.2, 0 Lux with IR, ICR, ONVIF (PROFILE S, PROFILE G), support H.265, H.264, MJPEG, 120db WDR, 3D Digital Noise Reduction, Three individually configurable stream, 12 VDC & PoE, IR range: 40m, Support on-board storage up to 128 GB (SD card not included), IP67, Edge Analytics- Line crossing detection, Intrusion detection, Motion detection, Scene change detection, Face Detection, Video tampering, UL, CE, FCC certified.	Nos	6.00	85321.74	511930.44
32.3	64ch Network Video Recorder-Connect Up to 64 IP Cameras, Dual OS, Up to 12 Megapixels Resolution, Two independent HDMI & Two VGA outputs, Atleast one HDMI output of 4K resolution, atleast 1 VGA output with output upto 1920 × 1080, Support H.265, MJPEG, Supports N+1 hot spare system, Supports RAID0, RAID1, RAID5, RAID6 and RAID10, Supports HDD hot swap, Supports Dual Power-Redundant, Incoming Bandwidth 320 Mbps, 8 SATA Hard Disks, ANR Technology, 8 SATA interfaces for 8 HDDs and capacity of each HDD upto 8TB, 3 × USB at least 1 × USB with 3.0, Alarm I/O 16/4, RS-485, RS-232, 2 RJ-45 10 /100/1000 Mbps self-adaptive Ethernet interface, Multiple network monitoring: Web viewer, CE, FCC, UL certified.	Nos	2.00	475361.39	950722.78
32.4	32ch Network Video Recorder-Connect Up to 32 IP Cameras, Dual OS, Up to 12 Megapixels Resolution, Two independent HDMI & Two VGA outputs, Atleast one HDMI output of 4K resolution, atleast 1 VGA output with output upto 1920 × 1080, Support H.265, MJPEG, Supports N+1 hot spare system, Supports RAID0, RAID1, RAID5, RAID6 and RAID10, Supports HDD hot swap, Supports Dual Power-Redundant, Incoming Bandwidth 320 Mbps, 8 SATA Hard Disks, ANR Technology, 8 SATA interfaces for 8 HDDs and capacity of each HDD upto 8TB, 3 × USB at least 1 × USB with 3.0, Alarm I/O 16/4, RS-485, RS-232, 2 RJ-45 10 /100/1000 Mbps self-adaptive Ethernet interface, Multiple network monitoring: Web viewer, CE, FCC, UL certified.	Nos	2.00	438078.58	876157.16
32.5	6 TB Hard disk	Nos	10.00	39549.85	395498.50
32.6	32" LCD Monitor	Nos	1.00	93695.59	93695.59
32.7	Supplying, fixing, and configuring 24 ports, POE switch in provided rack as per specification No. WG-NWC/ENS	Nos	8.00	56991.52	455932.16
32.8	Supplying and installing cat-6 LSZH cable suitable for networking as per specification no. WG-COC/NC	Mtrs	2,900.00	72.27	209583.00

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
<b>33</b>	<b>METAL WORK (MISCELLENOUS)</b>				
33.1	Supplying and erecting iron work, sheet metal work consisting of CRCA sheets, various sections of iron, plates, chequered plates, rods, bars, MS pipes, etc. for panel board or any other purpose with bending, cutting, drilling and welding complete erected at the position with necessary materials duly painted with one coat of red oxide and two coats of enamel paint to match the switchgears or as per directions by the authority.	kg	200.00	203.67	40734.00
33.2	Supplying and erecting insect repellent having coverage area around 1000 sq.ft.	Nos	3.00	15153.11	45459.33
<b>34</b>	<b>Addressable Fire Detection and Alarm System</b>				
1	Supply, Installation, testing & commissioning of Intelligent Analogue Addressable optical smoke Detector complete confirming to as per specifications.	Nos	258	5303.74	1368364.92
2	Supply, Installation, testing & commissioning of Analogue addressable type Heat Detector complete confirming to as per specification.	Nos	5	5060.82	25304.10
3	Supply, Installation, testing & commissioning of addressable type Manual Pull Station / Manual call point complete as per specifications.	Nos	20	7795.75	155915.00
4	Supply, Installation, testing & commissioning of Analogue Addressable hooters with flasher (min 85 dB & 110 cd light ) complete as per specifications.	Nos	26	11841.51	307879.26
5	Supply, Installation, testing & commissioning of Microprocessor based, electronically addressable Fire Alarm Control panel, modular, expandable networkable, 10 loop, each loop consist of 240 in any combination of detectors and devices with standard accessories complete as per specifications. The panel should have a <b>Firefighter's Telephone Module</b> for connecting with the Phone Jacks on the field.	Nos	1	1100103.40	1100103.40
6	Supply, installation, testing & commissioning of control module with LED indicator for AHU tripping / Deluge valve operations as per specifications.	Nos	8	8991.37	71930.96
7	Supply, installation, testing & commissioning of Fault isolator with LED indicator as per specifications.	Nos	8	7457.06	59656.48
8	Supplying, installing, testing and commissioning FRLS, XLPE armoured cable 2 core 1.5 sq.mm. copper conductor complete erected on wall/ ceiling complete as per specification no. CB-LT/CU	Mtrs	6919	121.54	840935.26
9	Supplying, installing, testing and commissioning remote response indicators suitable to operate on 5- 28 V dc supply having FR Polymer ABS Housing complete as per specification no. FF-FAAS/RRI	Nos	10	226.66	2266.60
10	Addressable UL listed firefighter phone jack with fire phone handsets in a suitable enclosure.	Nos	8	18530.42	148243.36
11	Supply, installation, testing & commissioning of Passive Repeater panel for above with necessary accessories and power back up, LCD Display etc. complete	Nos	1	200268.20	200268.20
<b>35</b>	<b>Fire Hydrant and Sprinkler System</b>				

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
1	Supplying and erecting testing, perfect aligning and proper leveling and commissioning of Common Auto Control Panel suitable for Auto operation of above 5 pumps. Jockey pump to be auto start - auto stop and Hydrant, sprinkler and standby diesel pump auto start - manual stop, Booster pump manual start - manual stop as per specification. INCOMER: 1 No - 400A FP MP based MCCB, of fault breaking capacity 36 KA (Ics=Icu=100% upto 433 V) with R-Y-B & On/off/trip lamps, ammeter, voltmeter & Load manager. BUSBAR: 400A, 36kA Aluminium Busbar with heat shrinkable Sleeves with copper earth bus bar. OUTGOING: 75kW / 100HP Star delta Starter : 2No + 1 No Spare 10kW DOL Starter : 1No 12kW DOL Starter : 2No 1No : 63 Amps 4P MCCB, 36kA with on/off/trip indication lamps & ammeter	Nos	1.00	651333.04	651333.04
2	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 3 core 6 sq. mm. copper conductor complete erected with glands & lugs, on wall/ trusses/ pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	Mtrs.	300.00	346.01	103803.00
3	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 2 core 6 sq. mm. copper conductor complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	Mtrs.	30.00	269.37	8081.10
4	Supplying and erecting PVC armoured cable 12 core 2.5 sq mm Cu conductor with continuous G.I. earth wire complete erected with glands and lugs, on wall or laid in provided trench/ pipe /cable tray as per specification no. CB-LT/CU	Mtrs.	30.00	1222.06	36661.80
5	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 3 core 50 sq. mm. aluminium conductor complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Mtrs	60.00	354.77	21286.20
<b>36</b>	<b>ELECTRICAL STARTER PANEL</b>	Each			
	Supply, Installation, Testing & Commissioning of IP55 protection starter panel comprising of ON/OFF/TRIP indicators, Start/Stop/ Push Buttons, Voltmeters Incoming feeder for the condensing units interlocking with Air Handling Units. Panel should be inclusive of necessary control system for fire damper interlocking, Exhaust & Fresh air fans interlocking, Motorised dampers interlocking with ductable units, NO/NC contacts in case of fire through fire and gas detection system to turn off the units & Fans, starter for TFA Motors, 3-Phase fans.AHU & indoor units, if any. The price shall include Provision for supply of fire damper, BMS compatibility Including necessary terminal, Spare minimum 4 potential free contacts etc. required accessories. Refer tender specifications.				
	<b>AHU</b>				
	AHU -1 & 2 - 6400 CFM (Multi Purpose Hall)	Each	2	77443.69	154887.38
	AHU - 3 - 5800 CFM (Center for Excellence)	Each	1	66642.67	66642.67
	AHU - 4 - 5200 CFM (IT Lab)	Each	1	65490.44	65490.44
	AHU - 5 - 4200 CFM (Cafeteria)	Each	1	63220.90	63220.90
<b>37</b>	<b>ELECTRICAL COMMUNICATION CABLING FOR VRF SYSTEM</b>				
	<b>POWER CABLE</b>				

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
i	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 4 core 16 sq. mm. copper conductor complete erected with glands & lugs, on wall/ trusses/ pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	m	90	944.97	85047.30
ii	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 4 core 10 sq. mm. copper conductor complete erected with glands & lugs, on wall/ trusses/ pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	m	12	660.27	7923.24
iii	Supplying & erecting flat flexible 3 core 1.5 sq.mm PVC sheathed submersible type copper cable suitably clamped at fixed intervals with column pipe assembly complete.	m	112	108.40	12140.80
	<b>Total Amount ATS Building (B)</b>				<b>4,73,95,346.73</b>
<b>II</b>	<b>TOTAL COST FOR ELECTRICAL WORK (A+B)</b>				<b>10,90,98,896.93</b>

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
<b>Mechanical Work</b>					
<b>A- LIFT BOQ</b>					
	<b>1) General: - Job includes entire procedure of obtaining all necessary erection permissions &amp; "License to Work the Lift" from Electrical Inspector(Lifts) with submission to the Engineer In Charge.</b>				
	<b>2) Warrantee: - Job covers three years onsite warrantee for all the Lift parts with FCAMC as per the maintenance schedule.</b>				
<b>A</b>	<b>ATS BUILDING LIFT</b>				
1	SITC OF 8 PASSENGER/544 Kg GEARLESS LIFT MR/MRL, COPO/ TOPO doors with frame having opening of 800 mm wide X 2000 mm high, Automatic Rescue Device, Audio-Visual, Overload indicator, Infra red curtain, 3VF drive, Emergency alarm, Fire alarm switch, overload warning indicator, suitable door safety as specified, suitable for physically challenged persons, complete in all respect as specified in technical specifications. <b>The lift shall be provided with 3 year free defect liability period.</b> · <b>Clear Car size of 1300 mm wide x 1100 mm deep x 2150mm high</b>	Each	3	24,44,298.30	73,32,894.90
	SITC of Passenger gearless lift for 8 Passenger/544 Kg, G+7 floor (8Stops/8 Landings)				
2	SITC OF 29 STRETCHER/ HOSPITAL GEARLESS LIFT /1972 Kg MR/MRL,COPO/ TOPO doors with frame having opening of 1200/1300/1400 mm wide X 2000 mm high, Automatic Rescue Device, Audio- Visual, Overload indicator, Infra red curtain, 3VF drive, Emergency alarm, Fire alarm switch, overload warning indicator, suitable door safety as specified, suitable for physically challenged persons, complete in all respect as specified in technical specifications. <b>The lift shall be provided with 3 year free defect liability period. Clear Car size of 2350 mm wide x 1700 mm deep x 2150mm high</b>	Each	1	41,26,460.59	41,26,460.59
	SITC of Passenger cum stretcher/ Hospital gearless lift for 29 Passenger/1972 Kg, G+7 floor (8Stops/8 Landings)				
3	SITC of Electric dumbwaiter Lift with · Rated capacity :- 100-200Kg · Floors :- G+1 floor (2Stops/2 Landings) · Travel :- 8.4 mtrs. · Location of Lift Machine:- MRL · Rated speed :- min 0.3 mps · Doors type :- COPO/TOPO Doors with frame having clear opening of 700 mm wide x800 mm high made from SS 304 grade sheet of 1.5mm, thick in hairline finish for car and all landing doors with SS door architraves/ frames · Lift car enclosure made from SS 304 grade sheet of 1.5mm, thick with hairline finish with frame made from MS girders, bracing of adequate size with minimum safety factor of 5, with Toe Guard Apron, with necessary false ceiling with adequate LED lights, blower/fan for ventilation & SS chequered plate flooring, handrails, mirror, emergency light etc. COP with SS face plate having metallic push buttons with Braille Code & luminous indicator around button with FPI, scrolling UP/DN LED indicator & with/without attendant key switch, OWD with audiovisual alarm, VAS in Marathi, Hindi & English with intercom system with telephone instrument in Lift car, LMR & FCC/ground floor <b>Clear Car size of 700 mm wide x 700 mm deep x 800mm high</b>	Each	1	13,34,192.40	13,34,192.40
<b>TOTAL AMOUNT FOR ATS BUILDING LIFT (A)</b>					<b>1,27,93,547.89</b>
<b>HVAC-BOQ (B)</b>					
1	<b>VRF/VRV OUTDOOR UNITS</b>				

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
i)	<p>Supplying, erecting, testing and commissioning of 12HP, VRF/VRV air conditioning system outdoor unit (ODU) complies type-IV OEM standards working on HFC refrigerant R410A or other required/suitable green equivalent refrigerant, for minimum cooling capacity as delivering 100% capacity at 47° C, non stop cooling even at 56° C and coefficient of performance (COP) 3.00 to 4.00, modular type vertical hot air discharge suitable for longer piping range upto 1000m operation in cooling mode with inverter/digital VRF/VRV technology microprocessor based control compressor starter/control panel with scroll compressor, air cooled copper condenser coil of suitable shape for increasing maximum heat transfer area, rain protection cover, built in oil separator, accumulator and oil receiver, copper tube aluminium fin air cooled condenser, condenser fan with motor suitable for 415V±10%, 50 Hz, 3 phase power supply (all suitable for high ambient conditions), internal copper refrigerant piping, internal wiring and refrigerant, etc. all housed in powder coated weather proof cabinet complete.</p>	Each	2	3,50,873.20	7,01,746.40
ii)	<p>Supplying, erecting, testing and commissioning of 18HP, VRF/VRV air conditioning system outdoor unit (ODU) complies type-IV OEM standards working on HFC refrigerant R410A or other required/suitable green equivalent refrigerant, for minimum cooling capacity as delivering 100% capacity at 47° C, non stop cooling even at 56° C and coefficient of performance (COP) 3.00 to 4.00, modular type vertical hot air discharge suitable for longer piping range upto 1000 metre operation in cooling mode with inverter/ digital VRF/VRV technology microprocessor based control compressor starter/control panel with scroll compressor, air cooled copper condenser coil of suitable shape for increasing maximum heat transfer area, rain protection cover, built in oil separator, accumulator and oil receiver, copper tube aluminium fin air cooled condenser, condenser fan with motor suitable for 415V±10%, 50 Hz, 3 phase power supply (all suitable for high ambient conditions), internal copper refrigerant piping, internal wiring and refrigerant, etc. all housed in powder coated weather proof cabinet complete.</p>	Each	6	5,16,705.73	31,00,234.38

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
iii)	Supplying, erecting, testing and commissioning of 20HP, VRF/VRV air conditioning system outdoor unit (ODU) complies type-IV OEM standards working on HFC refrigerant R410A or other required/suitable green equivalent refrigerant, for minimum cooling capacity as delivering 100% capacity at 47° C, non stop cooling even at 56°C and coefficient of performance (COP) 3.00 to 4.00, modular type vertical hot air discharge suitable for longer piping range upto 1000 metre operation in cooling mode with inverter/digital VRF/VRV technology microprocessor based control compressor starter/control panel with scroll compressor, air cooled copper condenser coil of suitable shape for increasing maximum heat transfer area, rain protection cover, built in oil separator, accumulator and oil receiver, copper tube aluminium fin air cooled condenser, condenser fan with motor suitable for 415V±10%, 50 Hz, 3 phase power supply (all suitable for high ambient conditions), internal copper refrigerant piping, internal wiring and refrigerant, etc. all housed in powder coated weather proof cabinet complete.	Each	7	5,48,468.91	38,39,282.37
2	<b>VRV/VRV INDOOR UNITS</b>				
A)	Supply, Installation, Testing & Commissioning of the following capacity, Ceiling Suspended, ductable type, Variable Refrigerant Flow Indoor Unit consisting of GI Powder coated Cabinet, dynamically balanced centrifugal blowers, fan motors, Direct Expansion type cooling coil, Insulated drain tray, Washable Pre-filters, Electronic Refrigerant Flow Control valve, Room temperature sensor & Corded remote controller (MAX 10 meter length cord), Control module with self-diagnostic features, vibration isolators, GI support rods, anchoring and MS supporting works as per the specification and drawings. The VRF System shall use R410A as refrigerant.  NOTE: Indicated Cooling & airflow Capacities of IDUs are the minimum requirement to meet the Designed indoor Conditions as noted on the drawings and specification, for the outdoor peak Weather Conditions & required refrigerant pipe length. The HVAC Vendor is responsible to make the selection of suitable indoor units from their available product range to meet /exceed both tonnage & air quantity specified, considering capacity loss due to pipe length and level difference between VRF IDUs & VRF ODUs and Indoor/Outdoor design conditions etc. HVAC vendor shall provide U traps for the drains as per the OEM recommendations and as directed by HVAC Consultant.				
A)	<b>Ceiling Mounted Ductable unit</b>				
i)	Supply, installation, testing and commissioning of VRV / VRF based ductable type, high static room/indoor unit (IDU) having nominal cooling capacity of 4.1TR (1640 cfm) to 5.0TR (2000 cfm) having EER as per BEE standards and specifications with evaporator fan with motor, copper tube aluminium fin evaporator coil, washable air filter, insulated drain tray, in built drain pump, expansion device, cordless remote control with necessary controls and electrical terminal to receive power supply, etc. having anti-corrosive coating suitable for coastal area and decorative slim dimension suitable for ceiling suspended arrangement with an electronic control console and any additional refrigerant and oil charge as per requirement during installation complete.	Each	2	57,270.74	1,14,541.48

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
ii)	Supply, installation, testing and commissioning of VRV / VRF based ductable type, high static room/indoor unit (IDU) having nominal cooling capacity of 5.1TR (2040 cfm) to 6.0TR 2400 cfm) having EER as per BEE standards and specifications with evaporator fan with motor, copper tube aluminium fin evaporator coil, washable air filter, insulated drain tray, in built drain pump, expansion device, cordless remote control with necessary controls and electrical terminal to receive power supply, etc. having anti-corrosive coating suitable for coastal area and decorative slim dimension suitable for ceiling suspended arrangement with an electronic control console and any additional refrigerant and oil charge as per requirement during installation complete.	Each	7	64,161.45	4,49,130.15
iii)	Supply, installation, testing and commissioning of VRV / VRF based ductable type, high static room/indoor unit (IDU) having nominal cooling capacity of 8.0TR (3200 cfm) having EER as per BEE standards and specifications with evaporator fan with motor, copper tube aluminium fin evaporator coil, washable air filter, insulated drain tray, in built drain pump, expansion device, cordless remote control with necessary controls and electrical terminal to receive power supply, etc. having anti-corrosive coating suitable for coastal area and decorative slim dimension suitable for ceiling suspended arrangement with an electronic control console and any additional refrigerant and oil charge as per requirement during installation complete.	Each	4	70,443.35	2,81,773.40
				-	-
B)	<b>AIR HANDLING UNIT</b>			-	-
	Supply, installation, testing and commissioning of Ceiling suspended, double skin air handling units. AHU housing shall be constructed of 0.6mm thick galvanized pre-coated sheet on outside and 0.6 mm thick plain GI sheet inside. The panels shall be insulated with a 25mm thick CFC free Puff insulation having a thermal conductivity of 0.59 W/m <sup>2</sup> K. AHU shall have DX cooling coil (VRV/VRF compatible), Pre filter section, insulated drain pan, Plug type / DIDW type fan (single or twin blower fan, bidder should select the fan as per cfm qty & fan section, high efficiency motor (EFF1), IP55 protection, Motor Suitable for 415+ 10% volts, 3 phase 50 Hz AC supply. AHU should have marine light, door limit switch. The filters used in AHUs should have MERV value 8. Fan Motors Should be minimum IE3 rated. ADP - 54 deg F AHU should provided with LEV kit. (Connection kit between VRF ODU and AHU cooling coil). Power supply should be in the scope of Electrical Contractor. Height of the AHU should not be exceed above 750mm.			-	-
	Price quoted should inclusive of following:				
	Any additional refrigerant and oil charge required during installation and testing of equipment				
	Return Air Temperature sensor.				
	Note:				
	Electrical power point will be provided 5ft away from unit.				
	Contractor to ensure that MCB/power point provided is of correct rating.				
	Capacity :				
i)	6200 CFM -24 TR - 40 mm TSP	Each	2	4,28,194.31	8,56,388.62
ii)	5800 CFM -18 TR - 40 mm TSP	Each	1	4,05,798.74	4,05,798.74
iii)	5200 CFM -17 TR - 40 mm TSP	Each	1	3,70,533.58	3,70,533.58
iv)	4200 CFM -18 TR - 40 mm TSP	Each	1	3,19,708.35	3,19,708.35
C)	<b>Four Way Cassette Units</b>				

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
i)	Supply, installation, testing and commissioning of VRF/VRV based ceiling suspended 4 Way cassette room/indoor unit (IDU-compact/standard size) of nominal cooling capacity 1.0TR ( 441 cfm ) to 1.3TR (512 cfm ) having EER as per BEE standards and specifications, suitable as per site requirement with swing louvers and adjustable blades from sides. IDU with drainage arrangements, fan, refrigerant liquid and refrigerant piping, cordless remote control, and fresh air port etc. IDU shall have anti corrosive coating suitable for coastal area in all respects suitable to operate on 1-phase, 230V, 50Hz, AC supply complete. The unit consisting with any additional refrigerant and oil charge as per requirement during installation.	Each	1	38,362.62	38,362.62
ii)	Supply, installation, testing and commissioning of VRF/VRV based ceiling suspended 4 Way cassette room/indoor unit (IDU-compact / standard size) of nominal cooling capacity 2.6TR (918 cfm) to 2.8TR ( 1100 cfm ) having EER as per BEE standards and specifications, suitable as per site requirement with swing louvers and adjustable blades from sides. IDU with drainage arrangements, fan, refrigerant liquid and refrigerant piping, cordless remote control, and fresh air port etc. IDU shall have anti corrosive coating suitable for coastal area in all respects suitable to operate on 1-phase, 230V, 50Hz, AC supply complete. The unit consisting with any additional refrigerant and oil charge as per requirement during installation.	Each	6	42,328.64	2,53,971.84
iii)	Supply, installation, testing and commissioning of VRF/VRV based ceiling suspended 4 Way cassette room/indoor unit (IDU-compact / standard size) of nominal cooling capacity 3.0TR (1100 cfm) to 3.2TR (1165 cfm) having EER as per BEE standards and specifications, suitable as per site requirement with swing louvers and adjustable blades from sides. IDU with drainage arrangements, fan, refrigerant liquid and refrigerant piping, cordless remote control, and fresh air port etc. IDU shall have anti corrosive coating suitable for coastal area in all respects suitable to operate on 1-phase, 230V, 50Hz, AC supply complete. The unit consisting with any additional refrigerant and oil charge as per requirement during installation.	Each	6	42,990.01	2,57,940.06
				-	-
3	Supplying, erecting, testing and commissioning centralised programmable remote control panel (HMI) touch manager controls minimum 16 system of 64 ODU's can be controlled and up to 992 IDU's can be individually mounted and controlled indoor units having colour min 200mm size LCD touch panel, yearly schedule, power proportional distribution function, temperature limitation, history function complete erected on wall integrated with provided fire alarm system.	Each	1	52,893.01	52,893.01
4	Supplying and installation of high pressure grade required size copper connection Y or T- Joints/refnet complete erected on wall/ceiling with supports/raceways, Nitrile rubber insulation, painting etc. with brazing and testing for leakages confirming the normal operation of the VRV/VRV air conditioning system.	Each	44	6,670.62	2,93,507.28
5	<b>REFRIGERANT PIPING (VRF/VRV UNITS)</b>				

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
	Supplying, laying / fixing, testing and commissioning of appropriate nominal refrigerant copper pipe of suitable below mentioned sizes for liquid line / suction line supply and return piping of suitable gauge ( hard drawn copper pipe for liquid main line and for refrigerant ) along with necessary supports, hangers, clamps, vibration isolators and fittings such as bends, tees, valves, gauges, strainers with insulation of 19 mm thick elastomeric nitrile rubber along with application of multicoating suitable for use with VRV / VRF piping for protection against mechanical damages, fungal growth, flame spread, water permeance and ultra violet radiations complete with OEM standards of VRV /VRF air conditioning system.				
i)	Supplying, laying / fixing, testing and commissioning of appropriate nominal refrigerant copper pipe of 6.4 mm dia (OD) for liquid line / suction line supply and return piping of suitable gauge ( hard drawn copper pipe for liquid main line and for refrigerant ) along with necessary supports, hangers, clamps, vibration isolators and fittings such as bends, tees, valves, gauges, strainers with insulation of 19 mm thick elastomeric nitrile rubber along with application of multicoating suitable for use with VRV / VRF piping for protection against mechanical damages, fungal growth, flame spread, water permeance and ultra violet radiations complete with OEM standards of VRV / VRF air conditioning system.	m	9	583.62	5,252.58
ii)	supplying, laying/fixing, testing and commissioning of appropriate nominal refrigerant copper pipe of 9.5 mm dia (OD) for liquid line/suction line supply and return piping of suitable gauge (hard copper pipe for liquid main line and soft copper pipe for refrigerant) along with necessary supports, hangers, clamps, vibration isolators and fittings such as bends, tees, valves, gauges, strainers with insulation of 19mm thick elastomeric nitrile rubber along with application of multicoating of VRV/VRF piping for protection against mechanical damages, fungal growth, flame spread, water permeance and ultraviolet radiations with OEM standards of VRV/VRF air conditioning system complete.	m	360	754.44	2,71,598.40
iii)	supplying, laying/fixing, testing and commissioning of appropriate nominal refrigerant copper pipe of 12.7mm dia (OD) for liquid line/suction line supply and return piping of suitable gauge (hard copper pipe for liquid main line and soft copper pipe for refrigerant) along with necessary supports, hangers, clamps, vibration isolators and fittings such as bends, tees, valves, gauges, strainers with insulation of 19mm thick elastomeric nitrile rubber along with application of multicoating of VRV/VRF piping for protection against mechanical damages, fungal growth, flame spread, water permeance and ultraviolet radiations with OEM standards of VRV/VRF air conditioning system complete.	m	80	897.88	71,830.40
iv)	supplying, laying/fixing, testing and commissioning of appropriate nominal refrigerant copper pipe of 15.9 mm dia (OD) for liquid line/suction line supply and return piping of suitable gauge (hard copper pipe for liquid main line and soft copper pipe for refrigerant) along with necessary supports, hangers, clamps, vibration isolators and fittings such as bends, tees, valves, gauges, strainers with insulation of 19mm thick elastomeric nitrile rubber along with application of multicoating of VRV/VRF piping for protection against mechanical damages, fungal growth, flame spread, water permeance and ultraviolet radiations with OEM standards of VRV/VRF air conditioning system complete.	m	136	1,213.24	1,65,000.64

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
v)	supplying, laying/fixing, testing and commissioning of appropriate nominal refrigerant copper pipe of 19.1mm dia (OD) for liquid line/suction line supply and return piping of suitable gauge (hard copper pipe for liquid main line and soft copper pipe for refrigerant) along with necessary supports, hangers, clamps, vibration isolators and fittings such as bends, tees, valves, gauges, strainers with insulation of 19 mm thick elastomeric nitrile rubber along with application of multicoating of VRV/VRF piping for protection against mechanical damages, fungal growth, flame spread, water permeance and ultraviolet radiations with OEM standards of VRV/VRF air conditioning system complete.	m	370	1,380.77	5,10,884.90
vi)	supplying, laying/fixing, testing and commissioning of appropriate nominal refrigerant copper pipe of 22.2mm dia (OD) for liquid line/suction line supply and return piping of suitable gauge (hard copper pipe for liquid main line and soft copper pipe for refrigerant) along with necessary supports, hangers, clamps, vibration isolators and fittings such as bends, tees, valves, gauges, strainers with insulation of 19mm thick elastomeric nitrile rubber along with application of multicoating of VRV/VRF piping for protection against mechanical damages, fungal growth, flame spread, water permeance and ultraviolet radiation with OEM standards of VRV/VRF air conditioning system complete.	m	166	1,777.15	2,95,006.90
vii)	supplying, laying/fixing, testing and commissioning of appropriate nominal refrigerant copper pipe of 28.6mm dia (OD) for liquid line/suction line supply and return piping of suitable gauge (hard copper pipe for liquid main line and soft copper pipe for refrigerant) along with necessary supports, hangers, clamps, vibration isolators and fittings such as bends, tees, valves, gauges, strainers with insulation of 19mm thick elastomeric nitrile rubber along with application of multicoating of VRV/VRF piping for protection against mechanical damages, fungal growth, flame spread, water permeance and ultra violet radiations with OEM standards of VRV/VRF air conditioning system complete.	m	155	2,654.23	4,11,405.65
viii)	Supplying, laying/fixing, testing and commissioning of appropriate nominal refrigerant copper pipe of 34.9mm dia (OD) for liquid line/suction line supply and return piping of suitable gauge (hard copper pipe for liquid main line and soft copper pipe for refrigerant) along with necessary supports, hangers, clamps, vibration isolators and fittings such as bends, tees, valves, gauges, strainers with insulation of 19mm thick elastomeric nitrile rubber along with application of multicoating of VRV/VRF piping for protection against mechanical damages, fungal growth, flame spread, water permeance and ultra violet radiations with OEM standards of VRV/VRF air conditioning system complete.	m	99	2,711.17	2,68,405.83
ix)	Supplying, laying/fixing, testing and commissioning of appropriate nominal refrigerant copper pipe of 41.3mm dia (OD) for liquid line/suction line supply and return piping of suitable gauge (hard copper pipe for liquid main line and soft copper pipe for refrigerant) along with necessary supports, hangers, clamps, vibration isolators and fittings such as bends, tees, valves, gauges, strainers with insulation of 19mm thick elastomeric nitrile rubber along with application of multicoating of VRV/VRF piping for protection against mechanical damages, fungal growth, flame spread, water permeance and ultra violet radiations with OEM standards of VRV/VRF air conditioning system complete.	m	142	2,902.79	4,12,196.18

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
6	<b>CABLE TRAYS FOR REFRIGERANT PIPING</b>				
i)	Providing & erecting hot dipped galvanised ladder type cable tray manufactured from 16 SWG (1.6 mm thick) GI sheet of 150 mm width & 75 mm height complete with necessary coupler plates & hardware.	m	362	672.32	2,43,379.84
ii)	Providing & erecting hot dipped galvanised ladder type cable tray manufactured from 16 SWG (1.6 mm thick) GI sheet of 300 mm width & 75 mm height complete with necessary coupler plates & hardware.	m	232	952.63	2,21,010.16
iii)	Providing & erecting hot dipped galvanised cover suitable for perforated type Cable tray manufactured from 18 SWG (1.2 mm thick) GI sheet of 150 mm width & 20 mm height complete with necessary hardware.	m	50	404.05	20,202.50
iv)	Providing & erecting hot dipped galvanised cover suitable for perforated type Cable tray manufactured from 18 SWG (1.2 mm thick) GI sheet of 300 mm width & 20 mm height complete with necessary hardware.	m	50	685.46	34,273.00
				-	-
7	<b>DRAIN PIPING</b>				
	Supply, Installation and testing of UPVC drain piping with 9 mm thick class 'O' nitrile rubber insulation with elbow, bends, tees, clean outs etc. complete with all necessary accessories.			-	-
ii)	40 mm dia drain pipe	m	222	360.38	80,004.36
iii)	32 mm dia drain pipe	m	164	308.51	50,595.64
8	<b>PROPELLAR FAN FOR KITCHEN &amp; WORKSHOP VENTILATION :</b>				
	Supply, Installation, Testing & Commissioning of Propeller fan of following required CFM suitable for Kitchen & Workshop Exhaust.SITC of Fan with necessary accessories & Frame work including cabling with termination from socket to Fan.				
i)	1500 CFM, Static Pressure: 15 mm of w.g. <b>(for Kitchen)</b>	Each	2	38,141.24	76,282.48
ii)	2000 CFM, Static Pressure: 15 mm of w.g. <b>(For Piping,Welding &amp; Sheet Metal Work Shop)</b>	Each	13	45,594.31	5,92,726.03
9	<b>EXHAUST FAN FOR TOILETS</b>				
	Supply, Installation, Testing & Commissioning of floor mounted Cabinet type Exhaust air fans with Bird Screen, weather proof canopy, Cowl piece and Gravity Louvers etc. (The price shall include the Rain protection, single/three phase and high efficiency motor, capacitor etc. required accessories).				
i)	500 CFM, Static Pressure: 15 mm of w.g.	Each	8	28,052.51	2,24,420.08
	300 CFM, Static Pressure: 15 mm of w.g.	Each	2	22,338.76	44,677.52
10	<b>Anti Corrosive Coating :-</b>				
	Supply & painting of Anti-Corrosive paint suitable for coastal area complete in all respects.				
	<b>VRF ODU :</b>				
i)	20 HP	Each	7	30,027.76	2,10,194.32
ii)	18 HP	Each	6	30,027.76	1,80,166.56
iv)	12 HP	Each	2	26,261.82	52,523.64
	<b>AHU Coil</b>				
i)	AHU-1 - 6200 CFM -24 TR	Each	2	34,511.97	69,023.94
ii)	AHU-2 - 5800 CFM -18 TR	Each	1	32,686.36	32,686.36
iii)	AHU-3 - 5200 CFM -17 TR	Each	1	30,361.96	30,361.96
iv)	AHU-4 - 4200 CFM -18 TR	Each	1	28,755.82	28,755.82
11	<b>RECTANGULAR DUCTING</b>				

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
	Supply, Installation, Testing and Commissioning of factory made lock-forming quality powder coated rectangular GI ducting of approved makes complying with IS: 277 and having 120 GSM coating classification. The price shall include the cost of necessary accessories & supports (like flanges, neoprene gaskets, wire ropes, corner saddles, guide vanes, vibration isolators, fire retardant flexible connection in all fan outlet connections, joints, sealing around the duct at wall crossings, labeling etc. as per specification. The price shall include the cost of threaded rod supports. Ducts running in roof terrace and in risers shall be provided with 50 mm X 50 mm X 5 mm thick MS angles and The item also include providing & applying two coat of approved make anti corrosive paint over a coat of primer as per manufacturers recommendations. (Refer tender specifications.)				
i)	24 G ducting	Sq.m	1010	1,335.79	13,49,147.90
ii)	22 G ducting	Sq.m	159	1,522.99	2,42,155.41
12	<b>DUCTING INSULATION</b>				
	Supply & Installation of closed cell structure Elastomeric foam based on synthetic nitrile rubber with outer side covered with Black glass cloth(BGC). The insulation material shall have fire performance of Class O acc. to building regulations. Fire propagation shall be tested acc. to BS476 Part 6:1989. It shall be FM approved & UL94 tested.	Sq.m	1139	1,009.32	11,49,615.48
i)	13 mm thick for internal lining of duct - for Supply Air Ducting.				
13	<b>ACCOUSTIC INSULATION</b>				
	Providing and applying of acoustic insulation for air ducts with 25mm thick, 48 kg/cu.m fiber glass faced with RP tissue and covered with 26 SWG perforated aluminium sheets complete.	Sq.m	134	1,292.08	1,73,138.72
14	<b>FLEXIBLE DUCTING</b>				
	Supplying and erecting circular flexible/rigid PVC pipe duct of size 100mm dia, 4mm thickness with required couplers, reducers, T-joints, Y-joints elbows and necessary supports etc. with sealing with provided control/air flow regulating valves / dampers, filters at position complete.	m	24	3,707.60	88,982.40
15	<b>CANVAS CONNECTION</b>				
	Supply, fabrication, installation and testing of flexible canvas connections constructed between ductable unit/dampers/ducting of suitable size with fire resist flexible double canvas sleeve complete.	Each	18	3,209.39	57,769.02
16	<b>LOUVERS &amp; BIRD SCREEN</b>				
	Supply & Installation of GSS Louvres with bird screen, adjustable dampers for fresh air and without damper for exhaust air etc.				
i)	Fresh Air louver	Sq.m	3.2	15,480.26	49,536.83
ii)	Exhaust Air louver	Sq.m	1	12,238.06	12,238.06
17	<b>AIR DISTRIBUTION PRODUCTS</b>				
A)	<b>SUPPLY AIR DIFFUSERS</b>				
	Supplying & erecting tile type modular diffuser made from aluminium sheet complete with anodized matching to the ceiling shade for provided supply and return air.	Each	108	3,835.77	4,14,263.16
i)	600 x 600 mm Supply Air Diffusers - ( Neck Size 375 x 375 )				
B)	<b>RETURN AIR DIFFUSERS</b>				
	Supplying & erecting tile type modular diffuser made from aluminium sheet complete with anodized matching to the ceiling shade for provided supply and return air.	Each	109	3,835.77	4,18,098.93

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
i)	600 x 600 mm Return Air Diffusers - ( Neck Size 375 x 375 )				
C)	<b>EXHAUST AIR GRILL</b>				
	Supply, installation of Aluminium extruded grilles anodized matching with ceiling colour with dampers for Exhaust air.				
	Size :- 150 mm.	Each	66	889.86	58,730.76
18	<b>MANUAL VOLUME CONTROL DAMPER</b>				
	Supply, installation, testing and commissioning of manually operated, opposed blade, duct mounted, flanged volume control dampers of required sizes in GI construction with operating mechanism, mounting arrangement, rubber refrigerant kits etc. complete.	Sq.m	9	7,151.31	61,787.32
19	<b>COMMUNICATION CABLING</b>				
	Supplying, erecting & terminating FR XLPE insulated, galvanised steel formed wire armoured (strip) cable 1100 V, 3 core 2.5 sq. mm. copper conductor complete erected with glands & lugs, on wall/ trusses/ pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	m	1498	189.43	2,83,804.03
20	<b>ADDITIONAL REFRIGERANT CHARGE FOR VRV/VRF SYSTEM</b>				
	Supply & Top of Additional Refrigerant R410A for VRV / VRF System as per Manufacturer requirement .	Kg.	191	1,568.73	2,99,627.43
21	<b>MS FRAME WORK</b>				
	Supply, fabrication, painting, Installation and testing of MS structural supports for pipes, ducts, other equipments and cable trays, outdoor/indoor units ( not separately specified under item) as per specifications. Vendors shall note that scope of standard support requirement for pipes, ducts and cable trays as per approved drawing are already included in respective items' price and this item only covers structural support or any special requirement which need to be provided as per additional requirement due change in position, drgs etc. complete. The item also include providing & applying two coat of approved make anti corrosive paint over a coat of primer as per manufacturers recommendations.	Kgs.	1088	219.97	2,39,327.36
22	<b>UNDERDECK INSULATION</b>				
	Supplying & fixing of underdeck insulation of Nitral insulation with one side Aluminium foil conforming to IS 8183 & thickness 25 mm so that the minimum Thermal resistance should be R-1.65sq.m.K/W at mean temp 25 Deg C. The insulation should conform to Non combustibility, Class P (not easily ignitable), Class 1 and Class'O' as per fire standards BS 476 part 4, 5, 6, and 7. The one side of the insulation should have factory laminated Aluminum foil vapour barrier. The insulation should be applied with suitable adhesive and anchored with rawl plug or dash fasteners (600mm c/c), G.I/ Aluminum channel runners system and GI. Lacing wire (placed diagonally to hold insulation).contractor as per site requirement.	Sqm	790	1,201.84	9,49,453.60
<b>Total Amount HVAC (B)</b>					<b>2,17,86,354.38</b>
<b>(C) FIRE FIGHTING WORK</b>					
<b>A</b>	<b>FIRE EXTINGUISHERS</b>				
1	Supplying and erecting ABC powder type fire extinguisher as per IS : 15683 of 6 kg capacity with necessary clamp for erection on wall.	Nos	34.00	3,681.76	1,25,179.84
2	Supplying and erecting ABC powder type fire extinguisher as per IS : 15683 of 9 kg capacity with necessary clamp for erection on wall.	Nos	4.00	8,439.96	33,759.84

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
3	Supplying & erecting Carbon Dioxide (CO2) fire extinguisher of 4.5 kg. capacity cartridge type conform to IS 2878 / 15683 complete erected with necessary clamp made from 50 x 6 mm. M. S. flat with nut & bolts routed in wall complete.	Nos	8.00	10,842.49	86,739.92
4	Providing floor mounting stand for keeping 4 Nos. of Fire Buckets 1500 mm in length, 900 mm in height frame made out of 30x30x4 mm. angle iron with cross supports for legs, welded with 4 hooks and duly painted with one coat of red lead and two coats of silver paint.	Nos	2.00	3,667.20	7,334.40
5	Inspection of faulty distribution transformer 11kV / 22kV on HV side, 415 V on LV side up to 500 kVA capacity in workshop in presence of authority by opening top cover, disconnecting HV & LV studs, tap changer connections; taking out core along with winding for inspection and carrying out necessary tests on HV, LV side, oil, tap-changer etc. checking breather, body condition etc. and submitting inspection report, test reports (oil, insulation, resistance, ratio, etc.) and quotation for repairs complete.	Nos	8.00	4,895.66	39,165.28
<b>B</b>	<b>Fire Hydrant and Sprinkler System</b>				
6	Supplying, installing, testing and commissioning with perfect aligning, proper levelling of fire service main single stage pump, of 2850 LPM at 88 m head centrifugal type, 100 HP or of suitable HP, 3 phase, 415 volt, 50Hz complete as per specification no. FF-MFP/SSC	Nos	2.00	7,08,695.04	14,17,390.08
7	Supplying and erecting testing, perfect aligning and proper leveling and commissioning of horizontal centrifugal back pull out pump rated 2850 LPM (Litres/min) at 88 m head coupled to a diesel Engine of 1800 rpm ,with diesel storage tank (.6x.6x.6 m) 200 ltr capacity including first fill of diesel at the time of handover,exhaust chimney,battery backup & accessories as per specifications.	Nos	1.00	11,28,684.64	11,28,684.64
8	Supplying and erecting testing, perfect aligning and proper leveling and commissioning of Jockey pump of 180 LPM at 88 m head 3 phase 440 AC, 12.5 HP or of suitable HP with suitable stage as per specification no. FF-MEP/JP.	Nos	2.00	2,04,757.40	4,09,514.80
9	Supplying, installation, testing and commissioning of booster fire pump [BP] suitable for water discharge of 900 LPM at 35 m head driven by electric motor 415 volts, 3 phase 50 Hz, AC supply of 7.5 kW or of suitable kW capacity for manual/automatic operation and consisting of following : (a) Horizontal/vertical type, single/multi stage, centrifugal casing pump of cast iron body & bronze/CI impeller with stainless steel shaft (SS410 grade), mechanical seal conforming to IS 1520. (b) Squirrel cage induction motor, TEFC, synchronous speed 3000 RPM, suitable for operation on with IP 55 protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS-325. (c) M.S. fabricated common base plate, coupling, coupling guard, foundation bolts etc. as required. (d)Erected on provided suitable size cement concrete foundation duly plastered with anti vibration pads with perfect aligning, proper levelling complete pump set with accessories duly painted with two coats of synthetic enamel paint of fire red colour over a coat of primer (ISC code 536 as per IS 2932 of 2003) complete, as per specification no. FF-MFP/BP	Nos	2.00	76,342.01	1,52,684.01
10	Supplying and erecting 100 mm dia. pressure gauge , 0-300 PSI or 0-14 kg per cm square fitted with 12/15 mm dia. pad cock valve, erected with provided G.I. pipe, elbow etc. complete as per specification no. FF-FFA/PG	Nos	14.00	845.32	11,834.54
11	Supplying and erecting 12/15 mm dia pressure switch with provided isolation valve, G.I. nipple, elbow, etc complete as per specification no. FF-FFA/PS	Nos	7.00	1,930.45	13,513.15

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
12	Supplying and erecting G.I.pipe 'C' class ERW 200mm dia with necessary fittings complete as per specification no. FF-PP	Mtrs.	30.00	3,911.27	1,17,338.06
13	Supplying and erecting G.I.pipe 'C' class ERW 150mm dia with necessary fittings complete as per specification no. FF-PP	Mtrs.	720.00	2,637.81	18,99,220.91
14	Providing coating of bitumen paint & 4mm thick wrapping for under ground 150 mm ring main of fire fighting system.	Mtrs.	70.00	377.77	26,443.77
15	Excavating hard murum / stone metal road by chiselling for preparing pit for poles stay or earth plates or for laying cables, pipes & clearing the site by removing debris & making the site as required complete.	m3	70.00	295.64	20,695.12
16	Supplying and erecting G.I.pipe 'C' class ERW 100mm dia with necessary fittings complete as per specification no. FF-PP	Mtrs.	322.00	1,738.83	5,59,902.69
17	Supplying and erecting G.I. pipe 'C' class ERW 75/80 mm dia with necessary fittings complete as per specification no. FF-PP	Mtrs.	360.00	1,222.00	4,39,919.16
18	Supplying and erecting G.I.pipe 'C' class ERW 65mm dia with necessary fittings complete as per specification no. FF-PP	Mtrs.	50.00	977.82	48,890.86
19	Supplying and erecting G.I.pipe 'C' class ERW 50mm dia with necessary fittings complete as per specification no. FF-PP	Mtrs.	180.00	771.96	1,38,952.96
20	Supplying and installing G.I. pipe above ground of C class ERW of size 40 mm dia with with necessary fittings as per specification no. FF-PP	Mtrs.	600.00	1,330.30	7,98,180.00
21	Supplying and installing G.I. pipe above ground of C class ERW of size 32 mm dia with with necessary fittings as per specification no. FF-PP	Mtrs.	600.00	946.22	5,67,732.00
22	Supplying and erecting G.I.pipe 'C' class ERW 25mm dia with necessary fittings complete as per specification no. FF-PP	Mtrs.	1800.00	381.05	6,85,895.47
23	Supplying and erecting 200 mm dia cast iron double flange NRV complete with PN16 pressure rating, as per specification no. FF-VL/NRV	Nos	1.00	23,319.79	23,319.79
24	Supplying and erecting 150 mm dia cast iron double flange NRV complete with PN16 pressure rating, as per specification no. FF-VL/NRV	Nos	4.00	14,772.38	59,089.50
25	Supplying and erecting 100 mm dia cast iron double flange NRV complete with PN16 pressure rating, as per specification no. FF-VL/NRV	Nos	2.00	9,022.64	18,045.27
26	Supplying and erecting cast iron double flange NRV of size 50 mm dia complete as per specification no. FF-VL/NRV	Nos	2.00	7,569.29	15,138.58
27	Supplying and erecting 150 mm dia. cast iron double flange butterfly valve of size complete with PN16 pressure rating, as per specification no. FF-VL/BFV	Nos	18.00	6,927.94	1,24,702.89
28	Supplying and erecting 100 mm dia. cast iron double flange butterfly valve of size complete with PN16 pressure rating, as per specification no. FF-VL/BFV	Nos	6.00	4,512.41	27,074.48
29	Supplying and erecting 50 mm dia. cast iron double flange butterfly valve of size complete with PN16 pressure rating, as per specification no. FF-VL/BFV	Nos	6.00	2,620.29	15,721.72
30	Supplying and erecting stainless steel single outlet hydrant valve fitted with necessary accessories complete as per specification no. FF-VL/HV	Nos	16.00	6,349.79	1,01,596.62
31	Supplying and erecting stainless steel single outlet hydrant valve fitted with necessary accessories complete as per specification no. FF-VL/HV	Nos	8.00	5,485.85	43,886.80
32	Supplying and erecting gun metal branch pipe of 63mm dia fitted with 20 mm dia detachable hexagonal nozzle complete as per specification no. FF-FFA/NZ	Nos	24.00	2,108.93	50,614.36
33	Supplying and erecting 63mm dia, reinforced rubber lined (R.R.L.) hosepipe, 15min length, fitted with necessary accessories complete as per specification no. FF-FFA/RRL	Nos	48.00	5,725.65	2,74,831.22

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
34	Supplying and erecting M.S./CRCA cabinet for housing Hydrant valve, hose pipe and branch pipe (size 1250 x 400 x 300 mm.) made from 16 SWG sheet and angle iron 25 mm. x 25 mm. x 4 mm. having front doors with viewing glass (8" x 6") and locking arrangement with necessary fixing material such as rubber bidding etc. duly painted in post box red colour.	Nos	24.00	15,036.27	3,60,870.37
35	Supplying and erecting 20/25mm dia gun metal air release cock, with necessary G.I. coupling to be fitted on top of air vessel or on wet riser complete as per specification no. FF-FFA/ARV	Nos	4.00	919.78	3,679.13
36	Supplying and erecting 300 mm dia 1.5m in height air vessel / tank fabricated from min 5mm thick M.S. sheet complete as per specification no. FF-FFA/ACT	Nos	2.00	13,656.59	27,313.18
37	Supplying and erecting 150mm dia fire brigade header suitable for supplying water in fire tank complete as per specification no. FF-FA/FBC	Nos	1.00	10,379.32	10,379.32
38	Supplying and erecting fire brigade header ( Siamese connection )of 150 mm dia, for supplying water in fire tank complete as per specification no. FF FA/FMC	Nos	1.00	12,688.63	12,688.63
39	Supplying and erecting 200mm dia cast iron foot valve ball type/ flap type with strainer for negative suction complete as per specification no. FF-VL/FV	Nos	3.00	34,064.83	1,02,194.48
40	Supplying and erecting 80mm dia cast iron foot valve ball type /flap type with strainer for negative suction complete as per specification no. FF-VL/FV	Nos	2.00	5,676.38	11,352.75
41	Supplying and erecting 100mm dia cast iron foot valve ball type/flap type with strainer for negative suction complete as per specification no. FF-VL/FV	Nos	2.00	7,300.23	14,600.46
42	Supplying and installing wall mounting swinging hose reel drum fitted with 19 mm dia. 30m long high pressure polypropylene (Polyhose) along with necessary accessories complete as per specification no. FF-FFA/HV	Nos	16.00	7,506.86	1,20,109.80
43	Supplying and erecting brass orifice plate having 6 mm. thickness, 140 mm outer dia with required diameter of inner hole at every single outlet hydrant valve as per specification no. FF-FFA/OP	Nos	24.00	1,104.83	26,516.04
44	Supplying & laying (including excavation) reinforced cement concrete pipe of IS 458:2003 NP-2 class of 250 mm internal diameter in proper line, level and slope including providing and fixing collars in cement mortar 1:2 and curing etc. complete.	Mtr	48.00	700.79	33,637.79
45	Supplying and erecting 25 mm dia gun metal gate valve complete with PN16 pressure rating, as per specification no. FF-VL/GV	Nos	10.00	1,316.17	13,161.66
46	Supplying, erecting, testing and commissioning of quartzoid bulb sprinkler, 15 mm(½") dia. NBCM Body chrome finished, 68° C fixed temperature rating with deflector disc of conventional construction complete as per specification no. FF SPR.	Nos	1064.00	467.56	4,97,480.07
47	Supply, Installation, testing & commissioning of UL listed / FM approved S S Braided flexible drops 25 mm dia capable to with stand maximum working pressure of 175 psi with all fittings for making connection to sprinklers and with the branches 1.2 Mtrs in length	Nos	500.00	2,140.68	10,70,340.00
48	Supplying and erecting 100 mm dia. cast iron double flange sluice valve complete with PN16 pressure rating, as per specification no. FF-VL/SV	Nos	2.00	9,584.36	19,168.72
49	Supply & Installation of Stainless steel finish rosette plate of <b>dia 75 mm</b> for below false ceiling application as per specification	Nos	500.00	264.36	1,32,180.00
50	Supplying and erecting 150 mm dia Cast Iron end line strainer of Y-type flanged end pattern, PN16 pressure rating, SS screen, end connection with Flanged / Screwed / Socket Weld / Butt Weld End etc with standard OAR (open area Ratio) for positive suction complete as per specification no. FF-VL/ELS	Nos	4.00	12,156.47	48,625.87

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
51	Supply, Installation, testing & commissioning of Installation control (Alarm) valve of cast iron body and brass/ bronze working parts comprising of water motor alarm, bronze seat clapper, and clapper arm, hydraulically driven mechanical gong bell to sound continuous alarm when the wet riser sprinkler system activates, pressure gauges, emergency releases, strainer, pressure switch, cock valve complete with drain valve and bypass, test control box ball valves, MS pipe of reqd. size, flanges, orifice plate, gasket etc. of size 150 mm dia as reqd.	Nos	4.00	1,28,939.80	5,15,759.20
52	Supply, Installation, testing & commissioning of flow switches in 80/100/150 mm dia pipe with all accessories as required	Nos	17.00	12,460.02	2,11,820.34
53	Supply, installation, testing & commissioning of signal input module for flow switches (of sprinkler system) / Integration etc.	Nos	17.00	11,612.06	1,97,405.02
<b>C</b>	<b>Supply and installation of following Safety signages :</b>				
54	Exit (Nightglow with lamination, Self adhesive) 100 mm x 300 mm	Nos	20.00	1,271.94	25,438.80
55	Staircase (Nightglow with lamination, Self adhesive) 100 mm x300mm	Nos	16.00	1,421.58	22,745.28
56	Fire Alarm (Nightglow with lamination, Self adhesive) 200 mmx250 mm	Nos	20.00	1,506.38	30,127.60
57	Fire Extinguisher (Nightglow with lamination, Self adhesive) 200 mm x200mm	Nos	51.00	1,755.78	89,544.78
58	Hose reel (Nightglow with lamination, Self adhesive) 200 mm x250mm	Nos	16.00	1,157.22	18,515.52
59	Assembly Point (ACP with MS, Grouted) 600 mm X600 mm	Nos	2.00	7,621.66	15,243.32
	<b>Total amount FIRE FIGHTING WORK - C</b>				<b>1,31,13,890.86</b>
<b>(D) MECHANICAL EQUIPMENT &amp; VALVES</b>					
1	Providing, Fixing, testing and commissioning of ISI marked Gun Metal Screwed pattern fully way <b>Gate valve</b> conforming to IS 778 class 1 including jointing, supporting etc complete and as directed. <b>Dia 65 mm (on Suction &amp; delivery line of Pump)</b>	Nos	4.00	1749.75	6999.00
2	Providing, Fixing, testing and commissioning of ISI marked Gun Metal Screwed pattern fully way <b>Gate valve</b> conforming to IS 778 class 1 including jointing, supporting etc complete and as directed. <b>Dia 50 mm (on Suction &amp; delivery line of Pump)</b>	Nos	9.00	1031.13	9280.17
3	Providing, Fixing, testing and commissioning of ISI marked Gun Metal Screwed pattern fully way <b>Gate valve</b> conforming to IS 778 class 1 including jointing, supporting etc complete and as directed. <b>Dia 40 mm (on Suction &amp; delivery line of Pump)</b>	Nos	4.00	829.70	3318.80
4	Providing and fixing gun metal <b>non- return valve</b> of approved quality (screwed end) including rubber gasket, flanges, union, nuts, bolts, washers & painting complete as required. <b>Dia 40 mm (on delivery line of Pump)</b>	Nos	5.00	956.76	4783.80
5	Providing and fixing gun metal <b>non- return valve</b> of approved quality (screwed end) including rubber gasket, flanges, union, nuts, bolts, washers & painting complete as required. <b>Dia 50 mm ( on suction line of pump)</b>	Nos	4.00	1377.18	5508.72

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
6	Providing & fixing of <b>'Y' strainer</b> with necessary fittings to be installed in the tank sump.. The body shall be of high grade cast iron GG 250 with internal & external epoxy coated with Stainless Steel filter element upto 1600 microns, with a drain plug, PN 16 Rating upto size 150mm & PN 10 for size 200mm & above.Strainer shall be installed on full size of pipe run , in accordance with the manufacturer's installation instructions. Y type Strainer Screwed ends for water filter. The body shall be of Brass. The filter element shall be of Stainless Steel with Mesh :500 Microns Pressure PFA 25 bar. Cap delivered with plug (nylon66) 1/4" G. <b>Dia 65 mm ( on suction line of pump)</b>	Nos	4.00	9427.32	37709.28
7	Providing & fixing of <b>'Y' strainer</b> with necessary fittings to be installed in the tank sump . The body shall be of high grade cast iron GG 250 with internal & external epoxy coated with Stainless Steel filter element upto 1600 microns, with a drain plug, PN 16 Rating upto size 150mm & PN 10 for size 200mm & above.Strainer shall be installed on full size of pipe run , in accordance with the manufacturer's installation instructions. Y type Strainer Screwed ends for water filter. The body shall be of Brass. The filter element shall be of Stainless Steel with Mesh :500 Microns Pressure PFA 25 bar. Cap delivered with plug (nylon66) 1/4" G. <b>Dia 50 mm ( on suction line of pump)</b>	Nos	4.00	7843.63	31374.52
					0.00
8	Providing,fixing commisioning of <b>Dia 50 mm Float Control Valve</b> to regulate water flow in OH tank.The valve shall be complete with upstream isolation valve(Nickel plated brass),drain cock (brass), downsteam isolation valve,strainer.The main specification shall be as follows 1) Main valve:- Cast Iron 2) Mechanical Float: Brass / PVC plastic 3)Needle Valve: Brass	Nos	4.00	6464.45	25857.79
					0.00
9	Providing,fixing commisioning of <b>Dia 40 mm Float Control Valve</b> to regulate water flow in OH tank.The valve shall be complete with upstream isolation valve(Nickel plated brass),drain cock (brass), downsteam isolation valve,strainer.The main specification shall be as follows 1) Main valve:- Cast Iron 2) Mechanical Float: Brass / PVC plastic 3)Needle Valve: Brass	Nos	2.00	5656.39	11312.78
10	Providing,fixing commisioning of <b>Dia 32 mm Float Control Valve</b> to regulate water flow in OH tank.The valve shall be complete with upstream isolation valve(Nickel plated brass),drain cock (brass), downsteam isolation valve,strainer.The main specification shall be as follows 1) Main valve:- Cast Iron 2) Mechanical Float: Brass / PVC plastic 3)Needle Valve: Brass	Nos	1.00	5387.04	5387.04
11	Providing,fixing commisioning of <b>Float Control Valve</b> to regulate water flow in OH tank.The valve shall be complete with upstream isolation valve(Nickel plated brass),drain cock (brass), downsteam isolation valve,strainer.The main specification shall be as follows <b>Dia 25 mm</b>	Nos	1.00	4848.34	4848.34

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
12	Providing & fixing <b>dial type (80 mm) pressure gauge</b> with isolation ball valve suitable for working pressure of 250 PSI. Cost shall be inclusive of providing any short pieces, nipples, elbows etc as required ( one on each pump and one on main head in pump room ) )	Nos	18.00	1518.85	27339.23
13	Providing and fixing 25 mm diameter <b>water meter</b> with non-return valve including strainer, sockets/ union nut and including water meter box making locking arrangements and lock.	Nos	1.00	7791.00	7791.00
14	Providing and fixing 40mm diameter <b>water meter</b> with non-return valve including strainer, sockets/ union nut and including water meter box making locking arrangements and lock.	Nos	4.00	12929.63	51718.51
15	Providing and fixing 50mm diameter <b>water meter</b> with non-return valve including strainer, sockets/ union nut and including water meter box making locking arrangement and lock.	Nos	6.00	16995.07	101970.40
16	Supplying & erecting minimum three & above star rated Centrifugal water pump (Monoblock), 415 V, three phase 50 cycles A.C. supply of 7.5 KW/10 HP with discharge 1150/600 Litres per Minute (LPM) for head of 24/69 m and 65 mm suction/ 50 mm delivery pipe of size, on provided C.C. foundation as per specification No. WP-CGP	Nos	4.00	48580.98	194323.91
17	Supplying & erecting minimum three & above star rated Centrifugal water pump (Monoblock), 415 V, three phase 50 cycles A.C. supply of 3.75 KW/5 HP with discharge 715/200 Litres per Minute (LPM) for head of 17/39 m and 65 mm suction/ 50 mm delivery pipe on provided C.C. foundation as per specification No. WP-CGP	Nos	4.00	29401.31	117605.23
18	Supplying & erecting minimum three & above star rated Centrifugal water pump (Monoblock), 415 V, three phase 50 cycles A.C. supply of 3.75 KW/5 HP with discharge 420/120 Litres per Minute (LPM) for head of 18/51 m and 65 mm suction/ 50 mm delivery pipe on provided C.C. foundation as per specification No. WP-CGP	Nos	2.00	29492.19	58984.38
<b>Total Amount MECHANICAL EQUIPMENT &amp; VALVES (D)</b>					<b>7,06,112.90</b>
<b>(E)</b>	<b>SEWAGE TREATMENT PLANT (MBBR PACKAGED TYPE STP)</b>				
1	Design, supplying, installing, testing & commissioning of <b>Sewage Treatment Plant 80 KLD</b> (excluding excavation, back filling & disposal of surplus earth Civil construction work) for the following duty: Daily average flow - 125 Cum / Day <b>Inlet Parameters</b> pH - 7.5 – 8.5 BOD5 - 250 – 300 Mg/L COD - 400 – 500 Mg/L Oil & Grease - 20 Mg / L <b>Effluent Discharge Standard After Tertiary Treatment</b> pH - 6.5 – 8.5 BOD5 - 5 Mg/L S. Solids - 5 Mg/L COD - Less than 20 Mg/L Oil & Grease - BDL Sewage treatment plant shall include the following items: A <b>Sewage transfer pump</b> B <b>Prefabricated MBBR tank As Follows Inbuilt 2-Zone of Aeration, 1-Zone of Settling &amp; 1-zone of Chlorination.</b>	No	1.00	37,14,164.56	37,14,164.56

Sr. No.	Item Description	Unit	Qty.	Final Rate	Amount
C	<b>Air Blowers, Pumps &amp; equipment</b>				
D	<b>Piping, valves etc</b>				
E	<b>Electrical Panel &amp; Cabling</b>				
F	<b>Common Control Panel For STP.</b>				
	<b>Total Amount STP</b>				<b>37,14,164.56</b>
<b>III</b>	<b>Total Mechanical Work Amount (A+B+C+D+E)</b>				<b>5,21,14,070.59</b>
	<b>Gross Total Amount (I+II+III) (Quoted/ not Quoted)</b>				<b>59,34,28,240.80</b>
	<b>Add-GST @</b>				
	<b>HSN Quode:</b>				