

SUMMARY SHEET		
ESTIMATE FOR CONSERVATION WORK OF GANDHI BHAWAN LIBRARY		
	PHASE -I	TOTAL
1	CONSERVATION WORK (Conservation of Gandhi Bhawan Library)	2,31,44,177.84
2	CIVIL WORK (for Additional Toilet Block)	8,87,101.20
3	LANDSCAPE WORK (Front & Back side Block Only)	19,62,270.47
4	ELECTRICAL & PLUMBING WORK (Gandhi Bhawan Library Only Conduiting and point wiring In electrical Work & Complete Plumbing for New Toilet Block)	21,33,944.64
5	AIR-CONDITIONING WORK (Gandhi Bhawan Library)	40,76,572.00
	TOTAL PHASE-I	3,22,04,066.15
	CONTENGENCIES @ 5%	16,10,203.31
	GRAND TOTAL	3,38,14,269.46

SUMMARY OF COST		
ESTIMATE FOR CONSERVATION WORK OF GANDHI BHAWAN LIBRARY		
Phase -1		
S.NO	DESCRIPTION	AMOUNT
A	Conservation Works (Library block)	
1	Removal and Dismantalling Works	9,32,011.74
2	Traditional Massonry Work	12,40,065.00
3	Consolidation Work	3,93,000.00
4	Traditional Roofing and Water proofing works	47,15,532.80
5	Repair and New Door Window Works	47,11,748.60
6	Flooring and Plinth Protection Work	20,56,616.00
7	Finishing Works Including Plaster, stucco and Lime Kara	75,58,360.00
8	Misc.Work Including Parapet /chajja works	10,70,690.00
9	Scaffolding and support frame work	4,46,818.50
	SUB TOTAL A	2,31,44,177.84
B	Civil Works (Additional toilet block)	
1	Removal and Dismantalling Works	45,070.95
2	Massonry Work	3,03,020.10
3	Roofing works	74,440.80
4	New Door Window Works	1,42,311.15
5	Flooring of toilet and Plinth Protection out side Work	2,91,339.60
6	finishing Works Including Plaster /Paint	30,918.60
	SUB TOTAL B	8,87,101.20
C	Landscape work (Front & side Court)	
1	Civil works, Pathway Driveway ,Railling and Drains	17,08,715.90
2	Horticulture	1,50,643.26
3	Rain water Harwesting	1,02,911.31
	SUB TOTAL C	19,62,270.47
	SUB TOTAL A+B+C(CIVIL)	2,59,93,549.51
D	Electrical & Plumbing Works (Library & Toilet block)	
1	Internal Electrical Instalations (Conduiting and Point Wiring for old block and Primery fixture new block)	15,17,384.70
2	Plumbing works toilet block	6,16,559.94
3	HVAC (Supply and low side)	40,76,572.00
	SUB TOTAL D(ELECTRICAL)	62,10,516.64
	TOTAL (A+B+C+D)	3,22,04,066.15
E	CONTINGENCY @ 5%	16,10,203.31
	GRAND TOTAL	3,38,14,269.46

Estimate for Conservation Works of Gandhi Bhawan Library ,Jabalpur

NOTES:

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| 1 | Item include all leads /lift and cariage etc,from work area to site yard including proper stacking of the re usable materials. |
| 2 | All Item of works are considered inclusive of scaffolding /shuttering /support structure/electricity and water etc as required / instructed by Site Engineer /Consultants . |
| 3 | All demolition /dismantaliing work done carefully as per direction of engineer in charge and includes cost of safety measure /use of specified equipment for workers of building applicable to complete the work . |

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
1.0		REMOVAL & DISMANTLING				
1.1	MP UADD SOR 15.2.1	Demolishing cement concrete(below any finishing layer sand stone/ basalt stone / ceramic /vinayal flooring) ,steps,blockadge manually including disposal of material within 50 mtr lead as per direction of Engineer - in charge. 15.2.1 1:3:6 or richer mix	75	CUM	427.50	32,062.50
1.2	MP UADD SOR 15.7.4	Demolishing moduler/ lakhori/traditional (of any brick size) brick work manually in lime /cement mortar including stacking of serviceable material and disposal of unserviceable material within 50 metres lead 15.7.4 In cement mortar	80	CUM	360.90	28,872.00
1.3	MP UADD SOR 15.25	Dismanteling basalt ashlar stone /sand stone slab/floor /pavement / by manual means including stacking of the serviceable material and disposal of unserviceable material up to a lead of 50 mtr .	260	SQM	46.80	12,168.00
1.4	Non Schd1	Carefully scrapping and removing of multiple layers of white wash enamel paint , distemper, oil paint, algae, etc. from plain plaster and surfaces gently with care to keep old designs intact .as per prescribed process and specification . Item includes cost of safety measure /use of specified equipment for workers required to complete the work.(Overall length and width will be measured for the purpose of payment)	760	SQM	110	83,600.00
1.5	Non Schd2	Careful dismantling of old lime plaster/cement plaster from walls of the heritage structure without damaging the stone work/brick work /historic fabric of the building including raking out of joints and cleaning the surface thoroughly. Item includes cost of safety measure /use of specified equipment for workers required to complete the work and disposal of rubbish to the dumping ground/ work yard within the site by mannual means including all leads, lifts and carriage as per direction of Consultants /engineer inchrge.(Overall length and width will be measured for the purpose of payment)	1800	SQM	161	2,89,800.00

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
1.6	MP UADDSO R 15.13	Taking out doors, windows and clerestory window shutters (steel or wood) including stacking within 50 metres lead :				
	15.13.1	Of area 3 sq. metres and below	99	EACH	24.30	2,405.70
	15.13.2	Of area beyond 3 sq. metres	53	EACH	32.40	1,717.20
1.7	MP UADD SOR 15.39.3	Dismantling wooden boardings in lining of walls and partitions excluding supporting members but including stacking within 50 meters lead : (note- partition/ jali /railing /wall pannels with frame including removal of blockedge from window /doors made on existing windows and doors with woolden block boards/plywood etc without damaging the historic fabric of the building) 15.39.3 Thickness above 25 mm up to 40 mm	75	SQM	16.20	1,215.00
1.8	MP UADD SOR 15.23.1	Dismantling tile work in floor sand roof s laid in cement mortar including stacking material within 50 meters lead. 15.23.1 For thickness of tiles upto 25 mm	255	SQM	16.20	4,131.00
1.9	JOB WORK	Removal of all Electrical wire , nails,screw ,additional clamps on wall , casing /exposed pvc conduits , additional clamps on chajja ,electrical fixtures ,lights ,boxes ,cartoon , bench ,drum, plumbing (internal & external)taps ,G.I. pipes, etc. from the site and stacking serviceable materials, as directed by Engineer inchrge/ Consultants , and including all leads, lifts and carriage. All complete. Item includes cost of safety measure /use of specified equipment for workers required to complete the work.	1	JOB WORK	25000	25,000.00
1.10	JOB WORK	Removal of all old plumbing (internal & external) including wc, washbasin,urinal, taps ,water cooler ,C.I/GI./ PVC/CPVC asbestos (all size and dia)pipes external/ internal area from the site and stacking serviceable materials, as directed by Engineer inchrge/ Architect, and including all leads, lifts and carriage. All complete. Item includes cost of safety measure /use of specified equipment for workers required to complete the work.	1	JOB WORK	25000	25,000.00
1.11	Non schd. 54	De vegetation from the monuments by chemical injection of Round Up (arsenic base) compound and subsequently uprooting by physical means without damaging the historic fabric and structure of the building under strict supervision of conservation architect/site inchrge.	9	SQM	633	5,697.00

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
1.12	MP UADD SOR 2.31	Clearing jungle including uprooting of rank vegetation, grass, bush wood, trees and saplings of girth upto 30cm measured at a height of 1m above ground level and removal of rubbish upto a lead of 100 mts.	660	SQM	3.07	2,025.54
1.13	Non schd. 62	Cutting and uprooting of trees growing on heritage structure and /or near them (causing damage to the historic fabric) by manual or machanical means in stages without damaging the historic fabric of the structure, including uprooting roots by digging of ground and filling the pits with earth as per instruction of conservation architect/site incharge.	4	NO.S	5000	20,000.00
1.14	MP UADD SOR 15.28	Careful dismantling roofing including ridges, hips, valleys and gutters etc., and stacking the material within 50 metres lead of :				
	15.28.1	G.S. Sheet .	240	SQM	28.80	6,912.00
1.15	MP UADD SOR 15.18	Dismantling steel work in built up sections in angles,tees,flats and channels including all gusset plates,bolts,nuts,cutting rivets,weldingetc. including dismembering and stacking within 50meters lead.	200	KG	0.90	180.00
1.16	MP UADD SOR 2.8.1	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. 2.8.1 All kinds of soil	330	CUM	116.10	38,313.00
2.0		MALBA REMOVAL				
2.1	NON SOR-74 (Derived by mp sor 2014)	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground(upto 15 km) or as approved by Engineer-in-charge, beyond 100 m initial lead, for all leads including all lifts involved. The rates will beapplicable to net quantities after deduction of prescribed percentage for voids mentioned in the specification under subhead "Carriage of materials".	920	CUM	339.09	3,11,962.80
3.0		ROOF DISMANTLING				

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
3.1	MP UADD SOR 15.19	Dismantling steel work manually/by mechanical means in built up sections without dis membering and stacking within 50 meters lead as per direction of Engineer-in-charge.	16190	KG	0.90	14,571.00
3.2	MP UADD SOR 15.1	Demolishing lime concrete manually/by mechanical means and disposal of material within 50 meters lead as per direction of Engineer in charge.	60	CUM	149.40	8,964.00
3.3	MP UADD SOR 15.26	Demolishing brick tile covering(Note- brick tile on edge and vaulted) interracing including stacking of serviceable material and disposal of unserviceable material within 50 meters lead.	600	SQM	18.00	10,800.00
3.4	MP UADD SOR 15.27	Demolishing mud phaska in terracing and disposal of material within 50 meters lead.	40	CUM	160.20	6,408.00
4.0		MASONRY WORK				0.00
4.1.1		Traditional brick masonry with special brick size in lime mortar in propotion similar to the existing traditional lime mortar (lime putty -surkhi 1:2) after removing the damaged and out of plumb masonry from the historic structure, as directed by Engineer incharge/ Consultants , and including all leads, lifts and carriage. All complete.				0.00
	Non schd.5	Brick work for superstructure for all heights	60	CUM	7020	4,21,200.00
	Non schd.6	Brickwork in ornamental pillars	11	CUM	7715	84,865.00
	Non schd.7	Brick masonry for arches with special size traditional bricks	10	CUM	8400	84,000.00
4.2	Non schd.8	Ornamental traditional brick masonry in mouldings and cornices (upto 30 cm in projection and 30 cm in depth as per traditional practice) in lime mortar similar to the existing traditional lime mortar (lime putty- surkhi 1:2) after removing the damaged and out of plumb masonry from the vertical surfaces , as directed by Engineer incharge/ Consultants , and including all leads, lifts and carriage. All complete.	500	RMT	1300	6,50,000.00
		CONSOLIDATION WORK				0.00

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
4.3	Non schd.9	Stitching the cracks in brick masonry using brick and lime mortar matching/toothing with the traditional lime mortar and bricks as existing size and type joinry courses in the historic structure after raking, cleaning and washing the cracks, as directed by Engineer incharge/ Consultants , and including all leads, lifts and carriage. All complete.	28	CUM	11250	3,15,000.00
4.4	Non schd.10	Stitching of Modular brickwork by inserting sand stone/basalt stone plate as approved of size 600 X 300 X 100 MM at identified locations by engineer in charge / Consultants and grouting the area with rich lime mortar 1:1 (1 lime: 1 Surkhi) including preparing like cutting out brickwork, teething, cleaning, grouting etc.For all heights and stacking of malba within 100 mtr lead.	30	NO.S	1350	40,500.00
4.5	Non schd.11	Consolidation of Lime plaster with grouting , after removal of loose materials and filling the gaps with lime mortar, 1:2 (Lime putty: surkhi) tightly and using pressure grouting technique if required.	75	SQM	500	37,500.00
5.0		ROOFING				0.00
5.1	MP UADD SOR 10.1	Structural steel (I Sections) work in single section fixed with or without connecting plate including cutting hoisting, fixing in position and applying a priming coat of approved steel primer, as directed by Engineer incharge/ Consultants , and including all leads, lifts and carriage. All complete.	13000	KG	53.10	6,90,300.00
5.2	Non schd.13	Providing, hoisting and laying of stone base plate of size (450X 600X 150 MM) under I sections/wooden beams on the end wall for placing the structural steel/wooden beam, as per the specification .	184	NO.S	1540	2,83,360.00
5.3	Non schd.16	Construction of brick vaulted roof as per old design of thickness of 230 mm (or as per design)and bearing of 250 mm using special size bricks in lime surkhi mortar 1: 2 (1 lime : 2 surkhi) including scaffolding/ shuttering/ centering and form work for temporary support structure required for the construction as directed by conservation consultants/ site-in-charge at all heights, including all leads and lifts. (Plan area of internal walls of constructed vault to be measured for the purpose of payment)	400	SQM	2205	8,82,000.00

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
5.4	Non schd.17	Lime concrete (for terraces as a filler between vaults) in the ratio of 1:1:1:4 (1 Lime: 1 Surkhi : 1 Coarse sand : 4 graded brick aggregate 40 mm nominal size).Item includes cost of shuttering /scaffolding /safety measure /use of specified equipment for workers required to complete the work	60	CUM	5355	3,21,300.00
5.5	Non schd.18	Relaying /replacement of stone tiles/brocken stone slab from the roof .Item includes cost of shuttering /scaffolding /safety measure /use of specified equipment for workers of building applicable to complete the work.	225	SQM	294	66,150.00
5.6	Non schd.53	Providing and laying twin layer brick tiles over wooden planks, as directed by Engineer incharge/ Consultants , and including all leads, lifts and carriage. All complete.	620	SQM	758	4,69,960.00
5.7	Non schd.15	Lime plaster 20 mm thick 1:1 (1 slaked Lime: 1 surkhi) on over the stone slab of desired level of app sheet including organic additives like sugarcane molasses, extracts of beil,maithi, etc. as per traditional practices.Item includes cost of shuttering /scaffolding /safety measure /use of specified equipment for workers required to complete the work.	620	SQM	363	2,25,060.00
5.8.1	NON SOR DSR 2016 22.20.1	providing and laying APP modified pree fabricated 5 layers 3 mm thick water proffing membrane ,black finished reinforced with non woven polyster matt consisting of a coat of bitumin primer for botumen membrane @.4 ltr /sq mtr by the same membrane manufacture of density at 25 degree centigrade ,0.87-0.89 kg/ltr and viscosity of 70-160 cps .the laying of membrane shall be got done through authorised applicator of the manufacturer of membrane 22.20.1 3 mm thick	680	SQM	375.39	2,55,265.20
5.8.2	NON SOR DSR 2016 22.21	Extra for covering top of membrane with Geotextile, 120 gsm non woven, 100% polyester of thickness 1 to 1.25 mm bonded to the membrane with intermittent touch by heating the membrane by Butane Torch as per manufactures recommendation.	680	SQM	68.99	46,909.80

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
5.9	Non schd.20	Providing and laying of 150 to 200 mm thick lime dhar on roofing as per traditional practice in 1:2:2:2 (1 lime: 2 sand: 2 old lime powder: 2 brick aggregate 12mm to 40mm nominal size) using methi, gur, hemp, belgiri etc. including beating and temping as per specification. Ramming for minimum 10 days and curing for min 30 days, as directed by Engineer incharge/ Consultants , and including all leads, lifts and carriage. All complete.	705	SQM	1257	8,86,185.00
5.10	NON SOR DSR 2016 12.16.1	10 cm thick (average) mud phaska of damped brick earth on roofs laid to slope consolidated and plastered with 25 mm thick mud mortar mixed with bhusa @ 35 kg per cum of earth and gobri leaping with mix 1:1 (1 clay : 1 cow dung) and covered with flat tile bricks, grouted with cement mortar 1:3 (1 cement : 3 fine sand) mixed with 2% of integral water proofing compound by weight of cement and finished neat: 12.16.1 With common burnt clay F.P.S.(non modular) brick tile of class designation 10	620	SQM	537.03	3,32,958.60
5.11	NON SOR -75	Providing gola 75mm x 75mm in lime concrete 1:2:2:2 (1 lime: 2 surkhi: 2 old lime powder: 2 brick aggregate 12mm to 20 mm nominal size) using methi, gur, hemp, belgiri etc. including beating and temping as per specification.	260	MTR	123.00	31,980.00
5.12	Non schd. 22	Making Khurra for 450X 450 mm with 18 mm lime mortar as a base, over additional layer of APP waterproofing layer and sealing all edges,including stone slab of size 600x450x.075 mm (as per detail) complete in all respect .	24	EACH	1640	39,360.00
5.13	Non schd. 23	Providing and fixing sand stone water spout as per traditional design with overhang of not less than 600 mm and made from single piece stone as per drawing.	24	EACH	1790	42,960.00
5.14	Non schd. 24	WATER DOWN DRAIN PIPE - Providing and fixing CI PIPE of 150 mm dia with all fixing accessories including clamps, angle, screw, nut bolt and required cutting and chiseling etc. as per the instruction of site engineer/ architect.Item includes cost of shuttering/scaffolding/safety measures/ use of specified equipments for workers of building required to complete the work .	120	mtr	1150	1,38,000.00

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
6.0		REFIX /REPAIR DOORS/WINDOW /VENTILATORS AND OTHER WOODEN ITEMS				0.00
6.1	Non schd. 25	Repairing of frame and re fixing the frames of doors, windows, clerestory windows, ventilators, other frames and wrought frame wherever frame is damage /broken / deteriorated is replaced with 1st class well seasoned chemically treated teak wood (of approved quality), as per traditional wooden joinry of members, and fixed in position with the help of holdfasts / traditional holdfast / handmade nails etc. Item inclusive of carving /ingraving of patters on frames wherever missing/damage/latter added is replaced as per original detail/drawing and removal of multiple layer of paint /enamel paint repeatedly on the frame as prescribe process and specification and finish with primer and Redoxide as of appropriate shade as approved by the Engineer In-charge. including all leads, lifts and carriage upto all heights. Item also includes Anti termite treatment of wood before fixing the frame at site, coating/painting of section of embedded timber coming into contact with masonry with tar application/ solignum. Measurement of final finished product will be used for the purpose of volume calculation and for payments.	10	CUM	38640	3,86,400.00
6.2	Non schd. 26	Repair of existing colour glass doors, windows and semi circular ventilators (as per original / existing design) is damage /broken / deteriorated is replaced with 1st class well seasoned and chemically treated teak wood (of approved quality) single/ double leaves 40-50 mm thick fully/partialy glazed openable shutters, paneling of door in wood /glass using 6mm thick Clear float Glass of Saint Gobain or equivalent make, for doors/windows/ventilator as per the existing original design and pattern /or design as per drawing instructed by the Consultants including all necessary fitting/ hardware like screws, nails, metal spikes, ornamented nails, metal patterns of flower, metal ribets, parliamentary hinges, tower bolts, handles, traditional handmade ms nails, traditional locking system, decorative features(butt hinges/tower bolt/ handle /door Aldrop/lock) of the same design, size and weight, etc. Item to also include making all the mouldings and design of the panels wherever missing/damage/latter added is replaced as in the original detail with all beading, patti, carving, marking, as per size given/ orignal existing detail/ drawing of shutter /panel and removal of multiple layer of paint /enamel paint repeatedly on the shutter as prescribe process and specification and finish with primer and Redoxide as approved by the Engineer In-charge/ Consultants. Item also includes Anti termite treatment of wood including all leads, lifts and carriage upto all heights. Mode of Measurement: Area of the door/window which is changed or made new in the entire door shall only be paid. Contractors to not charge the entire area of the shutter unless the entire shutter is made new. The area of the shutter includes the entire opening with all the leaves.	250	SQM	6250	15,62,500.00

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
7.0		NEW DOORS/WINDOW /VENTILATORS				0.00
7.1	Non schd. 27	Providing and fixing 1st class well seasoned and chemically treated Teak wood (of approved quality) work in frames of doors, windows, clerestory windows, ventilators , other frames and wrought frame of approved size , as per traditional wooden joinry of members, and fixed in position in traditional detail/manner with the help of holdfasts / traditional holdfast / handmade nails etc . Item is inclusive of carving /ingraving of pattens on fames as per existing patterns on original frames / detail drawing and finish with primer and redoxide as approved by the Engineer In-charge/ Consultants . Item also include all leads, lifts and carriage upto all heights including necessary framework/scaffolding etc required to complete the task. Contractor to ensure that moisture content of wood is well within IS codes and Any timber found unseasoned shall be rejected. All timber to be free of knots, cracks etc..Item also includes Anti termite treatment of wood before fixing the frame at site, coating/painting of section of embedded timber coming into contact with masonry with tar application/ solignum. Measurement of final finished product will be used for the purpose of volume calculation and for payments.	7.0	CUM	187425	13,11,975.00
7.2	Non schd. 28	Providing and fixing NEW colour glass doors, windows and semi circular ventilators (as per original / existing design) shutters of 1st class well seasoned and chemically treated teak wood (of approved quality) single/ double leaves 40-50 mm thick fully/partialy glazed openable shutters, panneling of door in wood /glass using 6mm thick Clear float Glass of Saint Gobain or equivalent make ,for doors/windows/ventilator as per the existing original design and pattern /or design as per drawing / as instructed by the Consultants including all necessary fitting/ hardware like screws, nails,metal spikes ,ornamented nails ,metal patterns of flower, metal ribets , parliamentary hinges, tower bolts, handles, traditional MS handmade nails, traditional locking system (hook and chain), decorative features (butt hinges/tower bolt/ handle /door Aldrop/lock) of the same design, material, size and weight, etc . Item to also include making all the mouldings and design of the panels as in the original detail with all beading, patti, carving, marking, as per original existing designs and size of shutters. shutters/panel should be finished from all sides with Redoxide of appropriate shade as approved by the Engineer In-charge / Consultants . Item also include all leads, lifts and carriage upto all heights including necessary framework/scaffolding etc required to complete the task. Contractor to ensure that moisture content of wood is well within IS codes and Any timber found unseasoned shall be rejected. All timber to be free of knots, cracks etc..Item also includes Anti termite treatment of wood before fixing the frame at site, coating/painting of section of embedded timber coming into contact with masonry with tar application/ solignum. Overall Length and width of the shutter /panel will be measured of final finished product for the purpose of area calculations & payments.	182.0	SQM	8100	14,74,200.00
8.0		FLOORING				0.00

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
8.1	Non schd. 34	Restoration , cleaning and patch repair of existing Mosaic flooring at central area as per traditional Art Deco pattern and design existing at site following same process and procedure to match color and shade with the existing using mosaic chips flooring, rubbed and polished to granolithic finish, under layer of 100 mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 12.5 mm nominal size) and top layer 9mm thick with colored marble chips of sizes from 4 mm to 7 mm nominal size, laid in cement marble powder mix 3:1 (3 cement : 1 marble powder) by weight in proportion of 4:7 (4 cement marble powder : 7 marble chips) by volume. Light shade pigment with white cement to match with existing mosaic flooring in colour, design and pattern.	200	SQM	2975	5,95,000.00
8.2	Non schd. 30	Restoration/repairing of sand stone flooring of existing floors including replacement/patch work of damaged stone by using original size stone ,wherever required . item inclusive of removal of damage stone and base work and fixing of new stone as per site .	260	SQM	1855	4,82,300.00
8.3	Non schd. 29	Providing and laying Hand dressed sand stone flooring of size 300x450x100mm or asapproved over 20 mm (average) thick base of lime Mortar 1:2 (1 Slaked lime:2 coarse sand) including flush pointing with Lime Mortar with an admixture of pigment to match the shade of stone, Joints between stones should be less than 12 mm. pattern & design as per Consultants ural drawing.	252	SQM	2300	5,79,600.00
8.4	Non schd. 31	Sub base for flooring: sub- base of 50mm thick bed of local sand/morum/hard copra evenly spread and rammed brick ballast bed 150mm thick with lime mortar in equal proportion, as directed by Engineer incharge/ Consultants , and including all leads, lifts and carriage. All complete.	512	SQM	348	1,78,176.00
8.5	Non schd. 32	Plinth Protection- Providing and laying of the modular brick tile on edge flooring on 20mm thick lime concrete leveling course laid over the sub- base of 50mm thick bed of local sand evenly spread and rammed with joints finished and flushed with bricks of class designation 150, on a bed of 12 mm lime surkhi mortar (1:2), including filling the joints with same mortar over the sub-base 150 mm thick of brick ballast (40 mm nominal size), filled with lime mortar 1:2 of equal quantity levelled and compacted as per the instruction of site engineer/ architect.	190	SQM	1166	2,21,540.00
9.0		FINISHING				0.00

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
9.1	Non schd. 35	Lime plaster 15 to 40 MM thickness on flat wall/vertical surfaces Providing and application of Lime – surkhi Plaster 1:1 (1 slaked Lime: 1 surkhi) on wall surfaces of thickness between 15 to 40 MM including organic additives like sugarcane molasses, extracts of beil,maithi, etc. as per traditional practices. The preparation of mortar is to be done following traditional practice includes using chakki/garat (wet grinding of lime and sand by heavy stone mill / chakki/garat), application of mortar in 3 layers with last layer of 6 MM thick, with a gap of minimum 3 days and not more than 10 days from previous layer. The item rate includes application of Loi, tampering, beating, reworking of plaster till the shrinkage cracks disappear and desired finish achieved and curing for 10 days. Item also includes all lead and lift, establishing work yard / chakki, scaffolding, formwork tools and implements etc.	1440	SQM	721	10,38,240.00
9.2	Non schd. 36	Lime plaster 5 to 10 MM thickness on ceiling and curved surfaces. Providing and application of Lime – surkhi Plaster 1:1 (1 slaked Lime: 1 surkhi) on wall surfaces of thickness between 5 to 10 MM including organic additives like sugarcane molasses, extracts of beil,maithi, etc. as per traditional practices. The preparation of mortar is to be done following traditional practice includes using chakki/garat (wet grinding of lime and sand by heavy stone mill / chakki/garat), application of mortar in single layers, with a gap of minimum 3 days and not more than 10 days from previous layer. The item rate includes application of Loi, tampering, beating, reworking of plaster till the shrinkage cracks disappear and desired finish achieved and curing for 10 days. Item also includes all lead and lift, establishing work yard / chakki, scaffolding, formwork tools and implements etc.	1440	SQM	861	12,39,840.00
9.3	Non schd. 37	Decorative plaster work in lime surkhi mortar (1:2) as per traditional practice and design, the mortar should be prepared by the grinding mill only. The thickness varying from 10mm to 100mm as per design, as directed by Engineer incharge/ Consultants , and including all leads, lifts and carriage. All complete.	360	SQM	1213	4,36,680.00

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
9.4	Non schd. 38	Providing new decorative Stucco work in lime, sand, Surkhi mortar (1:2:1), 20 - 40mm thick as per existing design work/ traditional practices by skilled craftsman, the stucco work should be done as per restoration nature, the mortar should be prepared by grinding mill adding gur, methi & gugal. Sample of the design and details of the decorative stucco work to be shown to the Consultants for necessary approvals before finalizing and finishing the same in Lime and Sand plaster in proportions 1:2 with the same not more than 10mm in thickness and a final coat of 5mm Thick lime putty. Item to be paid only for the part of the design made in new plaster and not the entire panel. Item to include curing for 21 days using water pumps or any other necessary methods to avoid any surface cracks. In case of development of surface cracks, the same to be redone as part of rectification works to achieve the necessary level of finish as directed by Consultants or Engineer in charge. Item to include all necessary tools, scaffold if required etc. complete	380	SQM	2345	8,91,100.00
9.5	Non schd. 39	Providing & applying Lime kara 1:2 (1lime cream : 2 Zikki powder) grinding mortar with grinding mill/manually on lime base, on all flat surface in two coats. First coat applying 3mm to 4mm thick and curing properly at least 7 days, second finishing coat done after 7 days of previous coat as per traditional practice. (thickness not more than 6 mm.)	2200	SQM	938	20,63,600.00
9.6	Non schd. 40	Providing & applying Lime kara 1:2 (1lime cream : 2 Zikki powder) grinding mortar with grinding mill/manually (on lime sand/sand plaster base) on ceiling /curved lime plaster in two coats. First coat applying 3mm to 4mm thick and curing properly at least 7 days, second finishing coat done after 7 days of previous coat as per traditional practice. (thickness not more than 6 mm.)	690	SQM	1072	7,39,680.00
9.7	Non schd. 41	Providing lime kara on decorative/ornamental surfaces or embellishments as per decorative /ornamental designs as per old existing carving on surface highly precise	740	SQM	1553	11,49,220.00
10.0		OTHER WORKS				0.00
10.1	Non schd. 45	Cleaning ,Painting(with two coat of enamel paint over base coat of primer) and antirust treatment of old grill ,metal balustrade and jaali of balcony etc Jali paint of treasury	60	SQM	99	5,940.00

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
10.2	Non Schd.63	Repair of cuplas/ kiosks over parapet of size 400x 400x500 mm In brick work with proper carving and decoration including lime plaster and stucco work finished with kara at desired location of parapet .stainless steel rod of 10 mm dia and upto 750 mm length shall be used as an anchor in the construction. Item includes cost of shuttering /formwork/ scaffolding /safety measure /use of specified equipment for workers of building required to complete the work	39	EACH	500	19,500.00
10.3	Non Schd.64	Making of cuplas/ kiosks over parapet of size 400x 400x500 mm In brick work with proper carving and decoration including lime plaster and stucco work finished with kara at desired location of parapet .stainless steel rod of 10 mm dia and upto 750 mm length shall be used as an anchor in the construction. Item includes cost of shuttering /formwork/ scaffolding /safety measure /use of specified equipment for workers of building required to complete the work	1	EACH	5000	5,000.00
10.4	Non Schd. 42	Construction of Parapet, with new or salvaged materials, in brickwork as per original designs existing at site / designs provided by site engineer , of height upto 800 MM and width upto 450 MM including decorative brickwork , at desired location, Item includes lime concrete coping (1:1 lime surkhi mortar with 10MM brick aggregate)/brick coping on top of the parapet, 6mm thick lime surkhi plaster 1:1(1 lime :1 surkhi) and lime Kara (not more than 3 mm thick) on all surfaces, all sides, curved and decorative elements, pillars, balustrade, Copings, handrail etc. as per decorative ornamental designs. Item also includes cost of shuttering /formwork/ scaffolding /safety measure /use of specified equipment for workers of building required to complete the work. Design of Parapet may change at each level of building and is part of the Item. (Running length of the parapet at the interior base towards terrace side will be measured for payment of this item)	205	MTR	2840	5,82,200.00
10.5	Non Schd. 46	Supplying and fixing rough dressed stone 'dasa ' stone parapet covering wall of size width 600x thickness 100 mm , cornices sriwan, string courses etc. in cement mortar 1:4 including pointing with admixture of pigment matching with the stone shade .Patch work as required including all lead ,lift upto all height.	5	MTR	1680	8,400.00

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
10.6	JOB WORK	Restoration of existing "Central dome " at front facade on site of the same design & size as per the original . Item to include fabricating the damaged balusters/ piers, decorative brackets, parapet thambli, dasa, chattri, jaali, arches etc. as per the original details and design on site, including preparing necessary base for fixing the missing elements or fixing the same elements after repair using SS dowels , filling all gaps and repair all major/ minor cracks above arch level in lime mortar including cornice of chattri by SS dowels/manual stitching/ realignment/ using adhesive for very minor cracks as directed by the Consultants or Engineer-in-charge. Item to include, getting approval of samples of any missing elements from the Consultants before fixing the same on site. Item to include all necessary tools, hardware etc. Mode of Measurement: The item to be paid as per the complete jharokha including from top point of pinnacle to last point of hanging kiosk as one job .	1	JOB WORK	300000	3,00,000.00
10.7	Non Schd.65	Providing and fixing of brass finial over kiosk/cuplas/dome as per approved design ,size of 50 mm dia 300mm long, with all fixing accessories , Item to include all necessary hardware, scaffolding etc. complete	41	NO.S	3650	1,49,650.00
11.0		SCAFFOLDING & SUPPORT FRAME				0.00
11.1	NON SOR	Providing and fixing double scaffolding system (cup lock type) on the exterior side of building/structure, upto 25 metre height, above ground level, including additional rows of scaffolding in stepped manner as per requirement of site, made with 40mm dia M.S. tube, placed 1.5 metre centre to centre, horizontal & vertical tubes joint with cup & lock system with M.S. Tubes, M.S. tube challis, M.S. clamps and staircase system in the scaffolding for working platform etc. and maintaining it in a serviceable condition for execution of work of cleaning and/ or pointing and/ or applying chemical and removing it thereafter. The scaffolding system shall be stiffened with bracings, runners, connecting with the building etc, wherever required, if feasible, for inspection of work at required locations with essential safety features for the workmen etc., complete as per directions and approval of Engineer-in-charge. Note:- (1) The elevational area of the scaffolding shall be measured for payment purpose. (2) The payment will be made once only for execution of all items for such works.	3100	SQM	144.14	4,46,818.50
		Grand Total				2,31,44,177.84

Estimate for Civil Works of Gandhi Bhawan Library Additional Toilet Block , Jabalpur

NOTES:

- 1 All Item of works are considered inclusive of all leads and lift for all height and distances .
- 2 All Item of works are considered inclusive of scaffolding /shuttering /support structure/electricity and water etc as required / instructed by Site Engineer /Consultants .
- 3 All demolition /dismantaling work done carefully as per direction of engineer in charge and includes cost of safety measure /use of specified equipment for workers of building applicable to complete the work .

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
1.0		REMOVAL & DISMANTLING				
1.1	MP UADD SOR 15.2.1	Demolishing cement concrete(below any finishing layer sand stone/ basalt stone / ceramic /vinayal flooring) ,steps,blockadge manually including disposal of material within 50 mtr lead as per direction of Engineer - in charge. 15.2.1 1:3:6 or richer mix	4	CUM	427.50	1,710.00
1.2	MP UADD SOR 15.7.4	Demolishing moduler/ lakhori/traditional (of any brick size) brick work manually in lime /cement mortar including stacking of serviceable material and disposal of unserviceable material within 50 metres lead 15.7.4 In cement mortar	22	CUM	360.90	7,939.80
1.6	MP UADD SOR 15.13	Taking out doors, windows and clerestory window shutters (steel or wood) including stacking within 50 metres lead :				
	15.13.1	Of area 3 sq. metres and below	5	EACH	24.30	121.50
1.8	MP UADD SOR 15.23.1	Dismantling tile work in floor sand roof s laid in cement mortar including stacking material within 50 meters lead. 15.23.1 For thickness of tiles upto 25 mm	60	SQM	16.20	972.00
1.16	MP UADD SOR 2.8.1	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.All kinds of soil	54	CUM	116.10	6,269.40

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
1.17	MP UADD SOR 2.25	Filling by available excavated earth (excluding rock)in trenches, plinth, sides of foundation setc .in layers not exceeding 20 cm indepth, consolidating each deposited layer by ramming and watering ,lead upto 50 m and lift upto 1.5 m.	22	CUM	53.10	1,168.20
1.18	MP UADD SOR 15.3 (MOD)	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge.	3	CUM	624.60	1,873.80
1.19	MP UADD SOR 15.5	Extra for cutting reinforcement bars manually/ by mechanical means in R.C.C. or R.B. work (Payment shall be made on the cross sectional area of R.C.C. or R.B. work) as per direction of Engineer in- charge.	17	SQM	200.25	3,404.25
1.20	MP UADD SOR 15.6	Extra for scrapping, cleaning and straightening reinforcement from R.C.C. or R.B. work.	330	KG	1.80	594.00
		MALBA REMOVAL				
2.1	NON SOR-74 (Derived by mp sor 2014)	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground(upto 15 km) or as approved by Engineer-in-charge, beyond 100 m initial lead, for all leads including all lifts involved. The rates will be applicable to net quantities after deduction of prescribed percentage for voids mentioned in the specification under subhead "Carriage of materials".	62	CUM	339	21,018.00
4.0		MASONRY WORK				
4.1.2	MP UADD SOR 6.1.1	Brick work with well burnt chimney bricks in bull spatent trench kiln manufactured by ghol process,crushingstrength not less than 40kg/sq cm and water absorption not more than 15% in foundation and plinth. Cement mortar 1:4 (1 cement : 4 coarse sand)	25	CUM	3995.10	99,877.50
4.1.3	MP UADD SOR 6.3.1	Brick work with chimeny brick of class designation 40 in superstructure above plinth level upto floor 2 level including the cost of scaffolding in : Cement mortar 1:4(1 cement : 4 coarse sand)	45	CUM	4092.30	1,84,153.50

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
4.9	MP UADD SOR 6.9.1	Half brick masonry with ofclass designation 40 in foundation and plinth in. Cement mortar 1:3 (1 cement : 3 coarse sand)	39	SQM	486.90	18,989.10
		ROOFING				
4.10	MP UADD SOR 5.3	Reinforced cement concrete work in beams, suspended floors , roofs having slope up to 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral staircases up to floor two level excluding the cost of centering ,shuttering, finishing and reinforcement with Cement concrete grade M-20(Nominal Mix with 20 mm maximum size of stone aggregate).	7	CUM	4608.00	32,256.00
4.11	MP UADD SOR 5.20.1	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level Mild steel and Medium Tensile steel bars (10 mm and 12 mm dia bars)	660	kg	54.00	35,640.00
4.12	MP UADD SOR 20.1.3	Centering and shuttering including strutting, propping etc. and removal of form for all heights :Suspended floors, roofs, landings, balconies and access platform.	20	sqm	204.30	4,086.00
5.0		OVER -ROOFING				
5.11	MP UADD SOR 12.21.1	Providing gola75x75 mm in cement concrete M-15 with aggregate 10 mm and down gaug eincluding finishing with cement mortar 1:3 (1cement:3finesand)as per standard design : 12.21.1 In 75x75mm deep chase	28	MTR	75.60	2,116.80
5.12	MP UADD SOR 12.22	Making khurras 45x45 cm with average minimum thickness of 5 cmcement concrete M-15 with aggregate of 20 mm nominal size over P.V.C. sheet 1mx1mx400 micron, finished with 12 mm cement plaster1:3 (1cement:3 coarse sand) and a coat of neat cement rounding the edge sand making and finishing the outlet complete.	2	EACH	123.30	246.60
5.13	MP UADD SOR 12.37.1	Providing and fixing 100mm dia meter and 60 cm long rain water spout in cement mortar 1:4 (1 cement : 4 fine sand). 12.37.1 Stone ware spout	2	EACH	47.70	95.40
7.0		NEW DOORS/WINDOW /VENTILATORS				

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
7.3	MP UADD SOR 9.1.1	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position 9.1.1 :Second class teak wood	1.5	CUM	74823.30	1,12,234.95
7.4	MP UADD SOR 9.21.1	Providing and fixing ISI marked flush door shutters conforming to IS:2202(Part I) non-decorative type, core of block board construction with frame of 1st class hardwood and well matched commercial 3 ply veneering with vertical grain s or crossband sand face veneers on both faces of shutters using following hinges. 9.21.1 35 mm thick including ISI marked stainless Steel butt hinges with necessary screws.	22.0	SQM	1367.10	30,076.20
8.0		FLOORING				
8.5	Non sched. 32	Plinth Protection- Providing and laying of the modular brick tile on edge flooring on 20mm thick lime concrete leveling course laid over the sub- base of 50mm thick bed of local sand evenly spread and rammed with joints finished and flushed with bricks of class designation 150, on a bed of 12 mm lime surkhi mortar (1:2), including filling the joints with same mortar over the sub-base 150 mm thick of brick ballast (40 mm nominal size), filled with lime mortar 1:2 of equal quantity levelled and compacted as per the instruction of site engineer/ architect.	93	SQM	1166	1,08,438.00
8.7	MP UADD SOR 11.21.1	Providing and fixing 10mm thick acid and or alkali resistant tiles of approved make and colour using acid and or alkali resisting mortar bedding and joints filled with acid and or alkali resisting cement as per IS:4457 complete as per the direction of Engineer-in- Charge. 11.21.1 In flooring on a bed of 10 mm thick mortar 1:4 (1 acid proof cement: 4 coarse sand). Acid and alkali resistant tile.	68.0	SQM	970.20	65,973.60
8.8	MP UADD SOR 11.21.2	In dado/skirting on 12 mm thick mortar 1:4 (1 acid proof cement: 4 coarse sand). 11.21.1 Acid and alkali resistant tile.	116.0	SQM	1008.00	1,16,928.00
9.0		FINISHING				
9.8.1	MP UADD SOR 13.9	12 mm cement plaster 1:3 (1 cement: 3 coarse sand) finished with a floating coat of neat cement.	105	SQM	128.70	13,513.50

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
9.9	MP UADD SOR 13.17	6 mm cement plaster 1:3 (1cement:3finesand) finished with a floating coat of neat cement and thick coat of Lime wash on topofwalls when dry for bearing of R.C.C. slabs and beams.	32	SQM	100.80	3,225.60
9.10	MP UADD SOR 13.26.1	Providing and applying 1.5mm thick (intwocoat) white cement based wall putty of best quality,over plastered surface to prepare the surface even and smooth complete.	137	SQM	73.80	10,110.60
9.11	MP UADD SOR 13.40	Distempering with dry distemper of approved brandand manufacture (two or more coats)and of required shade on new work,over and including priming coat of whitening to give an even shade.	137	SQM	29.70	4,068.90
10.0		OTHER WORKS				
		Grand Total				8,87,101.20

Estimate for Landscape Works of Gandhi Bhawan Library , Jabalpur

NOTES:

1

All Item of works are considered inclusive of all leads and lift for all height and distances .

2

All Item of works are considered inclusive of scaffolding /shuttering /support structure/electricity and water etc as required / instructed by Site Engineer /Consultants .

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
		LANDSCAPE				
12.1	Non Schd.70	PATHWAY WITH TOE WALL -Providing and laying of the modular brick tile on edge flooring on 20mm thick lime concrete leveling course laid over the sub- base of 50mm thick bed of local sand evenly spread and rammed with joints finished and flushed with bricks of class designation 150, on a bed of 12 mm lime surkhi mortar (1:2), including filling the joints with same mortar over the sub-base 150 mm thick of brick ballast (40 mm nominal size), filled with lime mortar 1:2 of equal quantity levelled and compacted Item also inclusive of toe wall in stone masonry of 460x250and 300 x230 mm height with pcc sub base of 1:4:8 100 mm thick both side of pathway as per the instruction of site engineer/architect. (plan area including toe wall top will be measured for payments)	358	SQM	1760	630080
12.2	MP UADD SOR 6.1.1.	Brick work with well burnt chimney bricks in bulls patent trench kiln manufactured by ghol process ,crushing strength not less than 40 kg /sq cm and water absorption not more than 15% in foundation and plinth Cement mortar 1:4 (1 cement : 4 coarse sand) (brick massonry for drain ,sitting & tree guard) 6.1.1 Brick work in superstructure for all heights	12	CUM	3995.10	47,941.20
12.3	MP UADD SOR 4.1.6	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to any level: Cement concrete grade M-7.5(Nominal Mix)with 40 mm maximum size of stone aggregate (FOR LANDSCAPE AND DRIVE WAY PCC WORK)	78	Cu M	2890.80	2,25,482.40

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
12.4	DSR 2016 4.3.2	Centering and shuttering including strutting, propping etc. and Removal of form work for : 4.3.2: Retaining walls, return walls, walls (any thickness) including attached pilasters, buttresses, plinth and string courses fillets, kerbs and steps etc	216	SQM	340.74	73,599.84
12.5	Non Sched.71	DRIVEWAY - Providing and laying 125 to 150 mm thick M-25 RMC concrete for stamp concreting work to walkways in position ready mixed concrete as per mix design of specified grade for cement concrete work including work including pumping of concrete to site of laying, finishing laid over p.c.c sub base.including cost of color hardener to the concrete(as approved colour), admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength, durability. Item also include cost of stamping/texture /imprint and cutting Contraction joints as required or as per direction of the Engineer - in - charge. M-25 grade cement concrete (Stamped concrete, often called textured or imprinted concrete, is concrete that replicates stones such as slate and flagstone, tile, brick and wood.)	85	CUM	6600	561000
12.6	DSR 2016 4.5.1	KERBSTONE SIDE OF DRIWAY -Providing and fixing at or near ground level precast cement concrete in kerbs, edgings etc. as per approved pattern and setting in position with cement mortar 1:3 (1 Cement : 3 coarse sand) including the cost of required centering, shuttering and finishing smooth with 6mm thick cement plaster 1:3 (1 cement : 3 fine sand) on exposed surfaces complete. 4.5.1 Cement concrete grade M-15 (Nominal Mix) with 20 mm maximum size of stone aggregate	12	CUM	6095.21	73,142.46
12.7	DSR 10.16.1	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete. 10.16.1: Hot finished welded type tubes	1200	KG	81.23	97,470.00

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
13.1	LAND. DSR 2016 2.1	Trenching in ordinary soil up to a depth of 60 cm including removal and stacking of serviceable materials and then disposing of surplus soil, by spreading and neatly leveling within a lead of 50 m and making up the trenched area to proper levels by filling with earth or earth mixed with sludge or/and manure before and after flooding trench with water (excluding cost of imported earth, sludge or manure).	120	CUM	41.27	4,951.80
13.2	LAND. DSR 2016 2.2	Supplying and stacking of good earth at site including royalty and carriage up to 5 km (earth measured in stacks will be reduced by 20% for payment).	180	CUM	299.30	53,873.10
13.3	LAND. DSR2016 2.3	Supplying and stacking sludge at site including royalty and carriage up to 5 km (sludge measured in stacks will be reduced by 8% for payment).	120	CUM	212.00	25,439.40
13.4	LAND. DSR2016 2.4.3	Supplying and stacking at site dump manure from approved source, including carriage up to 5 km (manure measured in stacks will be reduced by 8% for payment) 2.4.3 Screened through sieve of I.S. designation 4.75 mm	72	CUM	188.24	13,552.92
13.5	LAND. DSR2016 2.5	Rough dressing the trenched ground including breaking clods.	2400	SQM	0.81	1,944.00
13.6	LAND. DSR2016 2.6	Uprooting weeds from the trenched area after 10 to 15 days of its flooding with water including disposal of uprooted vegetation.	2400	SQM	2.61	6,264.00
13.7	LAND. DSR2016 2.7	Fine dressing of the ground	2400	SQM	1.94	4,644.00
13.8	LAND. DSR2016 2.8	Spreading of sludge, dump manure and / or good earth in required thickness as per direction of Officer-in-charge (Cost of sludge, dump manure and / or good earth to be paid separately).	372	CUM	27.86	10,362.06
13.9	LAND. DSR2016 2.9	Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge.	372	CUM	19.22	7,147.98

Item	Ref.	Description	Qty	Unit	RATE	AMOUNT
13.10	LAND. DSR2016 2.10.1	Grassing with selection No.1 grass including watering and maintenance of the lawn for 30 days or more till the grass forms a thick lawn, free from weeds and fit for mowing including supplying good earth, if needed (the good earth shall be paid for separately). 2.10.1 In rows 5 cm apart in both directions	2400	SQM	9.36	22,464.00
11		RAIN WATER HARVESTING			0.00	0.00
14.1	MP UADD SOR 22.7.1	Providing and laying filter material as given below in recharge pit/ percolation pit or soak pit/ waste water treatment system. 22.7.1 Sand (1.5 mm to 2.00 mm)	10	Cu M	1228.50	12,285.00
14.2	MP UADD SOR 22.7.2	Providing and laying filter material as given below in recharge pit/ percolation pit or soak pit/ waste water treatment system. 22.7.2 Gravel/Pebbles (5 to 25 mm)	10	Cu M	1024.20	10,242.00
14.3	MP UADD SOR 22.8	Brick bats	10	Cu M	859.50	8,595.00
14.4	NON SOR DSR 24.3.2	Supplying, assembling, lowering and fixing in vertical position in bore well, unplasticized PVC medium well casing (CM) pipe of required dia, conforming to IS: 12818, including required hire and labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer -in-charge. 24.3.2 : 150 mm nominal size dia.	80	MTR	528.35	42,267.60
14.5	NON SOR DSR 23.13.2	Providing and fixing suitable size threaded mild steel cap or spot welded plate to the top of bore well housing/ casing pipe, removable as per requirement, all complete for borewell 23.13.2 150 mm dia	2	each	164.66	329.31
14.6	NON SOR DSR 23.1.1.2	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of allequipments, tools, plants & machineries required for the job, all complete as per direction of Engineer -in-charge, 23.1.1 All types of soil. 23.1.1.2 350 mm dia	80	MTR	364.91	29,192.40
		Grand Total				19,62,270.47

ESTIMATE FOR ELECTRICAL & PLUMBING WORKS GANDHI BHAWAN LIBRARY & ADDITIONAL BLOCK

S.N O	REF NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
		Electrical Work				
		SUB-HEAD I: INTERNAL WIRING				
		All wiring Item FRLS including provision of conduit, conduit accsories , circuit wiring, switch, box and all fitting completed as required.				
1	(1.10.3)	Wiring for light point / fan point /exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC Conduit, with modular switch,modular plate ,suitable GI Box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required.				
		a) Group C	150	Point	646.20	96,930.00
2	-1.11	Wiring for twin control light point with 1.5 sq.mm FRLS PVC insulated copper condutor single core cable in surface / recessed PVC conduit 2 way modular switch,modular plate,suitable GI box and earthing the point with 1.5 sq.mm .FRLS PVC insulated copper conductor single core cable etc as required.	30	Point		
					693.00	20,790.00
3	-1.12	Wiring for light /power plug with 2x4 sq.mm FRLS PVC insulated copper conductor single core cable in surface /recessed PVC conduit along with 1 No 4 sq.mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	1500	Meter		
					145.80	2,18,700.00
4	-1.13	Wiring for light /power plug with 4x4 sq.mm FRLS PVC insulated copper conductor single core cable in surface /recessed PVC conduit along with 2 No 4 sq.mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	450	Meter		
					247.50	1,11,375.00
5		Wiring for circuit/submain wiring alongwith earth wire with the following sizes of FR PVC insulated copper conductor single core cable in surface/recessed PVC Conduit as required.				
					0.00	0.00
(i)	(1.14.1)	2x1.5 sq.mm + 1x1.5 sq.mm earth wire	450	Meter	95.40	42,930.00
(ii)	(1.14.2)	2x2.5 sq.mm + 1 x 2.5 sq.mm earth wire	1875	Meter	117.90	2,21,062.50
(iii)	(1.14.3)	2 x 4 sq.mm + 1 x 4 sq.mm earth wire	375	Meter	145.80	54,675.00
(iv)	(1.14.4)	2x6 sq.mm + 1x6 sq.mm earth wire	375	Meter	198.90	74,587.50
(v)	(1.14.8)	4x4 sq.mm + 2x4 sq.mm earth wire.	150	Meter	247.50	37,125.00
(vi)	(1.14.10)	4x10 sq.mm + 2x10 sq.mm earth wire.	115	Meter	537.30	61,789.50
(vii)	(1.14.11)	4x16 sq.mm + 2x16 sq.mm earth wire	115	Meter	794.70	91,390.50

5	(1.31)	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 amps modular socket outlet and 5/6 amps modular switch ,connection etc as required.	30	Each	248.40	7,452.00
6	(1.32)	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess including providing and fixing 6 pin 15/16 and 5/6 amps modular socket outlet with shulter and 15/16 amps modular switch connection, etc as required.	30	Each	272.70	8,181.00
7	(1.38)	Supplying and fixing call bell/ buzzer suitable for single phase ,230 volts ,complete as required.	2	Each	54.90	109.80
8		Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.			0.00	0.00
(i)	(1.21.2)	25 mm	900	Meter	58.50	52,650.00
(ii)	(1.21.3)	32 mm	150	Meter	76.50	11,475.00
9	ELE NS 1	S/F Wooden conduit · Supplying and fixing of following sizes of wooden conduit along with accessories in surface/recess including, fixing cap with nails, clips, cutting the wall wherever necessary and making good the same in case of recessed conduit as required.			0.00	0.00
		50 MM WIDE	150	MTR	49.50	7,425.00
10	NS	Vintage style electrical toggle Bakelite switch in round shape on ceramic/PVC based.(black colour base) as per direction of architect .SSK or Equivalent brand			0.00	0.00
	ELE NS 31	5/6 amps switch	15	No.s	585.00	8,775.00
	ELE NS 32	6 pin 15/16 amp socket outlet	10	No.s	675.00	6,750.00
11	(2.18)	Supplying and fixing 20 amps, 240 volts SPN industrial type, socket outlet with 2 pole and earth metal enclosed plug top along with 20 amps 'C' Curve, SP, MCB in sheet steel encloser on surface or in recess with chained metal cover for the socket outlet and complete with conncections, testing & commissioning etc as required.	15	Each	781.20	11,718.00
12	(NS)	Supplying and fixing of 1no 16 Amp moulded switch and 2 nos 6amp moulded socket in protection with box and including with 3x2.5sqmm. (P+N+E) FRIS. PVC insulated copper conductor wire in surface / recessed in IS embossed black enameled 2mm thick PVC conduit and earthing the 3rd pin complete as per specification and as required. (2 set per circuit shall be wired) - COMPUTER POINTS	15	Each	1800.00	27,000.00
13	(NS)	Supplying & fixing 75mm x 75mm x 10 mm zinc passivated box with mould cord outlet complete with RJ 45 sockets as required for computer data point.	15	Each	405.00	6,075.00
14	(NS)	Supplying & laying CAT 6 for LAN wiring in PVC conduit / Cable Tray complete as required.	450	Each	63.00	28,350.00

15	(NS)	Supply Installation, testing and commissioning of LED tubelight 5 Watt unit with all fitting arrangement and necessary connection all complete .as per direction of engineer incharge .Make-Phillips/havells /Bajaj/Crompton/Wipro	15	EACH		
					552.60	8,289.00
		SUB-HEAD II:- DISTRIBUTION BOARDS			0.00	0.00
1	(2.8)	Supplying and fixing following way prewired TP & N, MCB distribution board of sheet steel for 415 volts on surface /recess complete with loose wire box, terminal connectors for all incoming and outgoing circuits, duly prewired with suitable size FRLS PVC insulated copper conductor up to terminal blocks, tinned copper bus bar, neutral link, earth bar, din bar, detachable gland plate, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator).			0.00	0.00
	(2.8.6)	6 way (4+18) Double door	2	Each	8546.40	17,092.80
	(2.8.7)	8 way (4+24) Double door	10	Each	9360.00	93,600.00
2	(2.7)	Supplying and fixing following way, single pole and neutral, prewired, sheet steel, MCB distribution board, 240 volts, on surface /recess, complete with loose wire box, terminal blocks, duly prewired with suitable size FRLS PVC insulated copper conductor upto terminal blocks, tinned copper bus bar, neutral link, earth bus, din bar, detachable gland plate, interconnections, powder painted including earthing etc as required. (But without MCB/RCCB/Isolator)			0.00	0.00
	(2.7.4)	4 way (2+4) Double door	2	Each	2257.20	4,514.40
3	2.9	Supplying and fixing following way prewired vertical type 415 volts TP&N MCB distribution board surface/recessed of sheet steel dust protected duly powder painted inclusive of 200amps tinned copper bus bar common neutral link earth bar din bar for mounting MCB's terminal connectors for all incoming and outgoing circuits duly prewired with FRLS PVC insulated copper conductor upto the terminal connector/ neutral link earthing etc. as required (But without MCB/MCCB) (Note: VTPN DB is normally used where 3 phase outlets are required).				
	2.9.5	4 way double door	4	Each	7110.90	28,443.60
4		Supply and fixing 5 amps to 32 amps rating,240/415 volts.'C' curve miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections,testing and commissioning etc.as required			0.00	0.00
	(2.10.1)	a) Single pole	45	Each	144.00	6,480.00
	(2.10.5)	b) Triple pole	15	Each	585.00	8,775.00
5	2.12	Supply and fixing following rating,double pole,240 volts,MCB in the existing MCB DB complete with connection ,testing and commissioning etc. as required.			0.00	0.00
	(2.12.1)	a) 40 amps	3	Each	196.20	588.60

6		Supply and fixing following rating,four pole,415 volts,MCB in the existing MCB DB complete with connection ,testing and commissioning etc. as required.			0.00	0.00
	(2.13.2)	a) 63 amps	15	Each	603.00	9,045.00
	(2.13.3)	b) 100 amps	5	Each	765.90	3,829.50
7		Supply and fixing following rating,double pole (single phase and neutral),240 volts,RCCB having a sensitivity current upto 300 amp in the existing MCB DB complete with connection ,testing and commissioning etc. as required.			0.00	0.00
	(2.14.1)	a) 25 amps	10	Each	1480.50	14,805.00
	(2.14.2)	a) 40 amps	50	Each	1530.00	76,500.00
		SUB-HEAD III :- WIRING FOR TELEPHONE			0.00	0.00
					0.00	0.00
1		Supplying and fixing of following size/modules, GI box along with modular base & cover plate for modular switches in recess etc as required.			0.00	0.00
	(1.27.1)	a) 75 mm x 75 mm x 60 mm deep	20	Each	153.00	3,060.00
2		Supplying and drawing following pair, 0.5mm dia FR PVC insulated annealed copper conductor, unarmoured telephone cable in the existing surface/ recessed steel/ PVC conduit as required.			0.00	0.00
a)	(1.18.2)	2 Pair	900	Meter	18.00	16,200.00
3	(1.19)	Supplying and drawing co-axial TV cable RG-6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/ recessed steel/ PVC conduit as required.	100	Meter	22.50	2,250.00
4		Supplying and fixing following modular switch/ socket on the existing modular plate and switch box including connections but excluding plate etc .as required.			0.00	0.00
	(1.24.6)	a) Telephone socket outlet	10	Each	81.00	810.00
	(1.24.7)	a) TV socket outlet	6	Each	81.00	486.00
5		Supplying and fixing of the following sheet steel clad wall / recess mounting telephone tag blocks of krone make constructed from 14 SWG sheet steel finished with red oxide coating of two coats of paint with hinged gasketted powder coated door and complete.			0.00	0.00
	(NS)	a) 10 pairs	2	Each	1350.00	2,700.00
	(NS)	b) 50 pairs	4	Each	3150.00	12,600.00
12.0		TOILET & PLUMBING				
12.1	NON SOR	Providing laying fixing and testing GI pipe line and special tee bends sockets , elbows etc as per design . inside building and tested etc. complete including cutting and threading (b) including cost of special tee bands socket etc ,all complete	30	MTR	144.00	4,320.00

12.2	MP UADD SOR 25.3.1	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I.brackets, 40mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete including painting of fittings and brackets, cutting and making good the walls and floors wherever required :	7	each		
					3440.70	24,084.90
12.3	MP UADD SOR 23.29.1	Providing and fixing C.P. brass bib cock of approved quality conforming to IS:8931.15 mm nominal bore.	18	each		
					324.00	5,832.00
12.4	MP UADD SOR 23.32.1	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931. 15 mm nominal bore.	14	each		
					324.00	4,536.00
12.5	NON SOR	providing and fixing in position best indian made bevelled edged 5.5 mm thick mirror mounted on asbestos sheet ground fixed in position by means of 4 nos chromium plated brass screw over rubber washer and rawl plugs embedded in the wall or chromium plated brass screws complete including cutting and making good the walls etc. indian make as per design	4	each		
					3150.00	12,600.00
12.6	MP UADD SOR 25.7.1	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require : White Vitreous China Wash basin size 630x450 mm with a pair of 15 mm C.P. brass pillar taps.	7	each		
					1407.60	9,853.20
12.7	NON SOR DSR18.1 0.4	Providing and fixing 32mm dia GI water waste pipe embedded into wall upto All level and heights	120	MTR		
					162.00	19,440.00
12.8	NON SOR	providing and fixing in position best indian made flexible tube connection C.P Brass 15mm x 375 mm	14	each		
					171.00	2,394.00
12.9	NON SOR	Providing and fixing in position HCI floor trap conforming to ISI specification of reputed firm of the self cleaning design design with CP brass hinged grating with frame with or without arm and including cement concrete 1:2:4 under and around the floor trap where required up to floor level complete in all respects including cutting and making the good walls and floor etc. minimum depth of water should be 150mm with minimum seal 50mm b) 75mm internal diameter outlet.	9	each		
					1033.20	9,298.80
12.10	NON SOR DSR 17.60	Providing and fixing in position superior quality 65mm 1/d opening C.P brass dome type hinged grating weighing 750 grams fixed in cement sand mortar 1:2 complete in all respects (as required by the Engineer -in-charge)				
					0.00	0.00
	17.60.1.1	i) 100mm i/d (1.36kg) Sand cast iron S&S as per IS: 3989	20	NOS		
					884.30	17,685.90

	17.60.2.1	ii) 75mm i/d (1.13kg.)Sand cast iron S&S as per IS - 3989	20	NOS	918.00	18,360.00
12.11	MP UADD SOR 25.4.3	Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of 430x260x350mm and 340x410x265mm sizes respectively with automatic flushing cistern with standard flush pipe and C.P. brass spreaders with brass unions and G.I clamps complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required : Range of three urinal basins with 10 litre white P.V.C. automatic flushing cistern.	6	Nos	3956.40	23,738.40
12.12	NON SOR Non Schd.	Painting HCI soil waste, vent pipes and fittings with black bitumastic paint of approved manufacture, ISI marked with 2 Coat on new work with ISI marked paint.			0.00	0.00
		b) 100mm internal diameter	150	MTR	85.50	12,825.00
		c) 75mm internal diameter	150	MTR	72.00	10,800.00
12.13	NON SOR	Providing and fixing in position H.C.L. soil waste vent or antisiphonage pipes to I.S.I. specification of E.D.C. manufacture or of any other reputed firm including cutting and wastage etc. and cutting holes in walls roofs			0.00	0.00
12.1		b) HCL 100mm internal diameter	150	MTR	580.50	87,075.00
		c) HCI 75mm internal diameter	150	MTR	490.50	73,575.00
12.15	NON SOR DSR 19.4.1.1	Providing and fixing in position gully trap fixed in concrete 1:4:8 complete with HCI grating 150mmx150mm cast iron weighing approx 7.26 kg and frame clear opening 300mmx300mm and outside size 330mmx330mm and chamber including cost of all brick work in cement mortar 1:5 cement concrete 1:2:4 in coping around CI cover and frame etc. with 3 coats of black bitumastic superior paint of approved manufacturer an all C.I. work as per standard design minimum seal 50mm (B) 100mm i/d H.C.I gully trap.	7	each	1414.35	9,900.45
12.16	NON SOR	Excavation for pipe line trenches and pits, in open areas where disposal of surplus earth is done along the alignment, including trimming and dressing sides, levelling of beds of trenches to correct grade, cutting joint holes, refilling, consolidation and dewatering of refille in 15 em layers and resoration of unmateded or paved surface to its original condition. The rate includes the cost of the accessories timbering, dewatering of rain water diversion for traffic, night signal, fixing caution boards, watching fencing etc. (i) from 6.00 mts depth down to 7.5 m depth in case of all classes of soil except rocky.P/L and jointing glazed stone wire pipes clamp spl with stiff mixture of cement mortar in the proportion of 1:1 (1 cement 1 sand) including testing of band etc. complete	6	cum	140.04	840.24

12.17	NON SOR	P/L cement concret 1:5:10 (1 cement 5 sand 10 coarse graded) all round S.W. pipes including bed concrete as per standard design			0.00	0.00
		100mm S.W. pipes	12	MTR	382.50	4,590.00
		150mm S.W. pipes	12	MTR	117.00	1,404.00
12.18	NON SOR	Constructing brick masonry manhole in cement mortar 1:4 (1cement 2 coarse) R.C.C top[slab with1:2:4 mix (1cement 2 coarse sand 4 graded stone aggregate 20mm nominal size),foundation concrete 1:4:6 mix (1 cement :4 coarse sand 8 graded stone aggregate 40mm nominal size) inside plastering 12mm thick with cement mortar 1: 3 (1 cement and making channeles in cement concrete 1:2:4 (1 cement 2 coarse sand 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement complete as per standard design. Inside size 90x80 cm and 45cm deep including C.I cover with frame (light duty) 455x610mm internal dimensions total weight of cover and frame to be not less than 38 kg(weight of cover 23kg and weight of frame 15kg) with F.P.S.brick with class designation 75	4	nos	6300.00	25,200.00
12.19	MP UADD SOR 25.34.1	Providing and fixing toilet paper holder : C.P. brass	4	each	163.80	655.20
12.20	MP UADD SOR 25.69.2	Providing and fixing PTMT Waste Coupling for wash basin and sink, of approved quality and colour. Waste coupling 38mm of 83mm length and 77mm breadth, weighing not less than 60gms.	7	each	75.60	529.20
12.21	MP UADD SOR 25.70.2	Providing and fixing PTMT Bottle Trap for Wash basin and sink.Bottle trap 38mm single piece moulded with height of 270mm, effective length of tail pipe 260mm from the centre of the waste coupling 77mm breadth with 25mm minimum water seal, weighing not less than 263gms.	7	each	391.50	2,740.50
12.22	MP UADD SOR 8.10.2	Providing and fixing stone slab with table rubbed, edges rounded and polished, of size 75x50 cm deep and 1.8 cm thick, fixed in urinal partitions by cutting a chase of appropriate width with chase cutter and embedding the stone in the chase with epoxy grout or with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6 mm nominal size) as per direction of Engineer-in-charge and finished smooth.Granite Stone of approved shade.Granite Stone of approved shade.	2	SQM	2541.60	5,083.20

12.23	MP UADD SOR 18.48	Providing and placing on at all floor levels high design HDPE (polyethylene) water storage tank ISI : 12701 marked with cover and suitable locking arrangement and making necessary holes for inlet, outlet and arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.	2000	LTR	6.30	12,600.00
12.24	NON SOR	Providing and fixing drinking water cooler including all fittings complete with metal jaali cover with frame	1	EACH	27000.00	27,000.00
11.0		pipes and chamber			0.00	0.00
11.1	MP UADD SOR 24.10.1	Constructing brick masonry road gully chamber 50x45x60 cm with bricks of class designation 40 in cement mortar 1:4 (1 cement : 4 sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame (minimum weight of grating 75 kg) complete as per standard design : With Modular bricks	4	EACH	2932.20	11,728.80
11.2	DSR 18.27.6	Providing and laying S&S centrifugally cast (spun) iron pipes (Class LA) conforming to IS - 1536 :100 mm dia pipe including flanged C.I. standard specials such as tees, bends,collars, tapers, caps etc., suitable for flanged jointing as per IS : 1538 :Up to 300 mm dia	10	MTR	4346.42	43,464.15
11.3	MP UADD SOR 23.9	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement ,trenching ,refilling & testing of joints complete as per direction of Engineer in Charge.			0.00	0.00
11.3.1	23.9.10	150 mm nominal outer dia Pipes	20	MTR	3805.20	76,104.00
11.3.2	23.9.9	100 mm nominal outer dia Pipes	20	MTR	2191.50	43,830.00
		DRAIN CONECT TO SEWER			0.00	0.00
11.4	MP UADD SOR 24.3.2	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete : 150 mm dia. R.C.C. pipe	60	MTR	241.20	14,472.00
		GRAND TOTAL				21,33,944.64

ESTIMATE FOR ELECTRICAL & PLUMBING WORKS GANDHI BHAWAN LIBRARY & ADDITIONAL BLOCK					
Sub Head:-Providing and installation of air conditioning system with VRF system					
S.No.	Description of Items.	Unit	Qty.	RATE	AMOUNT
1	Supply of Variable refrigerant flow(VRF) modular type air-conditioning system suitable to operate from 410+10% volt, 50 Hz,3 phase AC power supply for cooling & heating by using 100% inverter driven capacity control compressors (Hermetically sealed 3-D scroll type-All compressors are Inverter Based) complete with individual controller and fittings with necessary wiring, connection & termination, painted MS frame for outdoor unit etc. as per quantity given below including full charging of R-410A refrigerant gas complete as per specifications.				
A)	Outdoor Units				
a	22HP	No	2	612000	12,24,000.00
d	12HP	No	1	288000	2,88,000.00
B)	Indoor units (Nominal capacity)				
	Supply of Floor Standing type air-conditioning system of following capacity suitable to operate from 230+10% volt, 50 Hz,1 phase power supply with fittings etc.				
a	2.0 TR	Nos	12	93600	11,23,200.00
	Supply of Wall Mounted(Split) type air-conditioning system of following capacity suitable to operate from 230+10% volt, 50 Hz,1 phase power supply with fittings etc.				
a	2.0 TR	Nos	8	36000	2,88,000.00
B	3.0 TR	Nos	4	57600	2,30,400.00
C)	Refrigerant 'Y'Joint Required for distribution of refrigerant in copper piping etc complete as per specifications	Lot	1	90000	90,000.00
D)	Wireless Remote Control	Nos	24	2160	51,840.00
INSTALLATION/Low Side Work					
1.	<u>Inverter based VRF System</u>				

	Installation, Testing & Commissioning of Variable refrigerant flow(VRF) modular type air-conditioning system suitable to operate from 410+10% volt, 50 Hz,3 phase AC power supply for cooling & heating by using 100% inverter driven capacity control compressors (Hermetically sealed 3-D scroll type-All compressors are Inverter Based) complete with individual controller and fittings with necessary wiring, connection & termination, painted MS frame for outdoor unit etc. as per quantity given below including full charging of R-410A refrigerant gas complete as per specifications.				
A)	Outdoor Units				
a	22HP	No	2	28000	56,000.00
d	12HP	No	1	8000	8,000.00
B)	Indoor units (Nominal capacity)				
	Installation, Testing & Commissioning of Floor Standing type air-conditioning system of following capacity suitable to operate from 230+10% volt, 50 Hz,1 phase power supply with fittings etc.				
a	2.0 TR	Nos	12	3000	36,000.00
	Installation, Testing & Commissioning of Wall Mounted(Split) type air-conditioning system of following capacity suitable to operate from 230+10% volt, 50 Hz,1 phase power supply with fittings etc.				
a	2.0 TR	Nos	24	2700	64,800.00
b	3.0 TR	Nos	4	3600	14,400.00
C)	I/T/C of Refrigerant 'Y'Joint Required for distribution of refrigerant in copper piping stc complete as per specifications				
2		Lot	1	45000	45,000.00
	Refrigerant Piping (VRV/VRF Units)				
	Supply & Installation of interconnecting following sizes of one end expanded refrigerant copper pipe work of following outer diameter, insulated with 19 mm thick closed cell electrometric Nitrile rubber tubular insulation between each set of indoor & outdoor units with outer mechanical protection of alluminum cladding for all exposed pipes as per specification. The pipe dia upto 19mm shall be soft seamless & not be less than 22SWG of copper & above 19mm dia shall be hard seamless & shall not be less than 16SWG of copper. All piping inside the room shall be propelry fixed/supported with suitable size of clamp/ M.S. hanger and all external piping shall run in M.S. painted cable tray etc. as reqd.				
2.1	34.9 mm dia	Rm	70	972	68,040.00
2.2	28.8 mm dia	Rm	70	900	63,000.00
2.2	19.1 mm dia	Rm	55	792	43,560.00

2.3	15.9 mm dia	Rm	115	705.6	81,144.00
2.4	12.7 mm dia	Rm	75	662.4	49,680.00
2.5	9.5 mm dia	Rm	115	568.8	65,412.00
2.6	6.4 mm dia	Rm	75	468	35,100.00
3	<u>Covered cable tray with GI Sheet cover for exposed piping</u>	Rm	75	540	40,500.00
4	Drain Piping				
	Providing & fixing of rigid UPVC Pipe of 6kg/sqcm working pressure complete with fittings, supports as per specifications and duly insulated with 6mm thickness of closed cell nitrile rubber of 32kg/cum density as per direction of Engineer-in-charge & specifications enclosed as reqd. The termination to the drain point should be included in the rates.				
4.1	32 mm dia	Rm	100	100.8	10,080.00
4.2	25 mm dia	Rm	60	93.6	5,616.00
5	Providing & fixing of control wiring/power cabling with following sizes of copper conductor armoured cable between indoor and outdoor units directly on surface of wall/ existing channel i/c making connection etc. as reqd.				
	2 x 1.5 sq.mm FRLS / Sheilded wire	Rm	600	108	64,800.00
6	Lifting , Shifting, positing , ODU's & IDUs as per approved drawings & RCC structure for all ODU units in Terrace area	Lot	1	30000	30,000.00
	Total				40,76,572.00