

**NATIONAL LAW UNIVERSITY, ODISHA
NARAJ, CUTTACK**

B.O.Q FOR CIVIL AND EXTERNAL DEVELOPMENT WORK

NATIONAL LAW UNIVERSITY CAMPUS WORKS

CONSULTANT :

M/s. RATH ARCHITECTONIC

104, Madhusudan Nagar

Unit-IV, Bhubaneswar-751001

Ph. No. (0674) 2390940, 2395340

ABSTRACT COST

1 PART- A (LIBRARY BUILDING)

TOTAL RS.

2 PART - B (EXTERNAL DEVELOPMENT)

TOTAL RS.

TOTAL RS.

For M/s. RATH ARCHITECTONIC.

PART- A

B.O.Q
OF BALANCE WORK OF
LIBRARY BUILDING
FOR
PROPOSED NATIONAL LAW UNIVERSITY ODISHA
AT NARAJ, CUTTACK

CONSULTANT :

M/s. RATH ARCHITECTONIC
104, Madhusudan Nagar
Unit-IV, Bhubaneswar-751001
Ph. No. (0674) 2390940, 2395340

ABSTRACT COST

1 CIVIL WORKS	:	TOTAL Rs.
2 P.H. WORKS	:	TOTAL Rs.
3 ELECTRICAL WORKS	:	TOTAL Rs.
4 FIREFIGHTING WORK		TOTAL Rs. _____
		TOTAL Rs.

For M/s. RATH ARCHITECTONIC.

**B.O.Q OF BALANCE WORK OF LIBRARY BUILDING
FOR PROPOSED NATIONAL LAW UNIVERSITY ODISHA AT NARAJ, CUTTACK**

**CIVIL WORKS
GROUND FLOOR**

Sl.No	Description	Unit	Qty.	Rate	Amount
1	Excavation of foundation trenches and column foundation and pits in all kinds of soil within an initial lead and lift of 1.5 mtrs. depth including dressing the sides and leveling the bed and depositing the excavated material away from the site within an initial lead of 50 mtrs including cost of all labour, sundries, tools and plant etc., complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Cum.	80		
2	Filling foundation trenches and plinths with excavated materials in layers not exceeding 0.3 mtr in depth including watering and ramming and dressing and levelling the top proper level or gradient, including cost of all labour, sundries, tools and plants, etc. complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Cum.	31		
3	Filling foundation trenches and plinths with sand, well watered, compacted, dressed and leveled to proper gradient including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Cum.	23		
4	Dismantling of Reinforced Cement concrete grade including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	60		
5	Dismantling Brick work in cement mortar including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	70		

Sl.No	Description	Unit	Qty.	Rate	Amount
6	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved. Rate in figure: Rate in word:	Cum.	130		
7	Removal of fungus on the surface of brickwork,RCC work,masonry work,floor,etc complete.The rate to be quoted on the basis of mandays on daily wages including scaffolding all complete as per direction of Engineer-in-Charge. Rate in figure: Rate in word:	Sqm	1081.854		
8	ANTI-TERMITE TREATMENT :				
	(A) PRE CONSTRUCTION ANTI-TERMITE TREATMENT:				
	(i) Providing pre construction anti-termite treatment with chemical emulsion Chloropyrifos EC 20% with 1% concentration. Rate in figure: Rate in word:	Sqm.	2061.64		
	The chemical emulsion shall be in required dosage on entire area of ground and wall trenches as follow.				
	(a) Bottom surface, sides of foundation trenches, column pits and basement. At the rate of 5 litres per sqm. of surface area.				
	(b) After the foundation for the walls, columns, piers and retaining walls of the basement come up treat the back fill earth in immediate contact with face side of the foundation. At the rate of 7.5 litres per sqm. of vertical surface of foundation.				
	(c) Prior to laying the sand bed or subgrade for the ground floor of the building, to surface of consolidated earth filling with in the plinth walls should be levelled and treated. At the rate of 5 litres per sqm. of surface area.				
	(d) Junctions of wall and floor shall be treated by making 30 mm wide 30 mm deep channels at the junction. Holes are made in the channel at 150 mm apart up to ground level with crow bar then chemical emulsion is poured. At the rate of 7.5 litres per sqm. of vertical wall or column surface.				
	(e) External periphery shall be treataed by making 300 mm deep holes at 150 mm centre and filled with chemicals. At the rate of 7.5 litres per sqm.				

Sl.No	Description	Unit	Qty.	Rate	Amount
(B) POST CONSTRUCTION ANTI-TERMITE TREATMENT:					
(i)	Providing,diluting and injecting chemical emulsion for POST-CONSTRUCTIONAL anti-termite treatment (excluding the cost of chemical emulsion) :				
(a)	Along external wall where the apron is not provided using chemical emulsion @ 7.5 litres / sqm of the vertical surface of the substructure to a depth of 300 mm including excavation channel along the wall & rodding etc. complete:With Chlorpyriphos / Lindane E.C. 20% with 1 % concentration Rate in figure: Rate in word:	Mtr.	440.5		
(b)	Along the external wall below concrete or masonry apron using chemical emulsion @ 2.25 litres per linear metre including drilling and plugging holes etc.:With Chlorpyriphos/ Lindane E.C. 20% with 1% concentration Rate in figure: Rate in word:	Mtr.	222.3		
(c)	Treatment of soil under existing floors using chemical emulsion @ one litre per hole, 300 mm apart including drilling 12 mm diameter holes and plugging with cement mortar 1:2 (1 cement : 2 coarse sand) to match the existing floor:With Chlorpyriphos/Lindane E.C. 20% with 1 % concentration. Rate in figure: Rate in word:	Sqm.	2061.64		
(d)	Treatment of existing masonry using chemical emulsion @ one litre per hole at 300 mm interval including drilling holes at 45 degree and plugging them with cement mortar 1:2 (1 cement : 2 coarse sand) to the full depth of the hole :With Chlorpyriphos/Lindane E.C. 20% with 1% concentration Rate in figure: Rate in word:	Mtr.	218.2		
(e)	Treatment at points of contact of wood work by chemical emulsion Chlorpyriphos emulsifiable concentrate of 20% / Lindane (in oil or kerosene based soulution) @ 0.5 litres per hole by drilling 6 mm dia holes at downward angle of 45 degree at 150 mm centre to centre and sealing the same. Rate in figure: Rate in word:	Mtr.	475		
9	Providing and laying plain cement concrete (1:4:8) in foundation and bottom layers of flooring using 40 mm size black hard crusher broken granite metal of approved quality from approved quarry including mixing, lowering, laying and compacting to proper thickness, watering and curing for the required period, including cost of all material, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools & plants etc., complete as per the direction of Engineer-in-charge.	Cum.	5		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in figure: Rate in word:				
10	Providing and laying plain cement concrete (1:2:4) in foundation and bottom layers of flooring using 25 mm size black hard crusher broken granite metal of approved quality from approved quarry including mixing, lowering, laying and compacting to proper thickness, watering and curing for the required period, including cost of all material, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools & plants, etc., complete as per the direction of Engineer-in-charge.	Cum.	2.500		
	Rate in figure: Rate in word:				
11	PILE WORK				
(a)	Boring, providing and installing cast in situ double under reamed piles of specified diameter and length below pile cap in M 30 cement concrete, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and the length of the pile to be embedded in pile cap. (Length of pile for payment shall be measured upto to the bottom of pile cap).				
(i)	400 mm dia. Piles	Mtr.	84		
	Rate in figure: Rate in word:				
(b)	Stripping the concrete of top portion of 400 mm dia pile from the stripping level to the cut-off level or as directed etc., complete in all respects and as per direction of Engineer-in-Charge.	Mtr.	8		
	Rate in figure: Rate in word:				
12	Providing lifting, hoisting and laying reinforced cement concrete to all type of concreting work to base of columns and footing, columns, beams, plinth band, lintels, chajja, shaft, fins, roof slabs, balconies, stair cases, parapets, window wills, lofts, railing, jally, copping or in places as shown in the drawing or as directed with 20 mm and down graded size black hard crusher broken chips of approved quality from approved quarry including mixing and vibro compacting to proper shape and size, level and plumbs and finishing the exposed surfaces smooth (if required providing plaster with cement mortar (1:4) wherever necessary without any extra cost) scaffolding, including, watering and curing the required period, including cost of all materials, labour, conveyance, loading and unloading, royalties, sundries, tools and plants, etc upto floor five level, complete as per direction of the Engineer-in-charge including cost of all materials and labour. M-25 Grade Concrete in Superstructure.	Cum.	3.00		
	Rate in figure:				

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
13	Providing, laying & binding of M.S. round / deformed / tor steel reinforcement bars of required diameters for straightening, cutting to size, bending, and binding the grills, lifting and placing in position at all heights & locations as per design complete including cost of bars, cost of binding wires 22 gauge, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants upto floor five level, etc. complete as per the direction of the Engineer-in-charge. (linear measurement will be taken and quantity will be calculated on standard weight of bars for all heights).	Qntl.	30		
	Rate in figure:				
	Rate in word:				
14	Providing strong, rigid, leveled, and plumbed centering and shuttering to required shape and size, with shuttering ply or steel centering materials with all necessary bracing and tiles and supports with leveling centering covered with bituminous paper with provisions necessary holes and pockets for electrical conduits, pipes, P.H. pipes, for hooks or boxes, switch and board insert plates, clamps and extension bars etc., including dismantling the same after the required intervals from the date of casting including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge.				
(a)	Columns, beams, plinth beams, girders, bressumers and cantilevers, staircase, horizontal and vertical fins, bands, coping, moulding, cornice etc.	Sqm.	55		
	Rate in figure:				
	Rate in word:				
(b)	Lintels	Sqm.	2		
	Rate in figure:				
	Rate in word:				
15	Providing and fixing double scaffolding system (cup lock type) on the exterior side, upto seven story high 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 challies, M.S. clamps and M.S. staricase 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, sonnection with the building etc wherever required for inspection of work at required lacations 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.				

Sl.No	Description	Unit	Qty.	Rate	Amount
	Note:- This item to be used for maintenance work judicially, necessary deduction for scaffolding in the existing item to be done. Rate in figure: Rate in word:	Sqm.	50		
16	K.B. brick masonry work using (250 mm x 120 mm x 80 mm) with tolerance of size K.B. bricks having crushing strength not less than 75 kg / sqcm, mix (1 cement : 6 sands) in 250 mm thick wall, immersing the bricks for minimum 6 hrs in water before use, with all necessary projection, splay cutting, circular moulding, corbelling, etc., including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants etc. upto floor five level, as per the direction of the Engineer-in-charge in superstructure. Rate in figure: Rate in word:	Cum.	20		
17	HALF BRICK MASONRY :				
(a)	Half brick masonry with bricks of (75 Kg. / sqcm) class above plinth level upto floor level with cement mortar (1:4). Rate in figure: Rate in word:	Sqm.	6.00		
(b)	Extra for providing and placing in position 2 Nos. 6 mm dia M.S. bar at every 3rd course of half brick masonry. Rate in figure: Rate in word:	Sqm.	6		
18	Providing Avg. 12 mm thick cement plaster 1:6 (1 cement : 6 sand) to inside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	60		
19	Providing Avg. 16 mm thick cement plaster 1:6 (1 cement : 6 sand) to outside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	151		

Sl.No	Description	Unit	Qty.	Rate	Amount
20	Providing average 6 mm thick cement plaster under ceiling, chajja and beam proportion 1:4 cement mortar including chipping slurring etc. complete.as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	1594		
21	Providing and applying 2 coats acrylic based weather coat paint (exterior quality) over a coat of primer of approved brand & shade over the surfaces including preparation of surface, with cost of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	407		
22	Providing and applying 2 coats of textured paint over a coat of primer of approved brand & shade over the surfaces including preparation of surface, with cost of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	240		
23	Extra for supplying and applying concrete bonding agent compound for obtaining proper bonding between old concrete and new concrete. The bonding agent compound shall be of approved make as directed by Engineer-in-charge which shall be applied as per manufacturer's specification and the quantity shall be measured in liters. Rate in figure: Rate in word:	KG.	0.5		
24	Extra for supplying and mixing approved quality concrete admixture as per manufacturer's specification in all kind of concrete work at any location of approved make. The admixture shall be based on the design mix which shall be carried out by the contractor prior to start of work. Rate in figure: Rate in word:	KG.	9.40		
25	Door Frame:				
(a)	Supplying and fixing Sal wood in Single rebate frames of doors, and other frames, wrought framed of 125 mm x 62 mm size including all fittings and fixed in position with anchor fastener 3 nos. on each sides ,including S.S screw on wooden joinery, grooves and making arrangement as shown on drawing, applying anti-termite paint on surfaces touching masonry or concrete etc. complete and as per the direction of Engineer-in-charge. Rate in figure:	Cum	0.589		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
(b)	Providing, fitting and fixing of 50 mm x 125 mm (after moulding) well blend beautifully WPC (WOOD PLASIC COMPOSITE)chowkath in door & window opening area the wall side surface of WPC chowkath, 150 mm anchor fashner , screw, cutting the holes, filling the cutting holes in cement concrete (1:2:4) etc. all complete and as per the direction of Engineer-in-charge	Rmt.	142		
	Rate in figure:				
	Rate in word:				
26	UPVC WINDOW:				
a	Providing and fixing of factory made 67 series uPVC 2-track Sliding window (White Colour) complete, comprising uPVC multi-chambered frame of size 67mm x 54mm having uPVC roller track on top and uPVC sash of size 60mm x 47mm. All corners of frame and sash will be fusion welded and duly reinforced with G.I. section 1.2 mm. After placing 4mm float or prescribed glass in the sash, uPVC glazing bead, interlock, EPDM gasket, brush will be provided including hardware, i.e., touch lock and rollers & proper drainage system shall be provided. Window will be fixed to the wall with 100mm long and 8mm dia. Fasteners and complete in all respect as per direction of Engineer-In-Charge.	Sqm.	88.11		
	Rate in figure:				
	Rate in word:				
b	UPVC Adjustable Louver Window with Exhaust Provision:				
	Providing and fixing of factory made approved make, uPVC Louver window comprising of uPVC multi-chambered frame of size 67 mm x 54 mm, duly reinforced with 1.2 mm thick G. I. Section. Both vertical sides of the frame, adjustable louver with 4 mm frosted glass and having one lever to adjust the glass. Window will be fixed to the wall with 100mm long and 8mm dia. Fasteners and complete in all respect as per direction of Engineer-In-Charge.	Sqm.	3		
	Rate in figure:				
	Rate in word:				
27	Supplying and painting of MS grills madeup with M.S. square bar / round bar / flat with two coat enamel paint over a coat of red oxide primer and fixing the same to window frames as per requirement and direction of Engineer-in-charge.	Qntl.	7.50		
	Rate in figure:				
	Rate in word:				

Sl.No	Description	Unit	Qty.	Rate	Amount
28	<p>Providing and fixing circular / hexagonal M.S. sheet ceiling fan box 73 mm height make out of 1.5 mm thick M.S. sheet welded with 12 mm dia M.S. bar bent to shape with provision of conduit inlet all complete as per direction of Engineer-in-charge.</p> <p>The box shall be finished with two coats of anticorrosive paints.</p> <p>Rate in figure: Rate in word:</p>	Nos.	25		
29	<p>STAINLESS STEEL STAIRCASE RAILING WITH HANDLE :</p> <p>Providing, fixing of stainless steel railing using 304 grade 18 gauge 50 mm dia, 25 mm dia, S.S. pipes, 75 mm dia, S.S. Ball and 50 mm dia, S.S. cap including cutting the pipes into length as per design and jointing the pieces using electrode welding fixing the frame in position including grinding the welded section joints to obtain smooth joints and finally polishing the joints to complete the railing work all complete as per design. 12 mm thick clear glass with etching design should also be provided in between the stair rail with the help of stainless knob and screw etc. all complete and as per the direction of Engineer-in-charge.</p> <p>Rate in figure: Rate in word:</p>	Rmt.	80		
30	<p>PLINTH PROTECTION WORK :</p> <p>Making plinth protection 50 mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) over 75 mm bed of dry brick ballast 40 mm nominal size well rammed and consolidated and grouted with fine sand including finishing the top smooth.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	116.37		
31	<p>GRANITE CLADDING :</p> <p>Providing 20 / 18 mm thick approved quality & shade polished granite slabs, and cutting to required size laid over 20 mm thick under layer of cement mortar (1:3) to masonry or concrete surfaces in skirting, dado, risers and treads of steps, counters, edgtes / facias,toilet wall complete (screwing on vertical surfaces if required) to proper level and joints filled with cement mixed with oxide matching colour in required proportion, washed, acid cleaned, including cost of all materials, labour, conveyance, taxes, royalties, scafflding, watering, curing, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge. Base rate-3700.00/- to 3800/-per sqm.</p> <p>Rate in figure:</p>	Sqm.	677		

Sl.No	Description	Unit	Qty.	Rate	Amount
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Rate in word:

32 GRANITE FLOORING :

Providing and fixing polished granites of approved make and shade in specified areas for flooring in toilet, verandah, steps and 17 mm thickness fixed over a base of 25 mm thick 1:3 cement sand mortar and the granite slab shall be fixed with help of 1:1 cement slurry and the granite joints shall be finished with white cement with matching oxide pigments. The final surface shall be made ready to use after cleaning and washing the surface properly with clean cloths. Base rate- 3700.00/- to 3800/-per sqm.

Sqm. 229.7

Rate in figure:

Rate in word:

33 Providing flooring with 300 x 300 x 25 mm PCC Designer's Tiles of approved make, design and shade set over 20 mm thick cement mortar (1:3) mix joint panted with pigment to match the shade of the tiles, laid in panels or in patterns with necessary levelling course in floor, dado, risers and treads of steps, pathways etc. including cost of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants etc. complete as per the direction of the Engineer-in-charge. Base rate- 1000/- to 1100/-per sqm.

Sqm. 332

Rate in figure:

Rate in word:

34 WATER PROOFING:

(a) WET AREA-SUNKEN PART:

(i) Providing and cleaning of RCC surface and wall to remove dust and loosely adhering particles completely. Supply and application of 1:3 cement – sand mortar and neat cement punning (only for sunken slab), mixed **with approved make water proofing** – the polymer modified high quality emulsion, as a coving at the corners of floor and the vertical surface in the sunken area, and between floor and walls in the remaining area all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge.

Sqm. 229.7

Rate in figure:

Rate in word:

Sl.No	Description	Unit	Qty.	Rate	Amount
(ii)	<p>Supply and application of with approved make water proofing primer followed by two coats of with approved make water proofing between two coat in sandwich system or equivalent – ready to use acrylic based , cementitious,glass fibre reinforced elastic liquid applied waterproof coating onto the prepared surface in a continuous film on the floor of the sunken area, taking the coating over the vertical surfaces on to the floor and over the coving on to the wall (before tiling) to at least 900mm above the final finished floor level. The coating shall also be continued on to the inner surfaces of the pipe penetration holes.</p> <p>Two coats shall be applied in right angle to each other. Chemical Base Part A: liquid polymer and additive, Part B: portland cement with selected aggregate and additive. Layer Thickness 1.5 mm – 2.0 mm average Water Vapour Resistance 3 g /m² / day, Density Fresh slurry density: ~ 2.00 kg/l at +27°C Tensile Strength ~ 4.56 N/mm² after 14 days exposure (According to ASTM D 2370) Bond Strength 2.0 N/mm² .After PCC a coat of approved make water proofing mixed with cement (1:2) to be applied before tile installation.all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge..</p> <p>Rate in figure: Rate in word:</p>	Sqm.	20.4		
(iii)	<p>Providing and filling the annular gap between pipe periphery and concrete with non shrink with approved make water proofing ; sealing the joint mouths with with approved make water proofing component, a moisture insensitive epoxy putty in a continuous,10mm thick gasket around the pipes to a width of approximately 15mm.all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge.</p> <p>Rate in figure: Rate in word:</p>	Nos.	32		
(b)	<p>PLASTERING WATER PROOFING:</p> <p>Providing of Integral Waterproofing admixture confirms IS:2645 on plaster surface and consumption should be 100gm/50kg bag including all material,labour,tool and taxes complete.as per the direction of the Engineer-in-charge.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	1805		
(c)	<p>EXTERNAL WATER PROOFING:</p>				

Sl.No	Description	Unit	Qty.	Rate	Amount
	<p>Supplying & applying one coat with approved make external water proofing @5kg with white cement/50kg bag and water to the external wall of the painting(weathercoat) area followed by two coat of with approved make weather coat paint.all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	407		
35	<p>Providing and filling the gap in between frame and adjacent RCC/brick work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of the Engineer-in-charge.</p> <p>Rate in figure: Rate in word:</p>	Mtr.	275		
36	<p>Supplying all materials, labour and tools and plant and fixing 100 mm dia PVC rain water / sewerage pipes and fitting to walls with nails and PVC hooks, bobbins and wooden plugs as required with all fittings such as plain / door bends, tees, Y-piece and short pieces etc. at all heights.</p> <p>Rate in figure: Rate in word:</p>	Rmt.	60		
37	<p>STRUCTURAL GLAZING WORK :</p> <p>Supplying all labour, material for fabrication and installation of structural glazing work at specified places using colour anodized extruded aluminium sections (Approx. dimension) (Mullion 111 mm x 50 mm x 1.85 mm, transume - 56 mmx 50 mm x 1.80 mm sub frame - 20 mm x 12 mm x 2 mm) with 15-18 microns anodize in desired coloured shade and 6 mm thick colour reflective toughened glass (approved size) which will be fixed with the sub frame using rubber gasket and structural silicon sealant DC-995. The glass panel shall be fixed to mullion and transem sections as per the design provided in the drawing by maintaining a gap of 10-12 mm between two adjacent panels.</p> <p>The structural members shall be framed as per design and fixed to the R.C.C. member using stainless steel rowl plugs and steel screws. The job is inclusive of providing all materials, fabrication, erection and filling of all gaps upto 12 mm by using weather sealant and gap upto 100 mm using</p> <p>colour anodized aluminium sheet all complete as per direction of Engineer-in-charge. The design of structural glazing shall be done to resist 200 km / hr wind speed and should be tested before filling and a certificate from Govt. / Semi Govt. or Govt. authorised lab should be produced before fixing.</p>				

Sl.No	Description	Unit	Qty.	Rate	Amount
	The specification for accessoreis :				
	(i) M.S. brackets - Galvanised M.S. brackets.				
	(ii) Anchor fastners - approved make				
	(iii) Buts / nuts / washers - Stainless steel.				
	(iv) Grouting fastners - P.V.C. bullet fastners.				
	(v) Structural sealant - approved make.				
	(vi) Foam spacer - approved make				
	(vii) Weather sealant - approved make				
	(viii) Gasket for glazing and water prevention - EPDM gasket.				
	(ix) Provision for two point locking handles for top-hung openable shutters.				
	(x) Other standard accessories which are the part as standard fabrication design.	Sqm.	88.56		
	Rate in figure:				
	Rate in word:				
	Rate in figure:				
	Rate in word:				
				Total :	<hr/>

For M/s. RATH ARCHITECTONIC.

FIRST FLOOR

1	Dismantling of Reinforced Cement concrete grade including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge..	Cum.	43		-
	Rate in figure:				
	Rate in word:				
2	Dismantling Brick work in cement mortar including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge..	Cum.	50		-
	Rate in figure:				
	Rate in word:				
3	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	Cum.	93		-

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in figure: Rate in word:				
4	Removal of fungus on the surface of brickwork,RCC work,masonry work,floor,etc complete.The rate to be quoted on the basis of mandays on daily wages including scaffolding all complete as per direction of Engineer-in-Charge. Rate in figure: Rate in word:	Sqm	558.435		-
5	ANTI-TERMITE TREATMENT :				
	(A) POST CONSTRUCTION ANTI-TERMITE TREATMENT:				
(a)	Treatment at points of contact of wood work by chemical emulsion Chlorpyriphos emulsifiable concentrate of 20% / Lindane (in oil or kerosene based soulution) @ 0.5 litres per hole by drilling 6 mm dia holes at downward angle of 45 degree at 150 mm centre to centre and sealing the same. Rate in figure: Rate in word:	Mtr.	356.3		-
6	Providing lifting, hoisting and laying reinforced cement concrete to all type of concreting work to base of columns and footing, columns, beams, plinth band, lintels, chajja, shaft, fins, roof slabs, balconies, stair cases, parapets, window wills, lofts, railing, jally, copping or in places as shown in the drawing or as directed with 20 mm and down graded size black hard crusher broken chips of approved quality from approved quarry including mixing and vibro compacting to proper shape and size, level and plumbs and finishing the exposed surfaces smooth (if required providing plaster with cement mortar (1:4) wherever necessary without any extra cost) scaffolding, including, watering and curing the required period, including cost of all materials, labour, conveyance, loading and unloading, royalties, sundries, tools and plants, etc upto floor five level, complete as per direction of the Engineer-in-charge including cost of all materials and labour. M-25 Grade Concrete in Superstructure. Rate in figure: Rate in word:	Cum.	3.25		-
7	Providing, laying & binding of M.S. round / deformed / tor steel reinforcement bars of required diameters for straightening, cutting to size, bending, and binding the grills, lifting and placing in position at all heights & locations as per design complete including cost of bars, cost of binding wires 22 gauge, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants upto floor five level, etc. complete as per the direction of the Engineer-in-charge. (linear measurement will be taken and quantity will be calculated on standard weight of bars for all heights).	Qntl.	4.062		-

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in figure: Rate in word:				
8	Providing strong, rigid, leveled, and plumbed centering and shuttering to required shape and size, with shuttering ply or steel centering materials with all necessary bracing and tiles and supports with leveling centering covered with bituminous paper with provisions necessary holes and pockets for electrical conduits, pipes, P.H. pipes, for hooks or boxes, switch and board insert plates, clamps and extension bars etc., including dismantling the same after the required intervals from the date of casting including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge.				
(a)	Columns, beams, plinth beams, girders, bressumers and cantilevers, staircase, horizontal and vertical fins, bands, coping, moulding, cornice etc. Rate in figure: Rate in word:	Sqm.	30		-
(b)	Lintels Rate in figure: Rate in word:	Sqm.	2		-
9	K.B. brick masonry work using (250 mm x 120 mm x 80 mm) with tolerance of size K.B. bricks having crushing strength not less than 75 kg / sqcm, mix (1 cement : 6 sands) in 250 mm thick wall, immersing the bricks for minimum 6 hrs in water before use, with all necessary projection, splay cutting, circular moulding, corbelling, etc., including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants etc. upto floor five level, as per the direction of the Engineer-in-charge in superstructure. Rate in figure: Rate in word:	Cum.	15		-

Sl.No	Description	Unit	Qty.	Rate	Amount
10	<p>Providing and fixing double scaffolding system (cup lock type) on the exterior side, upto seven story high 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 challies, M.S. clamps and M.S. staricase 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, sonnection with the building etc wherever required for inspection of work at required lacations 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.</p> <p>Note:- This item to be used for maintenance work judicially, necessary deduction for scaffolding in the existing item to be done.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	45		-
11	HALF BRICK MASONRY :				
(a)	<p>Half brick masonry with bricks of (75 Kg. / sqcm) class above plinth level upto floor level with cement mortar (1:4).</p> <p>Rate in figure: Rate in word:</p>	Sqm.	4.75		-
(b)	<p>Extra for providing and placing in position 2 Nos. 6 mm dia M.S. bar at every 3rd course of half brick masonry.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	4.75		-
12	<p>Providing average 25 mm thick grading plaster with mix 1:2:4 (1 cement : 2 sand : 4 bazuri) of cement mortar using 2% water proofing compound (of cement) of approved make and quality on top of roof terrace of all floors including scrapping and cleaning the roof plastering and finishing smooth to proper slope and gradient, including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, watering.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	496		-
13	<p>Providing gola 75 mm x 75 mm in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 stone aggregate 10 mm and down gauge) including finishing with cement mortar 1:3 (1 cement : 3 fine sand) all complete as per direction of Engineer-in-charge.</p> <p>In 75 mm x 75 mm deep chase. Rate in figure: Rate in word:</p>	Mtr.	205.211		-

Sl.No	Description	Unit	Qty.	Rate	Amount
14	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 mx1 mx400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement,rounding the edges, making and finishing the outlet complete. Rate in figure: Rate in word:	Nos.	10		-
15	Providing Avg. 12 mm thick cement plaster 1:6 (1 cement : 6 sand) to inside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	70		-
16	Providing Avg. 16 mm thick cement plaster 1:6 (1 cement : 6 sand) to outside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	65		-
17	Providing average 6 mm thick cement plaster under ceiling, chajja and beam proportion 1:4 cement mortar including chipping slurring etc. complete.as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	1662		-
18	Providing and applying 2 coats acrylic based weather coat paint (exterior quality) over a coat of primer of approved brand & shade over the surfaces including preparation of surface, with cost of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	423		-

Sl.No	Description	Unit	Qty.	Rate	Amount
19	Providing and applying 2 coats of textured paint over a coat of primer of approved brand & shade over the surfaces including preparation of surface, with cost of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	282		-
20	Extra for supplying and applying concrete bonding agent compound for obtaining proper bonding between old concrete and new concrete. The bonding agent compound shall be of approved make as directed by Engineer-in-charge which shall be applied as per manufacturer's specification and the quantity shall be measured in liters. Rate in figure: Rate in word:	KG.	0.3		-
21	Extra for supplying and mixing approved quality concrete admixture as per manufacturer's specification in all kind of concrete work at any location of approved make. The admixture shall be based on the design mix which shall be carried out by the contractor prior to start of work. Rate in figure: Rate in word:	KG.	10.18		-
22	Extra for supplying and mixing approved quality concrete admixture as per manufacturer's specification in all kind of concrete work at any location of approved make. The admixture shall be based on the design mix which shall be carried out by the contractor prior to start of work. Rate in figure: Rate in word:	Lit.	8.13		-
23	Door Frame:				
(a)	Supplying and fixing Sal wood in Single rebate frames of doors, and other frames, wrought framed of 125 mm x 62 mm size including all fittings and fixed in position with anchor fastener 3 nos. on each sides ,including S.S screw on wooden joinery, grooves and making arrangement as shown on drawing, applying anti-termite paint on surfaces touching masonry or concrete etc. complete and as per the direction of Engineer-in-charge. Rate in figure: Rate in word:	Cum	0.26		-
(b)	Providing, fitting and fixing of 50 mm x 125 mm (after moulding) well blend beautifully WPC (WOOD PLASIC COMPOSITE)chowkath in door & window opening area the wall side surface of WPC chowkath, 150 mm anchor fashner , screw, cutting the holes, filling the cutting holes in cement concrete (1:2:4) etc. all complete and as per the direction of Engineer-in-charge	Rmt.	62.5		-

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in figure: Rate in word:				
24	UPVC WINDOW:				
a	Providing and fixing of factory made 67 series uPVC 2-track Sliding window (White Colour) complete, comprising uPVC multi-chambered frame of size 67mm x 54mm having uPVC roller track on top and uPVC sash of size 60mm x 47mm. All corners of frame and sash will be fusion welded and duly reinforced with G.I. section 1.2 mm. After placing 4mm float or prescribed glass in the sash, uPVC glazing bead, interlock, EPDM gasket, brush will be provided including hardware, i.e., touch lock and rollers & proper drainage system shall be provided. Window will be fixed to the wall with 100mm long and 8mm dia. Fasteners and complete in all respect as per direction of Engineer-In-Charge.	Sqm.	20		-
	Rate in figure: Rate in word:				
b	UPVC Adjustable Louver Window with Exhaust Provision:				
	Providing and fixing of factory made approved make, uPVC Louver window comprising of uPVC multi-chambered frame of size 67 mm x 54 mm, duly reinforced with 1.2 mm thick G. I. Section. Both vertical sides of the frame, adjustable louver with 4 mm frosted glass and having one lever to adjust the glass. Window will be fixed to the wall with 100mm long and 8mm dia. Fasteners and complete in all respect as per direction of Engineer-In-Charge.	Sqm.	2		-
	Rate in figure: Rate in word:				
25	Supplying and painting of MS grills madeup with M.S. square bar / round bar / flat with two coat enamel paint over a coat of red oxide primer and fixing the same to window frames as per requirement and direction of Engineer-in-charge.	Qntl	8.42		-
	Rate in figure: Rate in word:				
26	Providing and fixing circular / hexagonal M.S. sheet ceiling fan box 73 mm height make out of 1.5 mm thick M.S. sheet welded with 12 mm dia M.S. bar bent to shape with provision of conduit inlet all complete as per direction of Engineer-in-charge.				
	The box shall be finished with two coats of anticorrosive paints.	Nos.	20		-
	Rate in figure: Rate in word:				

Sl.No	Description	Unit	Qty.	Rate	Amount
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27 STAINLESS STEEL STAIRCASE RAILING WITH HANDLE :

Providing, fixing of stainless steel railing using 304 grade 18 gauge 50 mm dia, 25 mm dia, S.S. pipes, 75 mm dia, S.S. Ball and 50 mm dia, S.S. cap including cutting the pipes into length as per design and jointing the pieces using electrode welding fixing the frame in position including grinding the welded section joints to obtain smooth joints and finally polishing the joints to complete the railing work all complete as per design. 12 mm thick clear glass with etching design should also be provided in between the stair rail with the help of stainless knob and screw etc. all complete and as per the direction of Engineer-in-charge.

Rate in figure:

Rate in word:

Rmt. 75 -

28 GRANITE CLADDING :

Providing 20 / 18 mm thick approved quality & shade polished granite slabs, and cutting to required size laid over 20 mm thick under layer of cement mortar (1:3) to masonry or concrete surfaces in skirting, dado, risers and treads of steps, counters, edgges / facias, toilet wall complete (screwing on vertical surfaces if required) to proper level and joints filled with cement mixed with oxide matching colour in required proportion, washed, acid cleaned, including cost of all materials, labour, conveyance, taxes, royalties, scafflding, watering, curing, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge. Base rate- 3700.00/- to 3800/-per sqm.

Rate in figure:

Rate in word:

Sqm. 220 -

29 GRANITE FLOORING :

Providing and fixing polished granites of approved make and shade in specified areas for flooring in toilet and 17 mm thickness fixed over a base of 25 mm thick 1:3 cement sand mortar and the granite slab shall be fixed with help of 1:1 cement slurry and the granite joints shall be finished with white cement with matching oxide pigments. The final surface shall be made ready to use after cleaning and washing the surface properly with clean cloths. Base rate- 3700.00/- to 3800/-per sqm.

Rate in figure:

Rate in word:

Sqm. 35

30 STRUCTURAL GLAZING WORK :

Sl.No	Description	Unit	Qty.	Rate	Amount
	<p>Supplying all labour, material for fabrication and installation of structural glazing work at specified places using colour anodized extruded aluminium sections (Approx. dimension) (Mullion 111 mm x 50 mm x 1.85 mm, transume - 56 mmx 50 mm x 1.80 mm sub frame - 20 mm x 12 mm x 2 mm) with 15-18 microns anodize in desired coloured shade and 6 mm thick colour reflective toughened glass (approved size) which will be fixed with the sub frame using rubber gasket and structural silicon sealant DC-995. The glass panel shall be fixed to mullion and transem sections as per the design provided in the drawing by maintaining a gap of 10-12 mm between two adjacent panels.</p> <p>The structural members shall be framed as per design and fixed to the R.C.C. member using stainless steel rowl plugs and steel screws. The job is inclusive of providing all materials, fabrication, erection and filling of all gaps upto 12 mm by using weather sealant and gap upto 100 mm using colour anodized aluminium sheet all complete as per direction of Engineer-in-charge. The design of structural glazing shall be done to resist 200 km / hr wind speed and should be tested before filling and a certificate from Govt. / Semi Govt. or Govt. authorised lab should be produced before fixing.</p> <p>The specification for accessoreis :</p> <p>(i) M.S. brackets - Galvanised M.S. brackets. (ii) Anchor fastners - approved make (iii) Buts / nuts / washers - Stainless steel. (iv) Grouting fastners - P.V.C. bullet fastners. (v) Structural sealant - approved make (vi) Foam spacer - approved make (vii) Weather sealant - approved make (viii) Gasket for glazing and water prevention - EPDM gasket. (ix) Provision for two point locking handles for top-hung openable shutters. (x) Other standard accessories which are the part as standard fabrication design.</p>	Sqm.	144		-
	<p>Rate in figure: Rate in word:</p>				

31 WATER PROOFING:

(a) WET AREA-SUNKEN PART:

Sl.No	Description	Unit	Qty.	Rate	Amount
(i)	<p>Providing and cleaning of RCC surface and wall to remove dust and loosely adhering particles completely. Supply and application of 1:3 cement – sand mortar and neat cement punning (only for sunken slab), mixed with approved make water proofing – the polymer modified high quality emulsion, as a coving at the corners of floor and the vertical surface in the sunken area, and between floor and walls in the remaining area all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	35		
(ii)	<p>Supply and application of with approved make water proofing primer followed by two coats of with approved make water proofing between two coat in sandwich system or equivalent – ready to use acrylic based , cementitious, glass fibre reinforced elastic liquid applied waterproof coating onto the prepared surface in a continuous film on the floor of the sunken area, taking the coating over the vertical surfaces on to the floor and over the coving on to the wall (before tiling) to at least 900mm above the final finished floor level. The coating shall also be continued on to the inner surfaces of the pipe penetration holes.</p> <p>Two coats shall be applied in right angle to each other. Chemical Base Part A: liquid polymer and additive, Part B: portland cement with selected aggregate and additive. Layer Thickness 1.5 mm – 2.0 mm average Water Vapour Resistance 3 g /m² / day, Density Fresh slurry density: ~ 2.00 kg/l at +27°C Tensile Strength ~ 4.56 N/mm² after 14 days exposure (According to ASTM D 2370) Bond Strength 2.0 N/mm² .After PCC a coat of approved make water proofing mixed with cement (1:2) to be applied before tile installation.all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge..</p> <p>Rate in figure: Rate in word:</p>	Sqm.	12.6		
(iii)	<p>Providing and filling the annular gap between pipe periphery and concrete with non shrink with approved make water proofing ; sealing the joint mouths with with approved make water proofing component, a moisture insensitive epoxy putty in a continuous, 10mm thick gasket around the pipes to a width of approximately 15mm.all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge.</p> <p>Rate in figure: Rate in word:</p>	Nos.	12		

(b) **PLASTERING WATER PROOFING:**

Sl.No	Description	Unit	Qty.	Rate	Amount
	Providing of Integral Waterproofing admixture confirms IS:2645 on plaster surface and consumption should be 100gm/50kg bag including all material, labour, tool and taxes complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	1797		
(c)	EXTERNAL WATER PROOFING:				
	Supplying & applying one coat with approved make external water proofing @5kg with white cement/50kg bag and water to the external wall of the painting(weathercoat) area followed by two coat with approved make weather coat paint.all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	282		
32	Providing and filling the gap in between frame and adjacent RCC/brick work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of the Engineer-in-charge. Rate in figure: Rate in word:	Mtr.	293		
33	Supplying all materials, labour and tools and plant and fixing 100 mm dia PVC rain water / sewerage pipes and fitting to walls with nails and PVC hooks, bobbins and wooden plugs as required with all fittings such as plain / door bends, tees, Y-piece and short pieces etc. at all heights. Rate in figure: Rate in word:	Rmt.	60		
				Total :	<hr/>
	Rate in figure: Rate in word:				

For M/s. RATH ARCHITECTONIC.

SECOND FLOOR

1	Dismantling of Reinforced Cement concrete grade including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure:	Cum.	40		
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Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
2	Dismantling Brick work in cement mortar including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	52		
3	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved. Rate in figure: Rate in word:	Cum.	92		
4	Removal of fungus on the surface of brickwork,RCC work,masonry work,floor,etc complete.The rate to be quoted on the basis of mandays on daily wages including scaffolding all complete as per direction of Engineer-in-Charge. Rate in figure: Rate in word:	Sqm	293.397		
5	ANTI-TERMITE TREATMENT :				
	(A) POST CONSTRUCTION ANTI-TERMITE TREATMENT:				
(a)	Treatment at points of contact of wood work by chemical emulsion Chlorpyriphos emulsifiable concentrate of 20% / Lindane (in oil or kerosene based solution) @ 0.5 litres per hole by drilling 6 mm dia holes at downward angle of 45 degree at 150 mm centre to centre and sealing the same. Rate in figure: Rate in word:	Mtr.	356.3		

Sl.No	Description	Unit	Qty.	Rate	Amount
6	<p>Providing lifting, hoisting and laying reinforced cement concrete to all type of concreting work to base of columns and footing, columns, beams, plinth band, lintels, chajja, shaft, fins, roof slabs, balconies, stair cases, parapets, window wills, lofts, railing, jally, copping or in places as shown in the drawing or as directed with 20 mm and down graded size black hard crusher broken chips of approved quality from approved quarry including mixing and vibro compacting to proper shape and size, level and plumbs and finishing the exposed surfaces smooth (if required providing plaster with cement mortar (1:4) wherever necessary without any extra cost) scaffolding, including, watering and curing the required period, including cost of all materials, labour, conveyance, loading and unloading, royalties, sundries, tools and plants, etc upto floor five level, complete as per direction of the Engineer-in-charge including cost of all materials and labour. M-25 Grade Concrete in Superstructure.</p> <p>Rate in figure: Rate in word:</p>	Cum.	4.25		
7	<p>Providing, laying & binding of M.S. round / deformed / tor steel reinforcement bars of required diameters for straightening, cutting to size, bending, and binding the grills, lifting and placing in position at all heights & locations as per design complete including cost of bars, cost of binding wires 22 gauge, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants upto floor five level, etc. complete as per the direction of the Engineer-in-charge. (linear measurement will be taken and quantity will be calculated on standard weight of bars for all heights).</p> <p>Rate in figure: Rate in word:</p>	Qntl.	5.312		
8	<p>Providing strong, rigid, leveled, and plumbed centering and shuttering to required shape and size, with shuttering ply or steel centering materials with all necessary bracing and tiles and supports with leveling centering covered with bituminous paper with provisions necessary holes and pockets for electrical conduits, pipes, P.H. pipes, for hooks or boxes, switch and board insert plates, clamps and extension bars etc., including dismantling the same after the required intervals from the date of casting including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge.</p>				
(a)	<p>Columns, beams, plinth beams, girders, bressumers and cantilevers, staircase, horizontal and vertical fins, bands, coping, moulding, cornice etc.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	35		
(b)	<p>Lintels</p> <p>Rate in figure:</p>	Sqm.	2		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
9	<p>Providing and fixing double scaffolding system (cup lock type) on the exterior side, upto seven story high 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 challies, M.S. clamps and M.S. staricase 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, sonnection with the building etc wherever required for inspection of work at required lacations 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.</p> <p>Note:- This item to be used for maintenance work judicially, necessary deduction for scaffolding in the existing item to be done.</p>	Sqm.	36		
	Rate in figure:				
	Rate in word:				
10	<p>K.B. brick masonry work using (250 mm x 120 mm x 80 mm) with tolerance of size K.B. bricks having crushing strength not less than 75 kg / sqcm, mix (1 cement : 6 sands) in 250 mm thick wall, immersing the bricks for minimum 6 hrs in water before use, with all necessary projection, splay cutting, circular moulding, corbelling, etc., including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants etc. upto floor five level, as per the direction of the Engineer-in-charge in superstructure.</p>	Cum.	18		
	Rate in figure:				
	Rate in word:				
11	HALF BRICK MASONRY :				
(a)	<p>Half brick masonry with bricks of (75 Kg. / sqcm) class above plinth level upto floor level with cement mortar (1:4).</p>	Sqm.	5.62		
	Rate in figure:				
	Rate in word:				
(b)	<p>Extra for providing and placing in position 2 Nos. 6 mm dia M.S. bar at every 3rd course of half brick masonry.</p>	Sqm.	5.62		
	Rate in figure:				
	Rate in word:				

Sl.No	Description	Unit	Qty.	Rate	Amount
12	Providing average 25 mm thick grading plaster with mix 1:2:4 (1 cement : 2 sand : 4 bazuri) of cement mortar using 2% water proofing compound (of cement) of approved make and quality on top of roof terrace of all floors including scrapping and cleaning the roof plastering and finishing smooth to proper slope and gradient, including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, watering. Rate in figure: Rate in word:	Sqm.	394		
13	Providing gola 75 mm x 75 mm in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 stone aggregate 10 mm and down gauge) including finishing with cement mortar 1:3 (1 cement : 3 fine sand) all complete as per direction of Engineer-in-charge. In 75 mm x 75 mm deep chase. Rate in figure: Rate in word:	Mtr.	220.72		
14	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 mx1 mx400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement,rounding the edges, making and finishing the outlet complete. Rate in figure: Rate in word:	Nos.	10		
15	Providing Avg. 12 mm thick cement plaster 1:6 (1 cement : 6 sand) to inside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	85		
16	Providing Avg. 16 mm thick cement plaster 1:6 (1 cement : 6 sand) to outside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	50		

Sl.No	Description	Unit	Qty.	Rate	Amount
17	Providing average 6 mm thick cement plaster under ceiling, chajja and beam proportion 1:4 cement mortar including chipping slurring etc. complete.as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	1450		
18	Providing and applying 2 coats acrylic based weather coat paint (exterior quality) over a coat of primer of approved brand & shade over the surfaces including preparation of surface, with cost of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	312.60		
19	Providing and applying 2 coats of textured paint over a coat of primer of approved brand & shade over the surfaces including preparation of surface, with cost of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	208.40		
20	Extra for supplying and applying concrete bonding agent compound for obtaining proper bonding between old concrete and new concrete. The bonding agent compound shall be of approved make as directed by Engineer-in-charge which shall be applied as per manufacturer's specification and the quantity shall be measured in liters. Rate in figure: Rate in word:	KG.	0.4		
21	Extra for supplying and mixing approved quality concrete admixture as per manufacturer's specification in all kind of concrete work at any location of approved make. The admixture shall be based on the design mix which shall be carried out by the contractor prior to start of work. Rate in figure: Rate in word:	KG.	14.00		
22	Extra for supplying and mixing approved quality concrete admixture as per manufacturer's specification in all kind of concrete work at any location of approved make. The admixture shall be based on the design mix which shall be carried out by the contractor prior to start of work. Rate in figure: Rate in word:	Lit.	10.63		
23	CHOWKATH (Door Frame):				

Sl.No	Description	Unit	Qty.	Rate	Amount
(a)	Supplying and fixing Sal wood in Single rebate frames of doors, and other frames, wrought framed of 125 mm x 62 mm size including all fittings and fixed in position with anchor fastener 3 nos. on each sides ,including S.S screw on wooden joinery, grooves and making arrangement as shown on drawing, applying anti-termite paint on surfaces touching masonry or concrete etc. complete and as per the direction of Engineer-in-charge .	Cum	0.65		
	Rate in figure: Rate in word:				
(b)	Providing, fitting and fixing of 50 mm x 125 mm (after moulding) well blend beautifully WPC (WOOD PLASIC COMPOSITE)chowkath in door & window opening area the wall side surface of WPC chowkath, 150 mm anchor fashner , screw, cutting the holes, filling the cutting holes in cement concrete (1:2:4) etc. all complete and as per the direction of Engineer-in-charge	Rmt.	156		
	Rate in figure: Rate in word:				
24 UPVC WINDOW:					
a	Providing and fixing of factory made 67 series uPVC 2-track Sliding window (White Colour) complete, comprising uPVC multi-chambered frame of size 67mm x 54mm having uPVC roller track on top and uPVC sash of size 60mm x 47mm. All corners of frame and sash will be fusion welded and duly reinforced with G.I. section 1.2 mm. After placing 4mm float or prescribed glass in the sash, uPVC glazing bead, interlock, EPDM gasket, brush will be provided including hardware, i.e., touch lock and rollers & proper drainage system shall be provided. Window will be fixed to the wall with 100mm long and 8mm dia. Fasteners and complete in all respect as per direction of Engineer-In-Charge.	Sqm.	10		
	Rate in figure: Rate in word:				
b	UPVC Adjustable Louver Window with Exhaust Provision: Providing and fixing of factory made approved make, uPVC Louver window comprising of uPVC multi-chambered frame of size 67 mm x 54 mm, duly reinforced with 1.2 mm thick G. I. Section. Both vertical sides of the frame, adjustable louver with 4 mm frosted glass and having one lever to adjust the glass. Window will be fixed to the wall with 100mm long and 8mm dia. Fasteners and complete in all respect as per direction of Engineer-In-Charge.	Sqm.	2		
	Rate in figure:				

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
25	Supplying and painting of MS grills madeup with M.S. square bar / round bar / flat with two coat enamel paint over a coat of red oxide primer and fixing the same to window frames as per requirement and direction of Engineer-in-charge.	Qntl	8.75		
	Rate in figure:				
	Rate in word:				
26	Providing and fixing circular / hexagonal M.S. sheet ceiling fan box 73 mm height make out of 1.5 mm thick M.S. sheet welded with 12 mm dia M.S. bar bent to shape with provision of conduit inlet all complete as per direction of Engineer-in-charge.				
	The box shall be finished with two coats of anticorrosive paints.	Nos.	20		
	Rate in figure:				
	Rate in word:				
27	STAINLESS STEEL STAIRCASE RAILING WITH HANDLE :				
	Providing, fixing of stainless steel railing using 304 grade 18 gauge 50 mm dia, 25 mm dia, S.S. pipes, 75 mm dia, S.S. Ball and 50 mm dia, S.S. cap including cutting the pipes into length as per design and jointing the pieces using electrode welding fixing the frame in position including grinding the welded section joints to obtain smooth joints and finally polishing the joints to complete the railing work all complete as per design. 12 mm thick clear glass with etching design should also be provided in between the stair rail with the help of stainless knob and screw etc. all complete and as per the direction of Engineer-in-charge.	Rmt.	75		
	Rate in figure:				
	Rate in word:				
28	GRANITE CLADDING :				
	Providing 20 / 18 mm thick approved quality & shade polished granite slabs, and cutting to required size laid over 20 mm thick under layer of cement mortar (1:3) to masonry or concrete surfaces in skirting, dado, risers and treads of steps, counters, edtges / facias,toilet wall complete (screwing on vertical surfaces if required) to proper level and joints filled with cement mixed with oxide matching colour in required proportion, washed, acid cleaned, including cost of all materials, labour, conveyance, taxes, royalties, scafflding, watering, curing, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge.	Sqm.	200		
	Rate in figure:				
	Rate in word:				

Sl.No	Description	Unit	Qty.	Rate	Amount
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29 **GRANITE FLOORING :**

Providing and fixing polished granites of approved make and shade in specified areas for flooring in toilet and 17 mm thickness fixed over a base of 25 mm thick 1:3 cement sand mortar and the granite slab shall be fixed with help of 1:1 cement slurry and the granite joints shall be finished with white cement with matching oxide pigments. The final surface shall be made ready to use after cleaning and washing the surface properly with clean cloths.

Sqm. 35

Rate in figure:

Rate in word:

30 **STRUCTURAL GLAZING WORK :**

Supplying all labour, material for fabrication and installation of structural glazing work at specified places using colour anodized extruded aluminium sections (Approx. dimension) (Mullion 111 mm x 50 mm x 1.85 mm, transume - 56 mm x 50 mm x 1.80 mm sub frame - 20 mm x 12 mm x 2 mm) with 15-18 microns anodize in desired coloured shade and 6 mm thick colour reflective toughened glass (approved size) which will be fixed with the sub frame using rubber gasket and structural silicon sealant DC-995. The glass panel shall be fixed to mullion and transem sections as per the design provided in the drawing by maintaining a gap of 10-12 mm between two adjacent panels.

The structural members shall be framed as per design and fixed to the R.C.C. member using stainless steel rowl plugs and steel screws. The job is inclusive of providing all materials, fabrication, erection and filling of all gaps upto 12 mm by using weather sealant and gap upto 100 mm using

colour anodized aluminium sheet all complete as per direction of Engineer-in-charge. The design of structural glazing shall be done to resist 200 km / hr wind speed and should be tested before filling and a certificate from Govt. / Semi Govt. or Govt. authorised lab should be produced before fixing.

The specification for accessoreis :

- (i) M.S. brackets - Galvanised M.S. brackets.
- (ii) Anchor fastners - approved make
- (iii) Buts / nuts / washers - Stainless steel.
- (iv) Grouting fastners - P.V.C. bullet fastners.
- (v) Structural sealant - approved make.
- (vi) Foam spacer - approved make
- (vii) Weather sealant - approved make
- (viii) Gasket for glazing and water prevention - EPDM gasket.
- (ix) Provision for two point locking handles for top-hung openable shutters.

Sl.No	Description	Unit	Qty.	Rate	Amount
(x)	Other standard accessories which are the part as standard fabrication design. Rate in figure: Rate in word:	Sqm.	52		
31	WATER PROOFING:				
(a)	WET AREA-SUNKEN PART:				
(i)	Providing and cleaning of RCC surface and wall to remove dust and loosely adhering particles completely. Supply and application of 1:3 cement – sand mortar and neat cement punning (only for sunken slab), mixed with approved make water proofing – the polymer modified high quality emulsion, as a coving at the corners of floor and the vertical surface in the sunken area, and between floor and walls in the remaining area all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	35		
(ii)	Supply and application of with approved make water proofing primer followed by two coats of with approved make water proofing between two coat in sandwich system or equivalent – ready to use acrylic based , cementitious, glass fibre reinforced elastic liquid applied waterproof coating onto the prepared surface in a continuous film on the floor of the sunken area, taking the coating over the vertical surfaces on to the floor and over the coving on to the wall (before tiling) to at least 900mm above the final finished floor level. The coating shall also be continued on to the inner surfaces of the pipe penetration holes. Two coats shall be applied in right angle to each other. Chemical Base Part A: liquid polymer and additive, Part B: portland cement with selected aggregate and additive. Layer Thickness 1.5 mm – 2.0 mm average Water Vapour Resistance 3 g /m ² / day, Density Fresh slurry density: ~ 2.00 kg/l at +27°C Tensile Strength ~ 4.56 N/mm ² after 14 days exposure (According to ASTM D 2370) Bond Strength 2.0 N/mm ² .After PCC a coat of approved make water proofing mixed with cement (1:2) to be applied before tile installation.all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge.. Rate in figure: Rate in word:	Sqm.	12.6		

Sl.No	Description	Unit	Qty.	Rate	Amount
(iii)	Providing and filling the annular gap between pipe periphery and concrete with non shrink with approved make water proofing ; sealing the joint mouths with with approved make water proofing component, a moisture insensitive epoxy putty in a continuous,10mm thick gasket around the pipes to a width of approximately 15mm.all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Nos.	12		
(b)	PLASTERING WATER PROOFING: Providing of Integral Waterproofing admixture confirms IS:2645 on plaster surface and consumption should be100gm/50kg bag inclding all material,labour,tool and taxes complete.as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	1585		
(c)	EXTERNAL WATER PROOFING: Supplying & applying one coat with approved make external water proofing @5kg with white cement/50kg bag and water to the external wall of the painting(weathercoat) area followed by two coat with approved make weather coat paint.all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	313		
32	Providing and filling the gap in between frame and adjacent RCC/brick work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of the Engineer-in-charge. Rate in figure: Rate in word:	Mtr.	280		
33	Supplying all materials, labour and tools and plant and fixing 100 mm dia PVC rain water / sewerage pipes and fitting to walls with nails and PVC hooks, bobbins and wooden plugs as required with all fittings such as plain / door bends, tees, Y-piece and short pieces etc. at all heights. Rate in figure: Rate in word:	Rmt.	80		
	Rate in figure: Rate in word:			Total :	<hr/>

Sl.No	Description	Unit	Qty.	Rate	Amount
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THIRD FLOOR

1	Dismantling of Reinforced Cement concrete grade including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	36		
2	Dismantling Brick work in cement mortar including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	48		
3	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved. Rate in figure: Rate in word:	Cum.	84		
4	Removal of fungus on the surface of brickwork,RCC work,masonry work,floor,etc complete.The rate to be quoted on the basis of mandays on daily wages including scaffolding all complete as per direction of Engineer-in-Charge. Rate in figure: Rate in word:	Sqm	213.267		
5	ANTI-TERMITE TREATMENT :				
	(A) POST CONSTRUCTION ANTI-TERMITE TREATMENT:				
(a)	Treatment at points of contact of wood work by chemical emulsion Chlorpyriphos emulsifiable concentrate of 20% / Lindane (in oil or kerosene based soulution) @ 0.5 litres per hole by drilling 6 mm dia holes at downward angle of 45 degree at 150 mm centre to centre and sealing the same. Rate in figure: Rate in word:	Mtr.	363.8		

Sl.No	Description	Unit	Qty.	Rate	Amount
6	<p>Providing lifting, hoisting and laying reinforced cement concrete to all type of concreting work to base of columns and footing, columns, beams, plinth band, lintels, chajja, shaft, fins, roof slabs, balconies, stair cases, parapets, window wills, lofts, railing, jally, coping or in places as shown in the drawing or as directed with 20 mm and down graded size black hard crusher broken chips of approved quality from approved quarry including mixing and vibro compacting to proper shape and size, level and plumbs and finishing the exposed surfaces smooth (if required providing plaster with cement mortar (1:4) wherever necessary without any extra cost) scaffolding, including, watering and curing the required period, including cost of all materials, labour, conveyance, loading and unloading, royalties, sundries, tools and plants, etc upto floor five level, complete as per direction of the Engineer-in-charge including cost of all materials and labour. M-25 Grade Concrete in Superstructure.</p> <p>Rate in figure: Rate in word:</p>	Cum.	3.75		
7	<p>Providing, laying & binding of M.S. round / deformed / tor steel reinforcement bars of required diameters for straightening, cutting to size, bending, and binding the grills, lifting and placing in position at all heights & locations as per design complete including cost of bars, cost of binding wires 22 gauge, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants upto floor five level, etc. complete as per the direction of the Engineer-in-charge. (linear measurement will be taken and quantity will be calculated on standard weight of bars for all heights).</p> <p>Rate in figure: Rate in word:</p>	Qntl.	4.687		
8	<p>Providing strong, rigid, leveled, and plumbed centering and shuttering to required shape and size, with shuttering ply or steel centering materials with all necessary bracing and tiles and supports with leveling centering covered with bituminous paper with provisions necessary holes and pockets for electrical conduits, pipes, P.H. pipes, for hooks or boxes, switch and board insert plates, clamps and extension bars etc., including dismantling the same after the required intervals from the date of casting including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge.</p>				
(a)	<p>Columns, beams, plinth beams, girders, bressumers and cantilevers, staircase, horizontal and vertical fins, bands, coping, moulding, cornice etc.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	50		
(b)	<p>Lintels</p> <p>Rate in figure:</p>	Sqm.	2		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
9	<p>Providing and fixing double scaffolding system (cup lock type) on the exterior side, upto seven storey 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 challies, M.S. clamps and M.S. staricase 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, sonnection with the building etc wherever required for inspection of work at required lacations 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.</p> <p>Note:- This item to be used for maintenance work judicially, necessary deduction for scaffolding in the existing item to be done.</p>	Sqm.	32		
	Rate in figure:				
	Rate in word:				
10	<p>K.B. brick masonry work using (250 mm x 120 mm x 80 mm) with tolerance of size K.B. bricks having crushing strength not less than 75 kg / sqcm, mix (1 cement : 6 sands) in 250 mm thick wall, immersing the bricks for minimum 6 hrs in water before use, with all necessary projection, splay cutting, circular moulding, corbelling, etc., including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants etc. upto floor five level, as per the direction of the Engineer-in-charge in superstructure.</p>	Cum.	12		
	Rate in figure:				
	Rate in word:				
11	HALF BRICK MASONRY :				
(a)	<p>Half brick masonry with bricks of (75 Kg. / sqcm) class above plinth level upto floor level with cement mortar (1:4).</p>	Sqm.	7.82		
	Rate in figure:				
	Rate in word:				
(b)	<p>Extra for providing and placing in position 2 Nos. 6 mm dia M.S. bar at every 3rd course of half brick masonry.</p>	Sqm.	7.82		
	Rate in figure:				
	Rate in word:				

Sl.No	Description	Unit	Qty.	Rate	Amount
12	Providing average 25 mm thick grading plaster with mix 1:2:4 (1 cement : 2 sand : 4 bazuri) of cement mortar using 2% water proofing compound (of cement) of approved make and quality on top of roof terrace of all floors including scrapping and cleaning the roof plastering and finishing smooth to proper slope and gradient, including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, watering. Rate in figure: Rate in word:	Sqm.	620		
13	Providing gola 75 mm x 75 mm in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 stone aggregate 10 mm and down gauge) including finishing with cement mortar 1:3 (1 cement : 3 fine sand) all complete as per direction of Engineer-in-charge. In 75 mm x 75 mm deep chase. Rate in figure: Rate in word:	Mtr.	67.4		
14	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 mx1 mx400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement,rounding the edges, making and finishing the outlet complete. Rate in figure: Rate in word:	Nos.	10		
15	Providing Avg. 12 mm thick cement plaster 1:6 (1 cement : 6 sand) to inside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	65		
16	Providing Avg. 16 mm thick cement plaster 1:6 (1 cement : 6 sand) to outside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	45		

Sl.No	Description	Unit	Qty.	Rate	Amount
17	Providing average 6 mm thick cement plaster under ceiling, chajja and beam proportion 1:4 cement mortar including chipping slurring etc. complete.as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	420		
18	Providing and applying 2 coats acrylic based weather coat paint (exterior quality) over a coat of primer of approved brand & shade over the surfaces including preparation of surface, with cost of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	390		
19	Providing and applying 2 coats of textured paint over a coat of primer of approved brand & shade over the surfaces including preparation of surface, with cost of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	260		
20	Extra for supplying and applying concrete bonding agent compound for obtaining proper bonding between old concrete and new concrete. The bonding agent compound shall be of approved make as directed by Engineer-in-charge which shall be applied as per manufacturer's specification and the quantity shall be measured in liters. Rate in figure: Rate in word:	KG.	0.3		
21	Extra for supplying and mixing approved quality concrete admixture as per manufacturer's specification in all kind of concrete work at any location of approved make. The admixture shall be based on the design mix which shall be carried out by the contractor prior to start of work. Rate in figure: Rate in word:	KG.	12.00		
22	CHOWKATH (Door Frame):				
(a)	Supplying and fixing Sal wood in Single rebate frames of doors, and other frames, wrought framed of 125 mm x 62 mm size including all fittings and fixed in position with anchor fastener 3 nos. on each sides ,including S.S screw on wooden joinery, grooves and making arrangement as shown on drawing, applying anti-termite paint on surfaces touching masonry or concrete etc. complete and as per the direction of Engineer-in-charge. Rate in figure: Rate in word:	Cum	0.4808		

Sl.No	Description	Unit	Qty.	Rate	Amount
(b)	<p>Providing, fitting and fixing of 50 mm x 125 mm (after moulding) well blend beautifully WPC (WOOD PLASIC COMPOSITE)chowkath in door & window opening area the wall side surface of WPC chowkath, 150 mm anchor fashner , screw, cutting the holes, filling the cutting holes in cement concrete (1:2:4) etc. all complete and as per the direction of Engineer-in-charge</p> <p>Rate in figure: Rate in word:</p>	Rmt.	93.06		
23	UPVC WINDOW:				
a	<p>Providing and fixing of factory made 67 series uPVC 2-track Sliding window (White Colour) complete, comprising uPVC multi-chambered frame of size 67mm x 54mm having uPVC roller track on top and uPVC sash of size 60mm x 47mm. All corners of frame and sash will be fusion welded and duly reinforced with G.I. section 1.2 mm.</p> <p>After placing 4mm float or prescribed glass in the sash, uPVC glazing bead, interlock, EPDM gasket, brush will be provided including hardware, i.e., touch lock and rollers & proper drainage system shall be provided. Window will be fixed to the wall with 100mm long and 8mm dia. Fasteners and complete in all respect as per direction of Engineer-In-Charge.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	8		
b	UPVC Adjustable Louver Window with Exhaust Provision:				
	<p>Providing and fixing of factory made approved make, uPVC Louver window comprising of uPVC multi-chambered frame of size 67 mm x 54 mm, duly reinforced with 1.2 mm thick G. I. Section. Both vertical sides of the frame, adjustable louver with 4 mm frosted glass and having one lever to adjust the glass. Window will be fixed to the wall with 100mm long and 8mm dia. Fasteners and complete in all respect as per direction of Engineer-In-Charge.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	1.50		
24	<p>Supplying and painting of MS grills madeup with M.S. square bar / round bar / flat with two coat enamel paint over a coat of red oxide primer and fixing the same to window frames as per requirement and direction of Engineer-in-charge.</p> <p>Rate in figure: Rate in word:</p>	Qntl	7.50		
25	GRANITE CLADDING :				

Sl.No	Description	Unit	Qty.	Rate	Amount
	<p>Providing 20 / 18 mm thick approved quality & shade polished granite slabs, and cutting to required size laid over 20 mm thick under layer of cement mortar (1:3) to masonry or concrete surfaces in skirting, dado, risers and treads of steps, counters, edgges / facias,toilet wall complete (screwing on vertical surfaces if required) to proper level and joints filled with cement mixed with oxide matching colour in required proportion, washed, acid cleaned, including cost of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	190		
26	GRANITE FLOORING :				
	<p>Providing and fixing polished granites of approved make and shade in specified areas for flooring in toilet and 17 mm thickness fixed over a base of 25 mm thick 1:3 cement sand mortar and the granite slab shall be fixed with help of 1:1 cement slurry and the granite joints shall be finished with white cement with matching oxide pigments. The final surface shall be made ready to use after cleaning and washing the surface properly with clean cloths.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	35		
27	<p>Providing and fixing circular / hexagonal M.S. sheet ceiling fan box 73 mm height make out of 1.5 mm thick M.S. sheet welded with 12 mm dia M.S. bar bent to shape with provision of conduit inlet all complete as per direction of Engineer-in-charge.</p> <p>The box shall be finished with two coats of anticorrosive paints.</p> <p>Rate in figure: Rate in word:</p>	Nos.	15		
28	STAINLESS STEEL STAIRCASE RAILING WITH HANDLE				
	<p>Providing, fixing of stainless steel railing using 304 grade 18 gauge 50 mm dia, 25 mm dia, S.S. pipes, 75 mm dia, S.S. Ball and 50 mm dia, S.S. cap including cutting the pipes into length as per design and jointing the pieces using electrode welding fixing the frame in position including grinding the welded section joints to obtain smooth joints and finally polishing the joints to complete the railing work all complete as per design. 12 mm thick clear glass with etching design should also be provided in between the stair rail with the help of stainless knob and screw etc. all complete and as per the direction of Engineer-in-charge.</p> <p>Rate in figure:</p>	Rmt.	71		

Sl.No	Description	Unit	Qty.	Rate	Amount
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Rate in word:

29 **WATER PROOFING:**

(a) **WET AREA-SUNKEN PART:**

- (i) Providing and cleaning of RCC surface and wall to remove dust and loosely adhering particles completely. Supply and application of 1:3 cement – sand mortar and neat cement punning (only for sunken slab), mixed **with approved make water proofing** – the polymer modified high quality emulsion, as a coving at the corners of floor and the vertical surface in the sunken area, and between floor and walls in the remaining area all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge.

Sqm. 35

Rate in figure:

Rate in word:

- (ii) Supply and application of **with approved make water proofing primer** followed by two coats of **with approved make water proofing** between two coat in sandwich system or equivalent – ready to use acrylic based , cementitious, glass fibre reinforced elastic liquid applied waterproof coating onto the prepared surface in a continuous film on the floor of the sunken area, taking the coating over the vertical surfaces on to the floor and over the coving on to the wall (before tiling) to at least 900mm above the final finished floor level. The coating shall also be continued on to the inner surfaces of the pipe penetration holes.

Two coats shall be applied in right angle to each other. Chemical Base Part A: liquid polymer and additive, Part B: portland cement with selected aggregate and additive. Layer Thickness 1.5 mm – 2.0 mm average Water Vapour Resistance 3 g /m² / day, Density Fresh slurry density: ~ 2.00 kg/l at +27°C Tensile Strength ~ 4.56 N/mm² after 14 days exposure (According to ASTM D 2370) Bond Strength 2.0 N/mm² .After PCC a coat of approved make water proofing mixed with cement (1:2) to be applied before tile installation.all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge..

Sqm. 12.6

Rate in figure:

Rate in word:

Sl.No	Description	Unit	Qty.	Rate	Amount
(iii)	Providing and filling the annular gap between pipe periphery and concrete with non shrink with approved make water proofing ; sealing the joint mouths with with approved make water proofing component, a moisture insensitive epoxy putty in a continuous,10mm thick gasket around the pipes to a width of approximately 15mm.all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Nos.	12		
(b)	PLASTERING WATER PROOFING: Providing of Integral Waterproofing admixture confirms IS:2645 on plaster surface and consumption should be100gm/50kg bag inclding all material,labour,tool and taxes complete.as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	530		
(c)	EXTERNAL WATER PROOFING: Supplying & applying one coat with approved make external water proofing @5kg with white cement/50kg bag and water to the external wall of the painting(weathercoat) area followed by two coat with approved make weather coat paint.all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	390		
30	Providing and filling the gap in between frame and adjacent RCC/brick work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of the Engineer-in-charge. Rate in figure: Rate in word:	Mtr.	302		
31	Supplying all materials, labour and tools and plant and fixing 100 mm dia PVC rain water / sewerage pipes and fitting to walls with nails and PVC hooks, bobbins and wooden plugs as required with all fittings such as plain / door bends, tees, Y-piece and short pieces etc. at all heights. Rate in figure: Rate in word:	Rmt.	110		

Total : _____

Rate in figure:
Rate in word:

Sl.No	Description	Unit	Qty.	Rate	Amount
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INTERMEDIATE FLOOR

1	Dismantling of Reinforced Cement concrete grade including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	32		
2	Dismantling Brick work in cement mortar including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	45		
3	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved. Rate in figure: Rate in word:	Cum.	77		
4	Removal of fungus on the surface of brickwork,RCC work,masonry work,floor,etc complete.The rate to be quoted on the basis of mandays on daily wages including scaffolding all complete as per direction of Engineer-in-Charge. Rate in figure: Rate in word:	Sqm	83.838		
5	ANTI-TERMITE TREATMENT :				
	(A) POST CONSTRUCTION ANTI-TERMITE TREATMENT:				
(a)	Treatment at points of contact of wood work by chemical emulsion Chlorpyriphos emulsifiable concentrate of 20% / Lindane (in oil or kerosene based soulution) @ 0.5 litres per hole by drilling 6 mm dia holes at downward angle of 45 degree at 150 mm centre to centre and sealing the same. Rate in figure: Rate in word:	Mtr.	92.3		

Sl.No	Description	Unit	Qty.	Rate	Amount
6	<p>Providing lifting, hoisting and laying reinforced cement concrete to all type of concreting work to base of columns and footing, columns, beams, plinth band, lintels, chajja, shaft, fins, roof slabs, balconies, stair cases, parapets, window wills, lofts, railing, jally, copping or in places as shown in the drawing or as directed with 20 mm and down graded size black hard crusher broken chips of approved quality from approved quarry including mixing and vibro compacting to proper shape and size, level and plumbs and finishing the exposed surfaces smooth (if required providing plaster with cement mortar (1:4) wherever necessary without any extra cost) scaffolding, including, watering and curing the required period, including cost of all materials, labour, conveyance, loading and unloading, royalties, sundries, tools and plants, etc upto floor five level, complete as per direction of the Engineer-in-charge including cost of all materials and labour. M-25 Grade Concrete in Superstructure.</p> <p>Rate in figure: Rate in word:</p>	Cum.	3.00		
7	<p>Providing, laying & binding of M.S. round / deformed / tor steel reinforcement bars of required diameters for straightening, cutting to size, bending, and binding the grills, lifting and placing in position at all heights & locations as per design complete including cost of bars, cost of binding wires 22 gauge, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants upto floor five level, etc. complete as per the direction of the Engineer-in-charge. (linear measurement will be taken and quantity will be calculated on standard weight of bars for all heights).</p> <p>Rate in figure: Rate in word:</p>	Qntl.	3.75		
8	<p>Providing strong, rigid, leveled, and plumbed centering and shuttering to required shape and size, with shuttering ply or steel centering materials with all necessary bracing and tiles and supports with leveling centering covered with bituminous paper with provisions necessary holes and pockets for electrical conduits, pipes, P.H. pipes, for hooks or boxes, switch and board insert plates, clamps and extension bars etc., including dismantling the same after the required intervals from the date of casting including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge.</p>				
(a)	<p>Suspended floors, roofs, landings, balconies and access platform.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	60		

Sl.No	Description	Unit	Qty.	Rate	Amount
(b)	Columns, beams, plinth beams, girders, bressumers and cantilevers, staircase, horizontal and vertical fins, bands, coping, moulding, cornice etc. Rate in figure: Rate in word:	Sqm.	45		
(c)	Lintels Rate in figure: Rate in word:	Sqm.	52		
9	Providing and fixing double scaffolding system (cup lock type) on the exterior side, upto seven story high 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 challies, 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, sonnection with the building etc wherever required for inspection of work at required lacations 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. Rate in figure: Rate in word:	Sqm.	28		
10	K.B. brick masonry work using (250 mm x 120 mm x 80 mm) with tolerance of size K.B. bricks having crushing strength not less than 75 kg / sqcm, mix (1 cement : 6 sands) in 250 mm thick wall, immersing the bricks for minimum 6 hrs in water before use, with all necessary projection, splay cutting, circular moulding, corbelling, etc., including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants etc. upto floor five level, as per the direction of the Engineer-in-charge in superstructure. Rate in figure: Rate in word:	Cum.	8		
11	HALF BRICK MASONRY :				
(a)	Half brick masonry with bricks of (75 Kg. / sqcm) class above plinth level upto floor level with cement mortar (1:4). Rate in figure: Rate in word:	Sqm.	4.02		
(b)	Extra for providing and placing in position 2 Nos. 6 mm dia M.S. bar at every 3rd course of half brick masonry. Rate in figure:	Sqm.	4.02		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
12	Providing average 25 mm thick grading plaster with mix 1:2:4 (1 cement : 2 sand : 4 bazuri) of cement mortar using 2% water proofing compound (of cement) of approved make and quality on top of roof terrace of all floors including scrapping and cleaning the roof plastering and finishing smooth to proper slope and gradient, including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, watering. Rate in figure: Rate in word:	Sqm.	250		
13	Providing gola 75 mm x 75 mm in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 stone aggregate 10 mm and down gauge) including finishing with cement mortar 1:3 (1 cement : 3 fine sand) all complete as per direction of Engineer-in-charge. In 75 mm x 75 mm deep chase. Rate in figure: Rate in word:	Mtr.	71.8		
14	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 mx1 mx400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement,rounding the edges, making and finishing the outlet complete. Rate in figure: Rate in word:	Nos.	10		
15	Providing Avg. 12 mm thick cement plaster 1:6 (1 cement : 6 sand) to inside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	55		
16	Providing Avg. 16 mm thick cement plaster 1:6 (1 cement : 6 sand) to outside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	40		

Sl.No	Description	Unit	Qty.	Rate	Amount
17	Providing average 6 mm thick cement plaster under ceiling, chajja and beam proportion 1:4 cement mortar including chipping slurring etc. complete.as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	1145		
18	Providing and applying 2 coats acrylic based weather coat paint (exterior quality) over a coat of primer of approved brand & shade over the surfaces including preparation of surface, with cost of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	260		
19	Providing and applying 2 coats of textured paint over a coat of primer of approved brand & shade over the surfaces including preparation of surface, with cost of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	174		
20	Extra for supplying and applying concrete bonding agent compound for obtaining proper bonding between old concrete and new concrete. The bonding agent compound shall be of approved make as directed by Engineer-in-charge which shall be applied as per manufacturer's specification and the quantity shall be measured in liters. Rate in figure: Rate in word:	KG.	0.25		
21	Extra for supplying and mixing approved quality concrete admixture as per manufacturer's specification in all kind of concrete work at any location of approved make. The admixture shall be based on the design mix which shall be carried out by the contractor prior to start of work. Rate in figure: Rate in word:	KG.	10.00		
22	Extra for supplying and mixing approved quality concrete admixture as per manufacturer's specification in all kind of concrete work at any location of approved make. The admixture shall be based on the design mix which shall be carried out by the contractor prior to start of work. Rate in figure: Rate in word:	Lit.	7.50		
23	CHOWKATH (Door Frame):				

Sl.No	Description	Unit	Qty.	Rate	Amount
(a)	Supplying and fixing Sal wood in Single rebate frames of doors, and other frames, wrought framed of 125 mm x 62 mm size including all fittings and fixed in position with anchor fastener 3 nos. on each sides ,including S.S screw on wooden joinery, grooves and making arrangement as shown on drawing, applying anti-termite paint on surfaces touching masonry or concrete etc. complete and as per the direction of Engineer-in-charge.	Cum	0.223		
	Rate in figure: Rate in word:				
(b)	Providing, fitting and fixing of 50 mm x 125 mm (after moulding) well blend beautifully WPC (WOOD PLASIC COMPOSITE)chowkath in door & window opening area the wall side surface of WPC chowkath, 150 mm anchor fashner , screw, cutting the holes, filling the cutting holes in cement concrete (1:2:4) etc. all complete and as per the direction of Engineer-in-charge	Rmt.	43.2		
	Rate in figure: Rate in word:				
24 UPVC WINDOW:					
a	Providing and fixing of factory made 67 series uPVC 2-track Sliding window (White Colour) complete, comprising uPVC multi-chambered frame of size 67mm x 54mm having uPVC roller track on top and uPVC sash of size 60mm x 47mm. All corners of frame and sash will be fusion welded and duly reinforced with G.I. section 1.2 mm. After placing 4mm float or prescribed glass in the sash, uPVC glazing bead, interlock, EPDM gasket, brush will be provided including hardware, i.e., touch lock and rollers & proper drainage system shall be provided. Window will be fixed to the wall with 100mm long and 8mm dia. Fasteners and complete in all respect as per direction of Engineer-In-Charge.	Sqm.	6		
	Rate in figure: Rate in word:				
b	UPVC Adjustable Louver Window with Exhaust Provision: Providing and fixing of factory made approved make, uPVC Louver window comprising of uPVC multi-chambered frame of size 67 mm x 54 mm, duly reinforced with 1.2 mm thick G. I. Section. Both vertical sides of the frame, adjustable louver with 4 mm frosted glass and having one lever to adjust the glass. Window will be fixed to the wall with 100mm long and 8mm dia. Fasteners and complete in all respect as per direction of Engineer-In-Charge.	Sqm.	1.00		
	Rate in figure:				

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
25	Supplying and painting of MS grills madeup with M.S. square bar / round bar / flat with two coat enamel paint over a coat of red oxide primer and fixing the same to window frames as per requirement and direction of Engineer-in-charge. Rate in figure: Rate in word:	Qntl	6.25		
26	GRANITE CLADDING : Providing 20 / 18 mm thick approved quality & shade polished granite slabs, and cutting to required size laid over 20 mm thick under layer of cement mortar (1:3) to masonry or concrete surfaces in skirting, dado, risers and treads of steps, counters, edgges / facias,toilet wall complete (screwing on vertical surfaces if required) to proper level and joints filled with cement mixed with oxide matching colour in required proportion, washed, acid cleaned, including cost of all materials, labour, conveyance, taxes, royalties, scafflding, watering, curing, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	130		
27	GRANITE FLOORING : Providing and fixing polished granites of approved make and shade in specified areas for flooring in toilet and 17 mm thickness fixed over a base of 25 mm thick 1:3 cement sand mortar and the granite slab shall be fixed with help of 1:1 cement slurry and the granite joints shall be finished with white cement with matching oxide pigments. The final surface shall be made ready to use after cleaning and washing the surface properly with clean cloths. Rate in figure: Rate in word:	Sqm.	30		
28	Providing and fixing circular / hexagonal M.S. sheet ceiling fan box 73 mm height make out of 1.5 mm thick M.S. sheet welded with 12 mm dia M.S. bar bent to shape with provision of conduit inlet all complete as per direction of Engineer-in-charge. The box shall be finished with two coats of anticorrosive paints. Rate in figure: Rate in word:	Nos.	10		
29	STAINLESS STEEL STAIRCASE RAILING WITH HANDLE :				

Sl.No	Description	Unit	Qty.	Rate	Amount
	<p>Providing, fixing of stainless steel railing using 304 grade 18 gauge 50 mm dia, 25 mm dia, S.S. pipes, 75 mm dia, S.S. Ball and 50 mm dia, S.S. cap including cutting the pipes into length as per design and jointing the pieces using electrode welding fixing the frame in position including grinding the welded section joints to obtain smooth joints and finally polishing the joints to complete the railing work all complete as per design. 12 mm thick clear glass with etching design should also be provided in between the stair rail with the help of stainless knob and screw etc. all complete and as per the direction of Engineer-in-charge.</p> <p>Rate in figure: Rate in word:</p>	Rmt.	70		
30	WATER PROOFING:				
	(a) WET AREA-SUNKEN PART:				
	<p>(i) Providing and cleaning of RCC surface and wall to remove dust and loosely adhering particles completely. Supply and application of 1:3 cement – sand mortar and neat cement punning (only for sunken slab), mixed with approved make water proofing – the polymer modified high quality emulsion, as a coving at the corners of floor and the vertical surface in the sunken area, and between floor and walls in the remaining area all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	30		
	<p>(ii) Supply and application of with approved make water proofing primer followed by two coats of with approved make water proofing between two coat in sandwich system or equivalent – ready to use acrylic based , cementitious, glass fibre reinforced elastic liquid applied waterproof coating onto the prepared surface in a continuous film on the floor of the sunken area, taking the coating over the vertical surfaces on to the floor and over the coving on to the wall (before tiling) to at least 900mm above the final finished floor level. The coating shall also be continued on to the inner surfaces of the pipe penetration holes.</p>				

Sl.No	Description	Unit	Qty.	Rate	Amount
	Two coats shall be applied in right angle to each other. Chemical Base Part A: liquid polymer and additive, Part B: portland cement with selected aggregate and additive. Layer Thickness 1.5 mm – 2.0 mm average Water Vapour Resistance 3 g /m ² / day, Density Fresh slurry density: ~ 2.00 kg/l at +27°C Tensile Strength ~ 4.56 N/mm ² after 14 days exposure (According to ASTM D 2370) Bond Strength 2.0 N/mm ² .After PCC a coat of approved make water proofing mixed with cement (1:2) to be applied before tile installation.all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge.. Rate in figure: Rate in word:	Sqm.	12.6		
(iii)	Providing and filling the annular gap between pipe periphery and concrete with non shrink with approved make water proofing ; sealing the joint mouths with with approved make water proofing component, a moisture insensitive epoxy putty in a continuous,10mm thick gasket around the pipes to a width of approximately 15mm.all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Nos.	12		
(b)	PLASTERING WATER PROOFING: Providing of Integral Waterproofing admixture confirms IS:2645 on plaster surface and consumption should be 100gm/50kg bag including all material,labour,tool and taxes complete.as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	1240		
(c)	EXTERNAL WATER PROOFING: Supplying & applying one coat with approved make external water proofing @5kg with white cement/50kg bag and water to the external wall of the painting(weathercoat) area followed by two coat with approved make weather coat paint.all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	260		

Sl.No	Description	Unit	Qty.	Rate	Amount
31	Providing and filling the gap in between frame and adjacent RCC/brick work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of the Engineer-in-charge. Rate in figure: Rate in word:	Mtr.	68		
32	Supplying all materials, labour and tools and plant and fixing 100 mm dia PVC rain water / sewerage pipes and fitting to walls with nails and PVC hooks, bobbins and wooden plugs as required with all fittings such as plain / door bends, tees, Y-piece and short pieces etc. at all heights. Rate in figure: Rate in word:	Rmt.	150		

Total : _____

For M/s. RATH ARCHITECTONIC.

TERRACE FLOOR

1	Dismantling of Reinforced Cement concrete grade including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	20		
2	Dismantling Brick work in cement mortar including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	25		
3	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved. Rate in figure: Rate in word:	Cum.	45		
4	Removal of fungus on the surface of brickwork,RCC work,masonry work,floor,etc complete.The rate to be quoted on the basis of mandays on daily wages including scaffolding all complete as per direction of Engineer-in-Charge.	Sqm	50		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in figure: Rate in word:				
5	Providing lifting, hoisting and laying reinforced cement concrete to all type of concreting work to base of columns and footing, columns, beams, plinth band, lintels, chajja, shaft, fins, roof slabs, balconies, stair cases, parapets, window wills, lofts, railing, jally, copping or in places as shown in the drawing or as directed with 20 mm and down graded size black hard crusher broken chips of approved quality from approved quarry including mixing and vibro compacting to proper shape and size, level and plumbs and finishing the exposed surfaces smooth (if required providing plaster with cement mortar (1:4) wherever necessary without any extra cost) scaffolding, including, watering and curing the required period, including cost of all materials, labour, conveyance, loading and unloading, royalties, sundries, tools and plants, etc upto floor five level, complete as per direction of the Engineer-in-charge including cost of all materials and labour. M-25 Grade Concrete in Superstructure. Rate in figure: Rate in word:	Cum.	35		
6	Providing, laying & binding of M.S. round / deformed / tor steel reinforcement bars of required diameters for straightening, cutting to size, bending, and binding the grills, lifting and placing in position at all heights & locations as per design complete including cost of bars, cost of binding wires 22 gauge, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants upto floor five level, etc. complete as per the direction of the Engineer-in-charge. (linear measurement will be taken and quantity will be calculated on standard weight of bars for all heights). Rate in figure: Rate in word:	Qntl.	38.5		
7	Providing strong, rigid, leveled, and plumbed centering and shuttering to required shape and size, with shuttering ply or steel centering materials with all necessary bracing and tiles and supports with leveling centering covered with bituminous paper with provisions necessary holes and pockets for electrical conduits, pipes, P.H. pipes, for hooks or boxes, switch and board insert plates, clamps and extension bars etc., including dismantling the same after the required intervals from the date of casting including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge.				
(a)	Suspended floors, roofs, landings, balconies and access platform. Rate in figure: Rate in word:	Sqm.	40		

Sl.No	Description	Unit	Qty.	Rate	Amount
(b)	Columns, beams, plinth beams, girders, bressumers and cantilevers, staircase, horizontal and vertical fins, bands, coping, moulding, cornice etc. Rate in figure: Rate in word:	Sqm.	120		
(c)	Lintels Rate in figure: Rate in word:	Sqm.	52		
(d)	R.C.C Wall Rate in figure: Rate in word:	Sqm.	25		
8	Providing and fixing double scaffolding system (cup lock type) on the exterior side, upto seven story high 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 challies, M.S. clamps and M.S. staricase 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, sonnection with the building etc wherever required for inspection of work at required lacations 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. Rate in figure: Rate in word:	Sqm.	25		
9	M.S.DOOR : Supplying, fitting and fixing of M.S.door with Single Leaf outer frame made of 35x35x5 mm equal M.S L angle and shutter frame made of 25 x25 x5mm equal M.S. L angle for horizontal and vertical members and the shutter frame strengthened by stiffeners of 2 Nos. Horizontal and 3 Nos. diagonal using MS flat of size 20x5mm fully covered with 18 gauge plain M.S full sheet welded with shutter frame neatly and also fixing by welding 6 Nos. of holdfasts, 1 No. of wind appliance , 2 Nos. of tower bolts,1 No of aldrop,2 Nos of handles, fixing the shutter with 6 Nos. of hinges with outer frame of the door including painting the whole unit with two coat of best quality of red oxide primer and enamel paint of approved shade all complete as per drawing and direction of Engineer-in-charge . Rate in figure:	Sqm.	9.78		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
10	K.B. brick masonry work using (250 mm x 120 mm x 80 mm) with tolerance of size K.B. bricks having crushing strength not less than 75 kg / sqcm, mix (1 cement : 6 sands) in 250 mm thick wall, immersing the bricks for minimum 6 hrs in water before use, with all necessary projection, splay cutting, circular moulding, corbelling, etc., including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants etc. upto floor five level, as per the direction of the Engineer-in-charge in superstructure. Rate in figure: Rate in word:	Cum.	40		
11	HALF BRICK MASONRY :				
(a)	Half brick masonry with bricks of (75 Kg. / sqcm) class above plinth level upto floor level with cement mortar (1:4). Rate in figure: Rate in word:	Sqm.	2.72		
(b)	Extra for providing and placing in position 2 Nos. 6 mm dia M.S. bar at every 3rd course of half brick masonry. Rate in figure: Rate in word:	Sqm.	2.72		
12	Providing average 25 mm thick grading plaster with mix 1:2:4 (1 cement : 2 sand : 4 bazuri) of cement mortar using 2% water proofing compound (of cement) of approved make and quality on top of roof terrace of all floors including scrapping and cleaning the roof plastering and finishing smooth to proper slope and gradient, including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, watering. Rate in figure: Rate in word:	Sqm.	454		
13	Providing gola 75 mm x 75 mm in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 stone aggregate 10 mm and down gauge) including finishing with cement mortar 1:3 (1 cement : 3 fine sand) all complete as per direction of Engineer-in-charge. In 75 mm x 75 mm deep chase. Rate in figure: Rate in word:	Mtr.	67.4		

Sl.No	Description	Unit	Qty.	Rate	Amount
14	Providing Avg. 12 mm thick cement plaster 1:6 (1 cement : 6 sand) to inside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	60		
15	Providing Avg. 16 mm thick cement plaster 1:6 (1 cement : 6 sand) to outside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	180		
16	Providing average 6 mm thick cement plaster under ceiling, chajja and beam proportion 1:4 cement mortar including chipping slurring etc. complete.as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	110		
17	Providing and applying 2 coats acrylic based weather coat paint (exterior quality) over a coat of primer of approved brand & shade over the surfaces including preparation of surface, with cost of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	204		
18	Providing and applying 2 coats of textured paint over a coat of primer of approved brand & shade over the surfaces including preparation of surface, with cost of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	136		
19	Extra for supplying and applying concrete bonding agent compound for obtaining proper bonding between old concrete and new concrete. The bonding agent compound shall be of approved make as directed by Engineer-in-charge which shall be applied as per manufacturer's specification and the quantity shall be measured in liters.	KG.	2		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in figure: Rate in word:				
20	Extra for supplying and mixing approved quality concrete admixture as per manufacturer's specification in all kind of concrete work at any location of approved make. The admixture shall be based on the design mix which shall be carried out by the contractor prior to start of work. Rate in figure: Rate in word:	KG.	80		
21	STAINLESS STEEL STAIRCASE RAILING WITH HANDLE : Providing, fixing of stainless steel railing using 304 grade 18 gauge 50 mm dia, 25 mm dia, S.S. pipes, 75 mm dia, S.S. Ball and 50 mm dia, S.S. cap including cutting the pipes into length as per design and jointing the pieces using electrode welding fixing the frame in position including grinding the welded section joints to obtain smooth joints and finally polishing the joints to complete the railing work all complete as per design. 12 mm thick clear glass with etching design should also be provided in between the stair rail with the help of stainless knob and screw etc. all complete and as per the direction of Engineer-in-charge. Rate in figure: Rate in word:	Rmt.	26		
22	WATER PROOFING:				
(a)	R.C.C ROOF AND WALL WATER PROOFING: Providing and cleaning of RCC surface and wall to remove dust and loosely adhering particles completely. Supply and application of 1:3 cement – sand mortar , mixed with approved make water proofing – the polymer modified high quality emulsion, as a coving at the corners of roof slab and between slab and walls in the remaining area all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	80		
(b)	PLASTERING WATER PROOFING: Providing of Integral Waterproofing admixture confirms IS:2645 on plaster surface and consumption should be 100gm/50kg bag including all material,labour,tool and taxes complete.as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	350		

Sl.No	Description	Unit	Qty.	Rate	Amount
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(c) **TERRACE AREA WATER PROOFING:**

(i) Providing of cleaning of concrete surface to remove dust, oil, grease including removal of existing loose paint / coating, and cement laitance with compressed air ,5% solution of Sodium Hypochloride and using waterjet including all material,labour,tools and tackles complete.plugging the outlets,ponding test to be done from soffit for primary repair.Repairing surface irregularities,damaged concrete in base slab,if any,with an acrylic polymer,of approved make water proofing modified repair mortar including a cost of bonding agent of the same with cement slurry including all material,labour,tool and taxes complete.as per the direction of the Engineer-in-charge.

Sqm. 454

Rate in figure:
Rate in word:

(ii) Supply and application of approved make water proofing primer followed by two coats of with approved make water proofing between two coat in sandwich system – ready to use acrylic based , cementitious,glass fibre reinforced elastic liquid applied waterproof coating onto the prepared surface in a continuous film on the mother slab, taking the coating over the vertical surfaces on to the parapet over the coving on to the wall to at least 200mm above the final finished floor level. The coating shall also be continued on to the inner surfaces of the RWP. Two coats shall be applied in right angle to each other.Chemical Base Part A: liquid polymer and additive, Part B: portland cement with selected aggregate and additive. Layer Thickness 1.5 mm – 2.0 mm average Water Vapour Resistance 3 g /m² / day, Density Fresh slurry density: ~ 2.00 kg/l at +27°C Tensile Strength ~ 4.56 N/mm² after 14 days exposure (According to ASTM D 2370) Bond Strength 2.0 N/mm².The rate inclusive of material,labour,transport.as per the direction of the Engineer-in-charge.

Sqm. 454

Rate in figure:
Rate in word:

(iii) Supplying and applying an acrylic based cementitious bond coat of with approved make water proofing , the area shall be laid (in slope min 1:100) with 50 mm avg(at the drain mouth) thick concrete screed admixed with the waterproofing compound,ensuring that the screed gently slopes towards the drain pipes. The concrete screed should be cast in panels of 3mx 3m maintaining 10mmx10mm groove and keeping the same filled with PU based flexible sealant, with approved make water proofing .The rate inclusive of material,labour,transport.etc.,complete as per the direction of the Engineer-in-charge.

Sqm. 454

Rate in figure:
Rate in word:

(d) **EXTERNAL WATER PROOFING:**

Sl.No	Description	Unit	Qty.	Rate	Amount
	Supplying & applying one coat with approved make external water proofing @5kg with white cement/50kg bag and water to the external wall of the painting(weathercoat) area followed by two coat with approved make weather coat paint.all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	204		
23	Supplying all materials, labour and tools and plant and fixing 100 mm dia PVC rain water / sewerage pipes and fitting to walls with nails and PVC hooks, bobbins and wooden plugs as required with all fittings such as plain / door bends, tees, Y-piece and short pieces etc. at all heights. Rate in figure: Rate in word:	Rmt.	300		
Total :					
	Rate in figure: Rate in word:				

For M/s. RATH ARCHITECTONIC.

ABOVE TERRACE FLOOR(DOME PORTION)

1	Dismantling of Reinforced Cement concrete grade including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	10		-
2	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved. Rate in figure: Rate in word:	Cum.	10		-

Sl.No	Description	Unit	Qty.	Rate	Amount
3	<p>Providing lifting, hoisting and laying reinforced cement concrete to all type of concreting work to base of columns and footing, columns, beams, plinth band, lintels, chajja, shaft, fins, roof slabs, balconies, stair cases, parapets, window wills, lofts, railing, jally, coping or in places as shown in the drawing or as directed with 20 mm and down graded size black hard crusher broken chips of approved quality from approved quarry including mixing and vibro compacting to proper shape and size, level and plumbs and finishing the exposed surfaces smooth (if required providing plaster with cement mortar (1:4) wherever necessary without any extra cost) scaffolding, including, watering and curing the required period, including cost of all materials, labour, conveyance, loading and unloading, royalties, sundries, tools and plants, etc upto floor five level, complete as per direction of the Engineer-in-charge including cost of all materials and labour. M-30 Grade Concrete in Superstructure.</p> <p>Rate in figure: Rate in word:</p>	Cum.	90		-
4	<p>Providing, laying & binding of M.S. round / deformed / tor steel reinforcement bars of required diameters for straightening, cutting to size, bending, and binding the grills, lifting and placing in position at all heights & locations as per design complete including cost of bars, cost of binding wires 22 gauge, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants upto floor five level, etc. complete as per the direction of the Engineer-in-charge. (linear measurement will be taken and quantity will be calculated on standard weight of bars for all heights).</p> <p>Rate in figure: Rate in word:</p>	Qntl.	120		-
5	<p>Providing strong, rigid, leveled, and plumbed centering and shuttering to required shape and size, with shuttering ply or steel centering materials with all necessary bracing and tiles and supports with leveling centering covered with bituminous paper with provisions necessary holes and pockets for electrical conduits, pipes, P.H. pipes, for hooks or boxes, switch and board insert plates, clamps and extension bars etc., including dismantling the same after the required intervals from the date of casting including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge.</p>				
(a)	<p>Columns, beams, horizontal and vertical fins, bands, coping, moulding, cornice etc.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	162		-
(b)	<p>R.C.C Wall</p> <p>Rate in figure:</p>	Sqm.	558		-

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
(c)	Tripple stage centering and shuttering for dome work,curved beam projections above 7200 mm and upto 10800mm height.	Sqm.	255		-
	Rate in figure:				
	Rate in word:				
(d)	Staging of centering and shuttering for dome work,curved beam projections above 10800 mm and upto 30000mm height.	Sqm.	550		-
	Rate in figure:				
	Rate in word:				
(e)	Providing strong, rigid level & plumbed centering & shuttering with required curvature used for ornamental works like dome,facade,curved beam etc. with using steel angle frame & sheet with all necessary bracing and ties including dismantling the same after the required from the date of casting including cost of all material, labour, conveyance, loading & unloading, taxes,royalties,scaffolding,sundries,tools & plants etc complete as per the direction of Engineer-in-charge. Ht. above 17.4 mtr.etc. complete.as per the direction of the Engineer-in-charge	Sqm.	280		-
	Rate in figure:				
	Rate in word:				
6	Providing and fixing double scaffolding system (cup lock type) on the exterior side, upto seven story hight 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 challies, M.S. clamps and M.S. staricase 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, sonnection with the building etc wherever required for inspection of work at required lacations 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.	168		-
	Rate in figure:				
	Rate in word:				

Sl.No	Description	Unit	Qty.	Rate	Amount
7	Providing Avg. 12 mm thick cement plaster 1:6 (1 cement : 6 sand) to inside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	720		-
8	Providing Avg. 16 mm thick cement plaster 1:6 (1 cement : 6 sand) to outside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	850		-
9	Providing average 6 mm thick cement plaster under ceiling, chajja and beam proportion 1:4 cement mortar including chipping slurring etc. complete.as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	70		-
10	Providing and applying 2 coats acrylic based weather coat paint (exterior quality) over a coat of primer of approved brand & shade over the surfaces including preparation of surface, with cost of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	850		-
11	Extra for supplying and applying concrete bonding agent compound for obtaining proper bonding between old concrete and new concrete. The bonding agent compound shall be of approved make as directed by Engineer-in-charge which shall be applied as per manufacturer's specification and the quantity shall be measured in liters. Rate in figure: Rate in word:	KG.	8		-
12	Extra for supplying and mixing approved quality concrete admixture as per manufacturer's specification in all kind of concrete work at any location of approved make. The admixture shall be based on the design mix which shall be carried out by the contractor prior to start of work. Rate in figure:	KG.	285		-

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
13	Providing and fixing 12mm thk. clear toughned glass with lamination etc. complete as per drawing and design including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	108		-
14	WATER PROOFING:				
(a)	R.C.C ROOF AND WALL WATER PROOFING:				
	Providing and cleaning of RCC surface and wall to remove dust and loosely adhering particles completely. Supply and application of 1:3 cement – sand mortar , mixed with approved make water proofing – the polymer modified high quality emulsion, as a coving at the corners of roof slab and between slab and walls in the remaining area all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	1570		
(b)	PLASTERING WATER PROOFING:				
	Providing of Integral Waterproofing admixture confirms IS:2645 on plaster surface and consumption should be 100gm/50kg bag inclding all material,labour,tool and taxes complete.as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	1570		
(c)	EXTERNAL WATER PROOFING:				
	Supplying & applying one coat with approved make external water proofing @5kg with white cement/50kg bag and water to the external wall of the painting(weathercoat) area followed by two coat with approved make weather coat paint.all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	850		
				Total :	-
	Rate in figure: Rate in word:				-

Sl.No	Description	Unit	Qty.	Rate	Amount
LIBRARY ARCH					
1	Excavation of foundation trenches and column foundation and pits in all kinds of soil within an initial lead and lift of 1.5 mtrs. depth including dressing the sides and leveling the bed and depositing the excavated material away from the site within an initial lead of 50 mtrs including cost of all labour, sundries, tools and plant etc., complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Cum.	40		
2	Excavation of foundation trenches and column foundation and pits in all kinds of soil within an initial lead and lift of exceeding 1.5 mtrs. but upto 3.00 mtr. depth including dressing the sides and leveling the bed and depositing the excavated material away from the site within an initial lead of 50 mtrs including cost of all labour, sundries, tools and plant etc., complete as per the direction of the Engineer-in-charge. The rate includes dewatering of the excavated pit if any water seepage found during execution of all such related works. Rate in figure: Rate in word:	Cum.	13		
3	Filling foundation trenches and plinths with excavated materials in layers not exceeding 0.3 mtr in depth including watering and ramming and dressing and levelling the top proper level or gradient, including cost of all labour, sundries, tools and plants, etc. complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Cum.	20		
4	Filling foundation trenches and plinths with sand, well watered, compacted, dressed and leveled to proper gradient including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Cum.	3		
5	Dismantling of Reinforced Cement concrete grade including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	8		

Sl.No	Description	Unit	Qty.	Rate	Amount
6	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved. Rate in figure: Rate in word:	Cum.	8		
7	ANTI-TERMITE TREATMENT :				
	(A) PRE CONSTRUCTION ANTI-TERMITE TREATMENT:				
	(i) Providing pre construction anti-termite treatment with chemical emulsion Chloropyrifos EC 20% with 1% concentration. Rate in figure: Rate in word:	Sqm.	27		
	The chemical emulsion shall be in required dosage on entire area of ground and wall trenches as follow.				
	(a) Bottom surface, sides of foundation trenches, column pits and basement. At the rate of 5 litres per sqm. of surface area.				
	(b) After the foundation for the walls, columns, piers and retaining walls of the basement come up treat the back fill earth in immediate contact with face side of the foundation. At the rate of 7.5 litres per sqm. of vertical surface of foundation.				
	(c) Prior to laying the sand bed or subgrade for the ground floor of the building, to surface of consolidated earth filling with in the plinth walls should be levelled and treated. At the rate of 5 litres per sqm. of surface area.				
	(d) Junctions of wall and floor shall be treated by making 30 mm wide 30 mm deep channels at the junction. Holes are made in the channel at 150 mm apart up to ground level with crow bar then chemical emulsion is poured. At the rate of 7.5 litres per sqm. of vertical wall or column surface.				
	(e) External periphery shall be treated by making 300 mm deep holes at 150 mm centre and filled with chemicals. At the rate of 7.5 litres per sqm.				

Sl.No	Description	Unit	Qty.	Rate	Amount
8	<p>Providing and laying plain cement concrete (1:4:8) in foundation and bottom layers of flooring using 40 mm size black hard crusher broken granite metal of approved quality from approved quarry including mixing, lowering, laying and compacting to proper thickness, watering and curing for the required period, including cost of all material, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools & plants etc., complete as per the direction of Engineer-in-charge.</p> <p>Rate in figure: Rate in word:</p>	Cum.	2.8		
9	<p>Providing lifting, hoisting and laying reinforced cement concrete to all type of concreting work to base of columns and footing, columns, beams, plinth band, lintels, chajja, shaft, fins, roof slabs, balconies, stair cases, parapets, window wills, lofts, railing, jally, copping or in places as shown in the drawing or as directed with 20 mm and down graded size black hard crusher broken chips of approved quality from approved quarry including mixing and vibro compacting to proper shape and size, level and plumbs and finishing the exposed surfaces smooth (if required providing plaster with cement mortar (1:4) wherever necessary without any extra cost) scaffolding, including, watering and curing the required period, including cost of all materials, labour, conveyance, loading and unloading, royalties, sundries, tools and plants, etc upto floor five level, complete as per direction of the Engineer-in-charge including cost of all materials and labour. M-30 Grade Concrete in Superstructure.</p> <p>Rate in figure: Rate in word:</p>	Cum.	80		
10	<p>Providing, laying & binding of M.S. round / deformed / tor steel reinforcement bars of required diameters for straightening, cutting to size, bending, and binding the grills, lifting and placing in position at all heights & locations as per design complete including cost of bars, cost of binding wires 22 gauge, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants upto floor five level, etc. complete as per the direction of the Engineer-in-charge. (linear measurement will be taken and quantity will be calculated on standard weight of bars for all heights).</p> <p>Rate in figure: Rate in word:</p>	Qntl.	120		

Sl.No	Description	Unit	Qty.	Rate	Amount
11	Providing strong, rigid, leveled, and plumbed centering and shuttering to required shape and size, with shuttering ply or steel centering materials with all necessary bracing and tiles and supports with leveling centering covered with bituminous paper with provisions necessary holes and pockets for electrical conduits, pipes, P.H. pipes, for hooks or boxes, switch and board insert plates, clamps and extension bars etc., including dismantling the same after the required intervals from the date of casting including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge.				
(a)	Foundations, footings, bases of columns etc. for mass concrete. Rate in figure: Rate in word:	Sqm.	18		
(b)	Columns, beams, horizontal and vertical fins, bands, coping, moulding, cornice etc. Rate in figure: Rate in word:	Sqm.	60		
(c)	Tripple stage centering and shuttering for arch ,curved beam projections above 7200 mm and upto 10800mm height. Rate in figure: Rate in word:	Sqm.	25		
(d)	Staging of centering and shuttering for arch,curved beam projections above 10800 mm and upto 21000mm height. Rate in figure: Rate in word:	Sqm.	33		
(e)	Providing strong, rigid level & plumbed centering & shuttering with required curvature used for ornamental works like curved beam etc. with using steel angle frame & sheet with all necessary bracing and ties including dismantling the same after the required from the date of casting including cost of all material, labour, conveyance, loading & unloading, taxes,royalties,scaffolding,sundries,tools & plants etc complete as per the direction of Engineer-in-charge. Ht. above 17.1 mtr.etc. complete.as per the direction of the Engineer-in-charge Rate in figure: Rate in word:	Sqm.	650		

Sl.No	Description	Unit	Qty.	Rate	Amount
12	<p>Providing and fixing double scaffolding system (cup lock type) on the exterior side, upto seven story high 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 challies, M.S. clamps and M.S. staricase 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, sonnection with the building etc wherever required for inspection of work at required lacations 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.</p> <p>Note:- This item to be used for maintenance work judicially, necessary deduction for scaffolding in the existing item to be done.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	50		
13	<p>Providing Avg. 16 mm thick cement plaster 1:6 (1 cement : 6 sand) to outside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	650		
14	<p>Providing and applying 2 coats acrylic based weather coat paint (exterior quality) over a coat of primer of approved brand & shade over the surfaces including preparation of surface, with cost of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	650		
15	<p>Extra for supplying and applying concrete bonding agent compound for obtaining proper bonding between old concrete and new concrete. The bonding agent compound shall be of approved make as directed by Engineer-in-charge which shall be applied as per manufacturer's specification and the quantity shall be measured in liters.</p> <p>Rate in figure: Rate in word:</p>	KG.	7		-

Sl.No	Description	Unit	Qty.	Rate	Amount
16	Extra for supplying and mixing approved quality concrete admixture as per manufacturer's specification in all kind of concrete work at any location of approved make. The admixture shall be based on the design mix which shall be carried out by the contractor prior to start of work. Rate in figure: Rate in word:	KG.	251		-
17	WATER PROOFING:				
(a)	R.C.C ROOF AND WALL WATER PROOFING:				
	Providing and cleaning of RCC surface and wall to remove dust and loosely adhering particles completely. Supply and application of 1:3 cement – sand mortar , mixed with approved make water proofing – the polymer modified high quality emulsion, as a coving at the corners of roof slab and between slab and R.C.C walls in the remaining area all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	650		-
(b)	PLASTERING WATER PROOFING:				
	Providing of Integral Waterproofing admixture confirms IS:2645 on plaster surface and consumption should be 100gm/50kg bag including all material,labour,tool and taxes complete.as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	650		-
(c)	EXTERNAL WATER PROOFING:				
	Supplying & applying one coat with approved make external water proofing @5kg with white cement/50kg bag and water to the external wall of the painting(weathercoat) area followed by two coat with approved make weather coat paint.all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	650		-
	Rate in figure: Rate in word:			Total :	<u>-</u>
	Rate in figure: Rate in word:			TOTAL:	-

Sl.No	Description	Unit	Qty.	Rate	Amount
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P.H. WORKS

B.O.Q FOR WATER SUPPLY INSTALLATION

1 Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes of approved make as per IS: 15778 & ASTM-D 2846, GRADE SDR 13.5(CLASS-2)., having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings, with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer-in-Charge.(Concealed work, including cutting chases and making good the wall etc.)

(a) 15 mm nominal outer dia pipes. Rate in figure: Rate in word:	Mtr.	150
(b) 20 mm nominal outer dia pipes. Rate in figure: Rate in word:	Mtr.	295
(c) 25 mm nominal outer dia pipes. Rate in figure: Rate in word:	Mtr.	25
(d) 32 mm nominal outer dia pipes. Rate in figure: Rate in word:	Mtr.	30

2 Providing and fixing of Rigid PVC (UPVC) pipes of approved make (as per ASTM D-1785 SCH-40) complete with P.V.C Fittings including trenching and refilling etc. (external work) and shall be fitted on vertical face of walls and roof water ring line using P.V.C Clamps all complete as per direction of Engineer-in-charge.

(a) 25 mm dia nominal dia. Rate in figure: Rate in word:	Mtr.	15
(b) 32 mm dia nominal dia. Rate in figure: Rate in word:	Mtr.	20
(c) 40 mm dia nominal dia. Rate in figure: Rate in word:	Mtr.	50
(d) 50 mm dia nominal dia. Rate in figure: Rate in word:	Mtr.	45

Sl.No	Description	Unit	Qty.	Rate	Amount
(e)	63 mm dia nominal dia. Rate in figure: Rate in word:	Mtr.	50		
3	Providing and fixings ball valve of approved quality screwed end as per direction of Engineer-in-charge.				
(a)	25 mm nominal bore Rate in figure: Rate in word:	No.	16		
(b)	32 mm nominal bore Rate in figure: Rate in word:	No.	12		
(c)	40 mm nominal bore Rate in figure: Rate in word:	No.	10		
(d)	50 mm nominal bore Rate in figure: Rate in word:	No.	1		
(e)	63 mm dia nominal dia. Rate in figure: Rate in word:	No.	1		
4	Providing and fixings Union of approved quality (screwed end) all complete as per direction of Engineer-in-charge.				
(a)	25 mm nominal bore Rate in figure: Rate in word:	No.	16		
(b)	32 mm nominal bore Rate in figure: Rate in word:	No.	12		
(c)	40 mm nominal bore Rate in figure: Rate in word:	No.	10		
(d)	50 mm nominal bore Rate in figure: Rate in word:	No.	1		
(e)	63 mm dia nominal dia. Rate in figure: Rate in word:	No.	1		
5	Providing and fixing ball cock body with epoxy coated aluminium rod and HDPE ball complete as per direction of Engineer-in-charge.				
(a)	50 mm nominal bore Rate in figure:	No.	1		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
6	Constructing masonry chamber 30x30x50 cm inside, in brick work in cement mortar 1:4 (1 cement :4coarse sand) for stop cock, with C.I. surface box 100x100x75 mm (inside) with hinged cover fixed in cement concrete slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand)12 mm thick, finished with a floating coat of neat cement complete as per standard design:	No.	4		
	Rate in figure:				
	Rate in word:				
Total :					-

B.O.Q FOR SANITARY INSTALLATION

7	Providing and fixing white vitreous china pedestal type water closet (European type W.C. Pan) with seat and lid, with C.P. brass hinges and rubber buffers, 6 litre . flushing with ceramic cistern and fittings, C.I. / M.S. brackets, 40 mm diameter flush bend with fittings and clamps, overflow arrangements with specials 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.	No.	14		-
	Base Rate :- (Rs- 13,500.00 - Rs- 14,000.00)				
	Rate in figure:				
	Rate in word:				
8	Providing and fixing white vitreous china flat back or half stall urinal of 580 x 380 x 350 mm with automatic flushing cistern (of approved make) with fittings, C.I. / M.S. brackets standard size C.P. brass flush pipe, spreaders with unions and clamps (all in C.P. brass) with waste fitting as per IS : 2556, C.I. trap with outlet grating and other couplings in C.P. brass including painting of fittings and brackets, cutting and making good the walls and floors wherever required.	No.	17		-
	Single stall urinal with 5 Ltr. automatic flushing cistern.	No.	17		-
	Base Rate :- (Rs- 37,000.00 - Rs- 40,000.00)				
	Rate in figure:				
	Rate in word:				

Sl.No	Description	Unit	Qty.	Rate	Amount
9	Providing and fixing one piece construction white vitreous china squatting plate with an integral longitudinal flushing pipe, white PVC. automatic flushing cistern, with fittings, standard size G.I. / PVC flush pipe for back and front flush with standard spreader pipes with fittings, G.I clamps and C.P. brass coupling complete, including painting of fittings and cutting and making good the walls and floors etc. wherever required: Single squatting plate with 5 litre concealed flushing cistern	No.	17		-
	Base Rate :- (Rs- 5,000.00 - Rs- 6,000.00) Rate in figure: Rate in word:				
10	Providing and fixing of Porcelain Channel of approved make. Sample to be approved by Architect / Owner before procurement.	No.	17		-
	Base Rate :- (Rs- 600.00 - Rs- 700.00) Rate in figure: Rate in word:				
11	Providing and fixing of 32 mm dia C.P. brass waste coupling for wash basin.	No.	21		-
	Base Rate :- (Rs- 550.00 - Rs- 650.00) Rate in figure: Rate in word:				
12	Providing and fixing of P.V.C. flexible waste pipe for wash basin including 32 mm dia P.V.C. waste fittings complete.	No.	21		-
	Base Rate :- (Rs- 60.00 - Rs- 70.00) Rate in figure: Rate in word:				
13	Providing and fixing stainless steel jali (grating) with or without hole for waste pipe for floor / Nahani trap.	No.	47		-
(i)	100 mm dia. weight not less than 100 gms. Base Rate :- (Rs- 95.00 - Rs- 105.00) Rate in figure: Rate in word:	No.	47		-
(ii)	75 mm dia. Base Rate :- (Rs- 70.00 - Rs- 80.00) Rate in figure: Rate in word:	No.	30		-
14	Providing and fixing toilet paper holder .	No.	14		-
	Base Rate :- (Rs- 750.00 - Rs- 900.00) Rate in figure: Rate in word:				
15	Providing, fitting and fixing of C.P. brass bottle trap in wash basin including all fittings etc. all complete.	No.	38		-

Sl.No	Description	Unit	Qty.	Rate	Amount
	Base Rate :- (Rs- 1,600.00 - Rs- 2,000.00) Rate in figure: Rate in word:				
	* C.P. BRASS FITTINGS :				
16	Providing and fixing C.P. brass one way bib cock confirming to IS : 8931 of approved make with 15 mm nominal bore. Sample to be approved by Architect / Owner before procurement. Base Rate :- (Rs- 2,700.00 - Rs- 3,000.00) Rate in figure: Rate in word:	No.	14		-
17	Providing and fixing C.P. two way brass bib cock confirming to IS : 8931 of approved make with 15 mm nominal bore. Sample to be approved by Architect / Owner before procurement. Base Rate :- (Rs- 3,000.00 - Rs- 3,500.00) Rate in figure: Rate in word:	No.	14		-
18	Providing, fitting and fixing of C.P. brass pillar cock confirming to IS : 8931 of approved make. Sample to be approved by Architect / Owner before procurement. Base Rate :- (Rs- 2,200.00 - Rs- 2,500.00) Rate in figure: Rate in word:	No.	38		-
19	Providing and fixing brass tap confirming to IS : 8931 of approved make with 15 mm nominal bore. Sample to be approved by Architect / Owner before procurement. Base Rate :- (Rs- 450.00 - Rs- 500.00) Rate in figure: Rate in word:	No.	2		-
20	Providing, fitting and fixing of C.P. brass shower arm 175 mm long heavy body with wall flange, shower rose and pressure adjustable, multimode shower of approved make. Sample to be approved by Architect / Owner before procurement Base Rate :- (Rs- 4,300.00 - Rs- 4,600.00) Rate in figure: Rate in word:	No.	2		-
21	Providing, fitting and fixing of health faucet confirming to IS : 8931 of approved make.				

Sl.No	Description	Unit	Qty.	Rate	Amount
	Sample to be approved by Architect / Owner before procurement. Base Rate :- (Rs-1,700.00 - Rs-1,900.00) Rate in figure: Rate in word:	No.	14		-
22	Providing and fixing of C.P. brass concealed stop cock with stop valve trim , extra heavy body with 15 mm nominal bore all complete with wall flange of approved make. Sample to be approved by Architect / Owner before procurement. Base Rate :- (Rs-3,200.00 - Rs-3,500.00) Rate in figure: Rate in word:	No.	27		-
23	Providing and fixing of C.P. brass angular stop cock with 15 mm nominal bore of approved make. Sample to be approved by Architect / Owner before procurement. Base Rate :- (Rs-1,100.00 - Rs-1,300.00) Rate in figure: Rate in word:	No.	42		-
24	Supplying and fixing of Electrical storage water heater of capacity 15 ltr. of approved make,in built blue diamond glass lining technology inside the inner tank.The cost including of all materials, labours, T&P, taxes, royalties, transportation etc. all complete as per the direction of Engineer-in-charge. Sample to be approved by Architect / Owner before procurement. Base Rate :- (Rs-8,000.00 - Rs-9,000.00) Rate in figure: Rate in word:	Nos.	2		-
25	Providing of following C.P. brass toilet accessories in toilets of approved make.				
(i)	Towel rail 600 mm Base Rate :- (Rs-1,200.00 - Rs-1,800.00) Rate in figure: Rate in word:	No.	14		-
(ii)	Recessed Soap dish Base Rate :- (Rs-600.00 - Rs-750.00) Rate in figure: Rate in word:	No.	14		-
(iii)	Towel ring Base Rate :- (Rs-1,300.00 - Rs-1,350.00) Rate in figure: Rate in word:	No.	25		-

Sl.No	Description	Unit	Qty.	Rate	Amount
(iv)	Bath room and basin mirror of size 600 mm x 900 mm Base Rate :- (Rs-1,000.00 - Rs-1,200.00) Rate in figure: Rate in word:	No.	21		-
26	Providing and fixing of 600 mm long heavy duty C.P. connecting tube with heavy quality C.P. brass adjustable bolts on both end. Base Rate :- (Rs-200.00 - Rs-300.00) Rate in figure: Rate in word:	No.	42		-
27	Providing and fixing white vitreous china under counter wash basin with C.P. brass coupling ,unions complete including cutting and making good the walls wherever required. All C.P. brass waste of approved make. Base Rate :- (Rs-2,800.00 - Rs-3,200.00) Rate in figure: Rate in word:	No.	21		-
	Rate in figure: Rate in word:				-
				Total :	<u>-</u>

B.O.Q FOR DRAINAGE

28	Supplying all materials, labour, fitting and fixing of the unplasticised - Rigid PVC (SWR) soil waste and vent pipe confirming to IS : 13592 type B on the wall surface and below ground and floor level, fixing the pipe on wall surface with the PVC clips including jointing with seal ring (confirming to IS : 5382 leaving 10 mm gap for Thermal expansion) and solvent solution as per manufacturer specification for UPVC (SWR) pipes and with SWR lubricant for rigid PVC pipes including cutting the pipes into required length wastage and testing as per specifications, necessary earth work in excavation and filling of the pipe line trenches providing staging and scaffolding as per requirement at site.				
(a)	75 mm dia U-PVC (SWR) pipe. Rate in figure: Rate in word:	Mtr.	60		-
(b)	110 mm dia U-PVC (SWR) pipe. Rate in figure: Rate in word:	Mtr.	150		-

Sl.No	Description	Unit	Qty.	Rate	Amount
29	Supplying all materials, labour, fitting and fixing of the unplasticised - Rigid PVC (SWR) waste and vent pipe confirming to IS : 13592 type B on the wall surface and below ground and floor level, fixing the pipe on wall surface with the PVC clips including jointing with seal ring (confirming to IS : 5382 leaving 10 mm gap for Thermal expansion) and solvent solution as per manufacturer specification for UPVC (SWR) pipes and with SWR lubricant for rigid PVC pipes including cutting the pipes into required length wastage and testing as per specifications, necessary earth work in excavation and filling of the pipe line trenches providing staging and scaffolding as per requirement at site.				
(a)	75 mm dia U-PVC waste pipe. Rate in figure: Rate in word:	Mtr.	50		-
(b)	110 mm dia U-PVC waste pipe. Rate in figure: Rate in word:	Mtr.	175		-
30	Providing and fixing Unplasticised-PVC pipe clips of approved design to Unplasticised-PVC (SWR) pipes by means of 50 x 50 x 50 mm hard wood plugs, screwed with S / S screws of required length including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. all complete.				
	110 mm Rate in figure: Rate in word:	No.	290		-
31	Providing and fixing on wall face Unplasticised-PVC (SWR) moulded fitting / accessories for U-PVC (SWR) pipes confirming to IS : 13592 Type-A including jointing with seal ring confirming to IS : 5382 leaving 10 mm gap for thermal expansion.				
(a)	110 mm x 110 mm U-PVC (SWR) P / S Trap with minimum water seal of 50 mm as per IS : 5329 and IS : 2556 (Part-XIII). Rate in figure: Rate in word:	No.	31		
(b)	P.V.C. Floor trap 110 mm x 75 mm PVC (SWR)-P TRAP Rate in figure: Rate in word:	No.	22		
(c)	Multiple floor trap 150 mm x 75 mm x 50 mm Rate in figure: Rate in word:	No.	25		
(d)	110 mm dia 90 degree U-PVC (SWR) bend with door Rate in figure: Rate in word:	No.	20		

Sl.No	Description	Unit	Qty.	Rate	Amount
(e)	110 mm dia U-PVC (SWR) plain bend to use for HR bend Rate in figure: Rate in word:	No.	19		
(f)	110 mm dia 45 degree U-PVC (SWR) plain bend to use for offset. Rate in figure: Rate in word:	No.	19		
(g)	110 mm dia U-PVC (SWR) 90 degree plain bend for EWC Rate in figure: Rate in word:	No.	14		
(h)	110 mm dia U-PVC (SWR) vent cover. Rate in figure: Rate in word:	No.	10		
(i)	Single T with door 110 mm dia U-PVC (SWR) Rate in figure: Rate in word:	No.	22		
(j)	110 mm dia singleY (SWR) without door Rate in figure: Rate in word:	No.	30		
(k)	110 mm dia singleY (SWR) with door Rate in figure: Rate in word:	No.	30		
32	Supplying, laying and jointing uPVC pipes (for Sewerage) as per IS :15328 of Ring Stiffness SN-8 with Ringtight joints using ELASTOMETRIC RUBBER SEAL, in pipe trenches to required depth and adequate width of trench including earthwork in excavation and stacking of earth at convenient locations (as per instruction of Engineer-in-charge) complete with proper bedding as per tech. spec.Pipes are to be laid in straight aligned lengths to correct line and level with sight rails and boning rods. Pipes shall be tested in 'as laid' condition but before back filling as per direction of Engineer-in-Charge.The rate is inclusive of taxes,materials, labour, conveyance, loading and unloading only.complete as per the direction of the Engineer-in-charge.				
(i)	160mm nominal dia pipes. Rate in figure: Rate in word:	Rmt	150		
33	Encasing of uPVC pipe with cement concrete(1:2:4) bed of 150mm thick all round wherever required. The scope of work excluded the cost of pipe..				
(i)	160 mm nominal pipe Rate in figure: Rate in word:	Rmt	150		-

Sl.No	Description	Unit	Qty.	Rate	Amount
34	Providing and laying non-preessure 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.				
(i)	150 mm dia R.C.C. Hume Pipe Rate in figure: Rate in word:	Mtr.	20		
(ii)	200 mm dia R.C.C. Hume Pipe Rate in figure: Rate in word:	Mtr.	35		
(iii)	250 mm dia R.C.C. Hume Pipe Rate in figure: Rate in word:	Mtr.	25		
(iv)	450 mm dia R.C.C. Hume Pipe Rate in figure: Rate in word:	Mtr.	50		
35	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) around R.C.C. pipes including bed concrete as per P.W.D. design:				
(i)	150 mm dia R.C.C. Hume Pipe Rate in figure: Rate in word:	Mtr.	20		
(ii)	200 mm dia R.C.C. Hume Pipe Rate in figure: Rate in word:	Mtr.	35		
(iii)	250 mm dia R.C.C. Hume Pipe Rate in figure: Rate in word:	Mtr.	25		
(iv)	450 mm dia R.C.C. Hume Pipe Rate in figure: Rate in word:	Mtr.	50		
36	Providing and fixing square-mouth S.W. gully trap grade 'A' complete with C.I. Grating brick masonry chamber with bricks of class designation 45 and water tight C.I. cover with frame of 300 x 300 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 design.				
	180 x 150 mm size P type. Rate in figure: Rate in word:	No.	4		

Sl.No	Description	Unit	Qty.	Rate	Amount
37	<p>Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand) with R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 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:</p> <p>Inside size 90 x 80 cm and upto 145 cm deep including C.I. Cover with frame (Medium duty) 500 mm internal diameter total weight of cover and frame to be not less than 116 kg (weight of cover 58 kg and weight of frame 58 kg.) Rate in figure: Rate in word:</p>	No.	7		
38	<p>Constructing brick masonry chamber for underground C.I. inspection chamber and bends with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg), R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete as per standard design:</p>				
(a)	<p>Inside dimensions 600 x 850 mm and 45 cm deep for line with three or more inlets. Rate in figure: Rate in word:</p>	No.	4		
(b)	<p>Inside dimensions 455x610 mm and 45 cm deep for single pipe line: Rate in figure: Rate in word:</p>	No.	2		
				Total :	<hr/>
				Net total :	
	Rate in figure: Rate in word:				

Sl.No	Description	Unit	Qty.	Rate	Amount
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ELECTRICAL WORKS

B.O.Q FOR INTERNAL ELECTRICAL INSTALLATION WORKS

1	Supply of all required materials and recessed (concealed) wiring to proposed light points / fan/ exhaust fan/ call bell points with 2 (1 x1.5 sq.mm) PVC insulated 1000v grade FRLS copper wire run inside 19 mm PVC conduit pipe of 14 SWG or flexible conduit pipe laid on surface concealed in wall / ceiling along with 1 (1 x 1 sq.mm.) PVC insulated FRLS copper wire as earth continuity conductor and complete in all respect including with use of clip-in type modular plates, boxes, switches, ceiling roses/angle holder, junction boxes with bakelite cover as specified and making good to the damages caused and complete as per direction of Engineer-in-charge / Consultant.				
(a)	Light points. Rate in figure: Rate in word:	No.	150		
(b)	Two way light points Rate in figure: Rate in word:	No.	8		
(c)	Fan point with regulator (electronic step regulator) Rate in figure: Rate in word:	No.	10		
(d)	Exhaust fan point Rate in figure: Rate in word:	No.	24		
2	Supply of all required materials and recessed wiring to 2/3 pin clip-in modular type 5 Amp plug socket points with 2 (1 x 2.5 sq.mm.) PVC insulated 1100 V grade stranded single core FRLS copper wire run inside 19 mm PVC Conduit (14 S.W.G) pipe laid concealed in surface wall / ceiling along with 1 (1 x 1.0 sq.mm) PVC insulated FRLS copper wire as earth continuity conductor and complete in all respect including 5 pin 5 A sockets, switches, plates, boxes and cover as specified and making good to the damages caused and complete with all respect as per the direction of Engineer-in-charge / Consultant.				
(a)	Existing Rate in figure: Rate in word:	No.	25		
(b)	Separate Rate in figure: Rate in word:	No.	30		

Sl.No	Description	Unit	Qty.	Rate	Amount
3	Supply of all required materials and recessed wiring to clip-in modular type 6 pin, 15/5 Amp plug socket points on surface of wall including the modular boxes switches with indicator plates, screws and complete in all respect including making good to the damages caused and as per direction of Consultant/ Engineer-in-charge. Rate in figure: Rate in word:	No.	24		
4	Supply of all required materials and recessed wiring to circuit / sub-mains with following number and sizes of PVC insulated FRLS 1100 volt grade stranded copper wire run inside 19 mm PVC conduit (14 S.W.G.) pipe laid on surface of wall / ceiling and copper wire as earth continuity conductor and complete in all respect including making good to all damages caused and as per the direction of Consultant and Engineer-in-charge.				
(i)	Recessed wiring with 2 (1 x 2.5 sqmm) + 1 x (1 x 1 sqmm) copper wire from LDB to SDB. Rate in figure: Rate in word:	Mtr.	750		
(ii)	Recessed wiring with 2 (1 x 4 sqmm) + 1 x (1 x 2.5 sqmm) copper wire from LDB to individual 16 Amp. Socket & A.C. Point. Rate in figure: Rate in word:	Mtr.	750		-
(iii)	Recessed wiring with 4 (1 x 6 sqmm) + 1 x (1 x 2.5 sqmm) copper wire from Main panel to L.D.B. Rate in figure: Rate in word:	Mtr.	600		-
(iv)	Recessed wiring with 4 (1 x 10sqmm) + 1 x (1 x 2.5 sqmm) copper wire from Main panel to P.D.B. Rate in figure: Rate in word:	Mtr.	360		-

Sl.No	Description	Unit	Qty.	Rate	Amount
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5

Supply , delivery , installation , testing commissioing of indoor pannel with 2500 AL bus bar , cubicle type for accommodating the equipment with all switch gear as detailed below duly wired with adequate section of copper flexiable cable encased in a 2 mm thick CRS sheet box on angle iron frame of 100mm x 100mm x 6mm proprely cleaned vand painted with two coats of gray paints over a coat red oxideprimer of superior quality . The box shall have the provision of doors on both side and locking arrangement. The cable entry hole shall be on top and bottom of the box. the box should have the space provison for accomodation in future . fixing of panel box on the bricks pedestalof approx . 0.5 mtr height in the yardwith plastering and net cement finishing . The wiring in side the pillar box as mentioned above should be copper lugged with copper nut, bolt and washer, and the wire should be sufficent balance so as to make the connection inter changed when requied.

(i) Main Panel :

Incoming :

2000 Amp Four Pole, 50KA , MDO Type Microprocessore relese with short circuit, over current, earth fault relays (one extra CT for neutral to un balanced load on ACB) - 2 No.
 RYB LED Type Indication lamp assembly - Set - 2
 0 - 500 V Voltmeter - 2Nos.
 0 - 2500Amp. Ammeter -2 Nos.
 Instrument protection fuse - 2 Set
 3 phase 4 wire KWH meter 2500 amp CT operted -2 Nos.

BUS COUPLER :

2000amp 4pole , 50 KA MDO type, Microprocessor release
 (one extra CT for neutral to un blance load on ACB) - 1Nos.
 4 x 2500Amp capacity AL.bus bar with insulation sleeve for incoming side -1 Set
 4 x 2000 Amp capacity Aluminium Busbar with insulation sleeve for outgoing side - 2 Set.
 4 x 200 Amp capacity Aluminium Busbar with insulation sleeve for outgoing side - 12 Set.

OUT GOING :

1600 amp F.P.50 KA, MDO type, ACB - 2 Nos.
 0-2000 Amp Ammeter with selector switch - 2 Set.
 0-200 Amp Ammeter with selector switch - 12 Set.
 RYB LED Type Indication lamp assembly - 14 Set
 1600 / 5 amp CT - 6 Nos.
 160 / 5 amp CT - 6 Nos.
 160 / 5 amp CT - 15 Nos.
 100 / 5 amp CT - 6 Nos.
 160 amp TPN SFU with HRC Fuse -2 No.
 160 Amp TPN SFU with HRC Fuse - 5 No.
 32 Amp TPN SFU with HRC Fuse - 3 No.

Sl.No	Description	Unit	Qty.	Rate	Amount
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100 Amp TPN SFU with HRC Fuse - 2 No.

Set

1

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Rate in figure:

Rate in word:

- 6 Supply, delivery, installation, testing and commissioning of L.T. indoor free standing floor mounted type distribution boards made out of 2 mm thick CR sheet metal duly acid treated, primered and painted with 2 coats of enamel paint of smoke grey colour, having hinged door and compartmental arrangement for each equipment and busbar chamber on the top of the panel running horizontal throughout it's length duly dust, damp and vermin proof having provision for cable/conduit entry (cable alley and detachable gland plate), fitted with suitable rated TB for termination of incoming and out going cables/wires (no cable/ wire shall be terminated directly on SFU/MCB)(all termination shall be done by using proper size of Lugs and glanding is to be done for cable entry and exit), earthing stud as per specification mentioned below, duly factory wired conforming to the relevant ISS and as per special conditions of contract, making good to the damages caused and complete as per direction of Engineer-in-charge or Consultant.

(i) Ground Floor Computer Lab Panel :

Incoming

160 Amp TPN SFU with HRC cartridge link Fuse - 3 set. - 1 No.

R/Y/B LED Type Indication lamp assembly - Set - 1

4 x 200 Amp Electrolytic copper busbar with insulation sleeve - 1 Set.

0-500 Volt Voltmeter - 1 Set.

0-300 Amp. Ammeter- 1 Set.

Out going

63 Amp TPN MCB - 9 No.

Set

1

-

Rate in figure:

Rate in word:

(ii) Ground, First, Second & Third Floor Panel :

Incoming

160 Amp TPN SFU with HRC cartridge link Fuse - 3 set. - 1 No.

R/Y/B LED Type Indication lamp assembly - Set - 1

4 x 200 Amp Electrolytic copper busbar with insulation sleeve - 1 Set.

0-500 Volt Voltmeter - 1 Set.

0-200 Amp. Ammeter- 1 Set.

Out going

63 Amp TPN MCB - 9 No.

Set

4

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Rate in figure:

Rate in word:

Sl.No	Description	Unit	Qty.	Rate	Amount
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(iii) Air-Conditioning Bus Bar Unit :

Incoming
 1600 Amp F.P MDO type Microprocessor release , 50KA ACB -
 1 No.
 RYB LED Type Indication lamp assembly - Set - 1
 4 x 2000 Amp Electrolytic Aluminium Busbar with insulation

 sleeve- 1 Set.(provision for five numbers of out going)
 0-500 Volt Voltmeter - 1 Set.
 0-1600 Amp. Ammeter- 1 Set.
 1600 / 5 CT - 3 Nos.

Set 1 -

Rate in figure:
 Rate in word:

(iv) Out Door Light Panel :

Incoming
 63 Amp TPN MCB - 1 No.
 63 Amp Contactor with Timer - 1 Set.
 RYB LED Type Indication lamp assembly - Set - 1
 4 x 100 Amp Electrolytic copper busbar - 1 Set.

Out going
 32 Amp DP MCB - 8 No.

Set 1 -

Rate in figure:
 Rate in word:

7 Supply of all required materials, installation, testing and commissioning company made board of approved make on the wall (Board shall be of min 16 SWG thick sheet steel, with suitable rating TB for termination of incoming wires, ELCB (overload, short ckt and earth leakage protection), MCBs and space for two nos of spare MCB)(all termination shall be done by using proper size of Lugs). Making good to all damages caused and complete with all respect as per direction of Engineer-in-charge.

(i) Light Distribution Board (12 way outgoing+ 2 spare three phase DB)

MCB Distribution board three phase, neutral, double door acrylic cover, 12+2 way DB with ELCB incomer and TB, complete with MCB's.

Incoming :
 63 Amp. Four Pole ELCB (overload, short ckt and earth leakage protection (30mA)). - 1 No.

Outgoing :
 10 Amp. SP MCB - 12 Nos.

Set. 14 -

Rate in figure:
 Rate in word:

Sl.No	Description	Unit	Qty.	Rate	Amount
(ii)	Power Distribution Board (12 way outgoing+2 spare three phase DB) MCB Distribution board three phase, neutral, double door acrylic cover, 12+2 way DB with ELCB incomer and TB, complete with MCB's. Incoming : 63 Amp. Four Pole ELCB (overload, short ckt and earth leakage protection(30mA)). - 1 No. Outgoing : 25 Amp. SP MCB - 12 Nos.	Set.	5		-
	Rate in figure: Rate in word:				
(iii)	Computer Distribution Board (12 way outgoing+2 spare three phase DB) MCB Distribution board three phase, neutral, double door acrylic cover, 12+2 way DB with ELCB incomer and TB, complete with MCB's. Incoming : 63 Amp. Four Pole ELCB (overload, short ckt and earth leakage protection (30mA)). - 1 No. Outgoing : 10 Amp. SP MCB - 12 Nos.	Set.	3		-
	Rate in figure: Rate in word:				
8A(i)	Providing and fixing of Pro-active early streamer emission type, lightning protection air terminal With features 70mtr radius coverage Model for TRUE POWER with CPRI test certificate.	No.	1		-
	Rate in figure: Rate in word:				
(ii)	58mm G.I mast 5mtr with base plate	No.	1		-
	Rate in figure: Rate in word:				
8B (i)	Providing and fixing of lightening conductor final, made of 25 mm dia, 600 mm long, copper tube having four proung at top, with 150 mm x 150 mm size 3 mm thick copper base plate including holes etc. complete as required.	No.	4		-
	Rate in figure: Rate in word:				

Sl.No	Description	Unit	Qty.	Rate	Amount
(ii)	Providing and fixing of 20 mm x 3 mm thick G.I. strip on parapet or surface of wall for lightening conductor as required. Rate in figure: Rate in word:	Mtr.	320		-
9	EARTHING				
A	Providing and fixing of 3meter Electrode chemical earthing with 58mm G.I galvanized electrode and 25x3mm G.I inner Strip with 50x6mm copper connecting terminal with 2bags of BFC (50kg) Rate in figure: Rate in word:	Mtr.	6		
B(i)	Supply and installation including all connections of earth electrode stations comprising of :				
(a)	60 mm dia class - 'B' G.I. Pipe 3.0 mt. long.				
(b)	Digging of earth pit, placing of G.I. Pipe in the pit and filling up of the same with a mixture of 150 kg. Salt 50 kg. of charcoal and rest with good clay earth all firmly compact into the pit as per I.S. : 3043.				
(c)	30 cm. at the top portion at the pipe having a G.I. Hinges shall be enclosed in a brick work chamber built up to 10 cm below G.I. and upto 30 cm above G.I. Chamber which shall have 450 mm x 450 mm inside dimension will have a G.I. Hinge cover with the bare frame firmly grouted. Rate in figure: Rate in word:	No.	4		
(ii)	Providing and fixing of 50 mm x 5 mm GI earth flat on surface or recessed from earth pit to main bus bar unit and meter board. Rate in figure: Rate in word:	Mtr.	30		
(iii)	Providing and fixing of 1 core x 16sqmm aluminium conductor on surface or recessed from main bus bar unit to meter box / LDB. Rate in figure: Rate in word:	Mtr.	375		
*	EXTERNAL ELECTRICAL WORKS : (Sec. - A)				
10	Supply of all required material and laying, testing, commissioning of following sizes 1.1 KV grade PVC insulated armored aluminium power cable excavation of cable trench of 750 mm deep in all kinds of soil, 150 mm thick and filling, brick covering, back filling etc. including laying in pre-laid Hume pipe / G.I. Pipe and fixing only of cable channel support as supplied and painted with red oxide and aluminium paint including supply of cleats, supports, fasteners and accessories etc. properly clamping of cable and complete with all respect as per the instruction of Enginner-in-charge or Consultant.				

Sl.No	Description	Unit	Qty.	Rate	Amount
(a)	3 x ½ x 630 sqmm Ar. AL cable. Rate in figure: Rate in word:	Mtr.	700		
(b)	3 x ½ x 400 sqmm Ar. AL cable. Rate in figure: Rate in word:	Mtr.	200		
(c)	3 x ½ x 70 sqmm Ar. AL cable. Rate in figure: Rate in word:	Mtr.	150		
(d)	3 x ½ x 35 sqmm Ar. AL cable. Rate in figure: Rate in word:	Mtr.	250		
(e)	3 x ½ x 50 sqmm Ar. AL cable. Rate in figure: Rate in word:	Mtr.	270		
(f)	3 x 10 sqmm Ar. AL cable. Rate in figure: Rate in word:	Mtr.	300		
11	Termination of cable of the following sizes by providing cable glands lugs etc. and complete with all respect.				
(a)	3 x ½ x 630 sqmm Ar. AL cable. Rate in figure: Rate in word:	Set	12		
(b)	3 x ½ x 400 sqmm Ar. AL cable. Rate in figure: Rate in word:	Set	12		
(c)	3 x ½ x 70 sqmm Ar. AL cable. Rate in figure: Rate in word:	Set	2		
(d)	3 x ½ x 35 sqmm Ar. AL cable. Rate in figure: Rate in word:	Set	8		
(e)	3 x ½ x 50 sqmm Ar. AL cable. Rate in figure: Rate in word:	Set	8		
(f)	3 x 10 sqmm Ar. AL cable. Rate in figure: Rate in word:	Set	20		_____

Sl.No	Description	Unit	Qty.	Rate	Amount
12	EXTERNAL FITTING & FIXTURE : (Sec. - B)				
(a)	Supply, Installation, testing & commissioning of all required materials and fixing of 125 W HPMV Lamp with fittings mounted on 0.25 mtr., 40 mm G.I. Pipe grouted on ground with R.C.C. base and provision for Junction box including cable glanding and terminating as per the instruction of Engineer-in-charge or Consultant.	No.	2		
	Rate in figure:				
	Rate in word:				
13	JUNCTION BOX FOR OUT DOOR LIGHTING :				
	Supply, Installation, testing and commissioning of all required material and mounting of 8" x 6" junction box with separate water proof encloser box on R.C.C. coupon for out door light having 1 No. 6 Amp. SP MCB with porcelin connector and 1 No. neutral for controlling circuit and complete with all respect as per the instruction of Engineer-in-charge / Consultant.	No.	10		
	Rate in figure:				
	Rate in word:				
	Rate in figure:			Total :	-
	Rate in word:				
				Total Internal & External Electrical Works :	-
	Rate in figure:				
	Rate in word:				

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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FIRE FIGHTING WORKS
B.O.Q OF FIRE FIGHTING OF LIBRARY BUILDING

A FIRE PUMP ROOM EQUIPMENT

- | | | | | | |
|---|--|------|------|--|--|
| 1 | Supply, erection, testing & commissioning of electrical motor driven Main Hydrant Pump of centrifugal horizontal end suction back pull out type with gland packing and capable to deliver 2280 LPM at 70 MWC .The pump shall be coupled to TEFC motor of suitable HP & speed and complete set shall mounted on common base frame . The quoted rate shall includes providing & fixing of coupling, coupling gaurd.matching flanges for suction & delivery side, Foundation bolts and RCC foundation as recommended by manufacturer etc complete as per direction of Engineer-in-charge. | Nos. | 1.00 | | |
| | Rate in figure: | | | | |
| | Rate in word: | | | | |
| 2 | Supply, installation, testing & commissioning of diesel Engine driven common stand by pump, horizontal centrifugal end suction back pull out type with gland packing and capable to deliver 2280 at 70 MWC . The pump shall coupled to suitable HP of Diesel engine radiator water cooled type and mounted on common base frame, two sets of Batteries & battery leads with stand, Fuel tank (For 6 Hrs. running and filled fully) with stand &Fuel piping etc. The quoted rate shall includes coupling, coupling guard, and other standard accessories,RCC foundation (as recommended by manufacturer) and foundation bolts, etc complete as per direction of Engineer-in-charge.. | Nos. | 1.00 | | |
| | Rate in figure: | | | | |
| | Rate in word: | | | | |
| 3 | Supply, erection, testing & commissioning of electrical motor driven Jockey pump of centrifugal horizontal end suction type with gland packing .bronze impeller and capable to deliver 180 LPM at 70 MWC .The pump shall be coupled to TEFC motor of suitable HP & speed and complete set shall mounted on common base frame. The quoted rate shall includes providing & fixing of coupling, coupling gaurd.matching flanges for suction & delivery side, Foundation bolts and RCC foundation as recommended by manufacturer etc complete as per direction of Engineer-in-charge. | Nos. | 1.00 | | |
| | Rate in figure: | | | | |
| | Rate in word: | | | | |

Sl.No	Description	Unit	Qty.	Rate	Amount
4	Fabricating & Supply, installing, testing and commissioning of compartmentalized common control panel for Electrical motor driven main pump, jockey pump and Diesel engine driven pumps.etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	No.	1.00		
5	1100 V GRADE POWER / CONTROL CABLES Supplying, laying, testing & commissioning of FRLS.PVC outer sheathe, steel armoured, aluminium / copper conductor, 1100v grade power cables with glands etc.The cables shall be laid in tray on walls/ floor etc. as required. The minimum size of the cables shall as mentioned below,etc complete as per direction of Engineer-in-charge.				
a	3.5 C x 70 Sq.mm aluminum for main pumps Rate in figure: Rate in word:	Rmt	40.00		
b	4C x 16 Sq. mm. Aluminum Jockey pump. Rate in figure: Rate in word:	Rmt	20.00		
c	12C x 2.5 Sq. mm. aluminum Diesel engines Rate in figure: Rate in word:	Rmt	20.00		
d	2C x 2.5 Sq. mm copper armoured for Instrumentation Rate in figure: Rate in word:	Rmt	60.00		
CABLE TRAY					
6	Supplying and fixing of ladder type G.I.sheet cable tray with neccessary angle iron suspension supports, anchor fasteners etc. complete, to line and levels. Maximum height of suspension shall not exceed 500 mm.Size of the tray shall be 40x 300 x 40mm.etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Rmt	20.00		
7	Supplying and fixing of ladder type G.I.sheet cable tray with neccessary angle iron suspension supports, anchor fasteners etc. complete, to line and levels. Maximum height of suspension shall not exceed 500 mm.Size of the tray shall be 40x 150 x 40mm.etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Rmt	20.00		

Sl.No	Description	Unit	Qty.	Rate	Amount
8	G.I. Earthing strips of 50mm x 6mm thick, strip shall be run on floor / ceiling / walls, from the equipment to the nearest Earth pit with neccessary accessories as required. (Earth pit shall be executed by other agencies).etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Rmt	40.00		
9	G.I. Earthing strips of 25mm x 3mm thick, strip shall be run on floor / ceiling / walls, from the equipment to the nearest Earth pit with neccessary accessories as required. (Earth pit shall be executed by other agencies).etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Rmt	20.00		
10	Supplying, installing, testing and commissioning of G.I. Pipes confirming to IS 3589,6mm thick, with painting, suitable type of supports, anchorl fasteners, bolts nuts (Galvanized), clamps, "U" bolts, malleable specials such as Reducers.Tees, elbows, flanges. Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc. complete. structural supports are measured as seperate line item etc complete as per direction of Engineer-in-charge.				
a	200mm nominal dia Rate in figure: Rate in word:	Rmt	24.00		
11	Supplying, installing, testing and commissioning of G.I. Pipes confirming to IS 1239 Pt -1 Heavy(class C) grade with painting, suitable type of supports, anchor fasteners, bolts nuts (Galvanised), clamps, "U" bolts, malleable specials such as Reducers.Tees, elbows, flanges. Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc. complete. structural supports are measured as seperate line item etc complete as per direction of Engineer-in-charge.				
a	150mm nominal dia Rate in figure: Rate in word:	Rmt	40.00		
b	100mm nominal dia Rate in figure: Rate in word:	Rmt	6.00		
c	80mm nominal dia Rate in figure: Rate in word:	Rmt	9.00		
d	25mm nominal dia	Rmt	24.00		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in figure: Rate in word:				
12	Supplying, installing and commissioning C.I., Flanged, Rising spindle Gate Valve as per 14846 with suitable flanges, nuts, bolts, gaskets etc. complete.(PN10) etc complete as per direction of Engineer-in-charge.				
a	200mm nominal dia Rate in figure: Rate in word:	Nos.	2.00		
b	150mm nominal dia Rate in figure: Rate in word:	Nos.	2.00		
c	100mm nominal dia Rate in figure: Rate in word:	Nos.	1.00		
13	Supplying, installing, testing and commissioning of C.I. Non-return valves as per IS:5312(PN 16) swing check type with required flanges, nuts, bolts and gaskets etc complete as per direction of Engineer-in-charge.				
a	150 mm nominal dia Rate in figure: Rate in word:	Nos.	2.00		
b	80 mm nominal dia Rate in figure: Rate in word:	Nos.	1.00		
14	Supplying, Installing, testing and commissioning CI butterfly valves as per) BS 5155 (PN 16) slim seal standard lever operated type with required flanges, nuts, bolts etc. complete.as per direction of Engineer-in-charge.				
a	150mm nominal dia Rate in figure: Rate in word:	Nos	4.00		
b	80mm nominal dia Rate in figure: Rate in word:	Nos	1.00		
15	Supplying, installing, testing and commissioning of Gun metal chrome finished Ball valves with fittings of screwed end type.etc complete as per direction of Engineer-in-charge.				
a	15mm dia. Rate in figure: Rate in word:	Nos.	4.00		

Sl.No	Description	Unit	Qty.	Rate	Amount
b	25 mm dia Rate in figure: Rate in word:	Nos.	2.00		
16	Supply and installation of Pressure switches of suitable range for pump sets Fittings like unions / collar / reducers etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Set	3.00		
17	Supply and installation of Pressure gauges of suitable range for pump sets siphon, Fittings like unions / colors / reducers etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Set	1.00		
18	Supplying, installing, testing and commissioning of diesel engine exhaust piping of manufacturer's recommended size of 150 dia, M.S. medium grade. Piping shall be complete with supply and installation of exhaust pipe thermal insulation lagging with mineral wool as per IS 3677 / 1973 to withstand temperatures upto 750°C reinforced with chicken mesh and cladded with aluminium sheet of 26 SWG and 50mm thick with 64 Kg/Cu. Mtr. Density, bird screen, long bends, supports etc. Piping shall be done with flanged connections to facilitate easy isolation.etc complete as per direction of Engineer-in-charge.				
a	150 mm dia M.S. Medium grade with mineral wool insulation with aluminum sheeting. Rate in figure: Rate in word:	Rmt	20.00		
b	150mm dia M.S. Medium grade shall be laid above ground. Rate in figure: Rate in word:	Rmt	20.00		
19	Structural supports like MS angle, sheets, channel etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Kgs	850.00		
B HYDRANT SYSTEM					
1	Supplying, installing, testing and commissioning of G.I. Pipes conforming to IS 1239 Pt -1 Heavy grade(C class) with painting, suitable type of supports like, anchor fasteners, bolts nuts, clamps, "U" bolts, malleable specials such as Reducers.Tees, elbows, flanges. Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc. complete. structural supports are measured as seperate line item etc complete as per direction of Engineer-in-charge.				

Sl.No	Description	Unit	Qty.	Rate	Amount
a	150mm nominal dia Rate in figure: Rate in word:	Rmt	494.00		
b	100mm nominal dia Rate in figure: Rate in word:	Rmt	6.00		
c	80mm nominal dia Rate in figure: Rate in word:	Rmt	12.00		
d	25mm nominal dia Rate in figure: Rate in word:	Rmt	24.00		
2	Supplying, installing, testing and commissioning of G.I. Pipes confirming to IS 1239 Pt - I Heavy grade(class C) with suitable type of supports, malleable specials such as Reducers.Tees, elbows, flanges. Including cutting, Welding as per drawings. The rate quoted should e included with anti corrosive treatment with 4 mm thick polymer corrosion resistant tape as per IS 10221, overlap shall be 15mm minimum.etc complete as per direction of Engineer-in-charge.				
a	150mm nominal dia Rate in figure: Rate in word:	Rmt	32.00		
3	Supplying, Installing, testing and commissioning CI butterfly valves as per BS 5155 (PN 16) slim seal standard lever operated type with required flanges, nuts, bolts etc complete as per direction of Engineer-in-charge.				
a	150mm nominal dia Rate in figure: Rate in word:	Nos.	7.00		
4	Supplying, installing and commissioning of fire brigade inlet inlet connection of 4 way with 4 nos. 63 mm dia. built - in Gun metal Non- return valves instantaneous coupling type arranged on 150 mm dia.Qouted rate shall be included with C.I, Butterfly valve, C.I. Non-return valve and M.S. cabinet of suitable size with mounting supports etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos.	1.00		
5	Supplying, installing and commissioning of fire brigade inlet inlet connection of 2 way with 2 nos. 63 mm dia. built - in Gun metal Non- return valves instantaneous coupling type arranged on 100 mm dia.Qouted rate shall be included with C.I, Butterfly valve, C.I. Non-return valve and M.S. cabinet of suitable size with mounting supports etc complete as per direction of Engineer-in-charge. Rate in figure:	Nos.	1.00		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
6	Supplying, erecting and commissioning of Landing Hydrants comprising of the following in the Fire duct;etc complete as per direction of Engineer-in-charge.				
a	Single headed hydrant valve as per IS 5290, made of gunmetal with 63 mm dia instantaneous outlet of 80 mm dia fanged inlet .Blank caps, chain and hand wheels etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos.	10.00		
b	2 lengths of 15 M long, 63mm dia RRL hose with instantaneous couplings and Hoses shall be stored in side the hose cabinet. Rate in figure: Rate in word:	Nos.	10.00		
c	1 no. Gun metal short branch pipe with nozzle. Rate in figure: Rate in word:	Nos.	10.00		
d	Hose reel drum of swinging type with 19mm dia Rubber braided hose of 36.5M. length with gate valve (on upstream) and Shut off nozzle, etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos.	10.00		
e	Fire duct Shutter fabricated out of M.S. sheet of 16 swg. Door shall be 900mm x 1200 mm x 150mm & fixed with 4 mm thick Glass, suitable Rubber beedibg and Locking arrangement. Quoted rate shall be includes all fasteners etc, and complete shutter shall be enamel painted of approved colour both inside and out side. etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos.	5.00		
f	M.S. Hose cabinet stand mounted type fabricated out of M.S. sheet of 16 swg. with glass fronted (4mm thick glass with rubber beeding) door and size of the cabinet shall be 600mm x 750 mm x 250 mm Quoted rate shall be includes suitable stand for mounting, all fasteners etc, and cabinet shall be powder coated of approved colour both inside and out side.etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos.	5.00		
7	Supplying, installing, testing and commissioning of yard hydrant comprising of the following,etc complete as per direction of Engineer-in-charge.				

Sl.No	Description	Unit	Qty.	Rate	Amount
a	Single headed hydrant valve as per IS 5290, made of gunmetal with 63 mm dia instantaneous out & 80 mm dia fanged inlet inlet.Blank cap , chain and hand wheel etc complete.etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos.	6.00		
b	2 lengths of 15 M long, 63mm dia RRL hose with instantaneous couplings and Hoses shall be stored in side the hose cabinet.etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos.	6.00		
c	1 no. Gun metal short branch pipe with nozzle.etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos.	6.00		
d	M.S. Hose cabinet stand mounted type fabricated out of M.S. sheet of 16 swg. with glass fronted (4mm thick glass with rubber beeding) door and size of the cabinet shall be 600mm x 750 mm x 250 mm Quoted rate shall be includes suitable stand for mounting, all fasteners etc, and cabinet shall be powder coated of approved colour both inside and out side.etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos.	6.00		
8	Supplying and fixing approved make 25mm dia. automatic air release valve with ball valve& unions etc. complete.as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos.	2.00		
9	Structural supports like MS angle, sheets, channel etc etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Kgs	800.00		
C CIVIL WORKS					
1	Excavation of trenches up to 1.5 mts.in depth,for laying pipes upto 150mm dia.Including forming bottom surface to required level, refilling the trenches with selected excavated earth around th pipe in layers of 150mm thick, watering, consolidating. Quoted price inclusive of disposing off / carting away the surplus earth out side the site to a dump yard acceptable local bodies or as directed by the site engineer with ahead of 300 mts. etc. complete.as per direction of Engineer-in-charge.				
a	Excavation in all kinds of soil Rate in figure: Rate in word:	Cum	48.00		

Sl.No	Description	Unit	Qty.	Rate	Amount
2	Supply and installation of RCC hume pipes of 300 mm dia & NP 2 Class with collars for road / below floor crossing of Fire water pipes.etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Rmt	24.00		
3	Supply and construction of PCC (1:2:4) pedestals / supports for Under ground / above ground pipes.etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	cum	17.00		
D DOWN COMER SYSTEM					
1	Supply,erection,testing & commissioning of electrical motor driven Booster pump of monoblock type capable todeliver900-LPMat 35MWC.The pump shall be coupled toTEFCmotor of suitable Hpwithspeed of 2900RPM and complete set shall mounted on common base frame.etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos	1.00		
2	Fabricating & Supply, installing, testing and commissioning of compartmentalized common control panel for Electrical motor driven booster pumps.etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos	1.00		
3	Supply, installation of push button station with on off indications for local control of booster pump with locking arrangement etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos	1.00		
4	1100 V GRADE POWER / CONTROL CABLES				
	Supplying, laying, testing & commissioning of FRLS.PVC outer sheathe, steel armoured, aluminium / copper conductor, 1100v grade power cables with glands etc.The cables shall be laid in tray on walls/ floor etc. as required. The minimum size of the cables shall as mentioned below,etc complete as per direction of Engineer-in-charge.				
a	4 C x 16 Sq.mm aluminum for Booster pumps Rate in figure: Rate in word:	Rmts	85.00		
b	2C x 2.5 Sq. mm copper armoured for Instrumentation Rate in figure: Rate in word:	Rmts	40.00		

Sl.No	Description	Unit	Qty.	Rate	Amount
c	3C x 2.5 Sq. mm copper armoured for push button station Rate in figure: Rate in word:	Rmts	85.00		
5	Supplying and fixing of ladder type G.I.sheet cable tray with neccessary angle iron suspension supports, anchor fasteners etc. complete, to line and levels. Maximum height of suspension shall not exceed 500 mm.Size of the tray shall be 40x 150 x 40mm.etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Rmts	40.00		
6	G.I. Earthing strips of 25mm x 6mm thick, strip shall be run on floor / ceiling / walls, from the equipment to the nearest Earth pit with neccessary accessories as required. (Earth pit shall be executed by other agencies).etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Rmts	35.00		
7	Supplying, installing, testing and commissioning of G.I. Pipes confirming to IS 1239 Pt -1 Heavy(class C) grade with painting, suitable type of supports, anchor fasteners, bolts nuts (Galvanised), clamps, "U" bolts, malleable specials such as Reducers.Tees, elbows, flanges. Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc. complete. structural supports are measured as seperate line item etc complete as per direction of Engineer-in-charge.				
a	150mm nominal dia Rate in figure: Rate in word:	Rmts	10.00		
b	25mm nominal dia Rate in figure: Rate in word:	Rmts	6.00		
8	Supplying, installing and commissioning C.I.flanged "Y" type Strainer with SS mesh.suitable flanges, nuts, bolts, gaskets etc. complete.as per direction of Engineer-in-charge.				
a	150mm nominal dia Rate in figure: Rate in word:	Nos	1.00		
9	Supplying, installing, testing and commissioning of C.I. Non-return valves as per IS:5312(PN 16) Wafer type with required flanges, nuts, bolts and gaskets etc. complete.as per direction of Engineer-in-charge.				
a	150mm nominal dia Rate in figure: Rate in word:	Nos	1.00		

Sl.No	Description	Unit	Qty.	Rate	Amount
10	Supplying, Installing, testing and commissioning CI butterfly valves as per BS 5155 (PN 16) slim seal standard lever operated type with required flanges, nuts, bolts etc. complete.as per direction of Engineer-in-charge.				
a	150mm nominal dia Rate in figure: Rate in word:	Nos	2.00		
11	Supplying, installing, testing and commissioning of Gun metal chrome finished Ball valves with fittings of screwed end type.etc complete as per direction of Engineer-in-charge.				
a	15mm dia. Rate in figure: Rate in word:	Nos	2.00		
b	25 mm dia Rate in figure: Rate in word:	Nos	2.00		
12	Supply and installation of Pressure switches of suitable range for pump sets Fittings like unions / collar / reducers etc complete as per direction of Engineer-in-charge.	Nos	1.00		
13	Supply and installation of Pressure gauges of suitable range for pump sets siphon, Fittings like unions / colors / reducers etc complete as per direction of Engineer-in-charge.	Nos	1.00		
14	Structural supports like MS angle, sheets, channel etc complete as per direction of Engineer-in-charge.	Kgs	250.00		
15	Supply and construction of PCC (1:2:4) pedestals / supports for terrace level piping and booster pump.etc complete as per direction of Engineer-in-charge.	cum	1.00		
				TOTAL	
	Rate in figure: Rate in word:				

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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PART - B

**NATIONAL LAW UNIVERSITY, ODISHA
NARAJ, CUTTACK**

**B.O.Q FOR CONSTRUCTION OF
EXTERNAL DEVELOPMENT WORK**

NATIONAL LAW UNIVERSITY CAMPUS WORKS

CONSULTANT :

M/s. RATH ARCHITECTONIC

104, Madhusudan Nagar

Unit-IV, Bhubaneswar-751001

Ph. No. (0674) 2390940, 2395340

Sl.No	Description	Unit	Qty.	Rate	Amount
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ABSTRACT COST OF EXTERNAL DEVELOPMENT WORK

1	ROAD RAIN WATER, DRAINAGE ETC.				Total Rs.
2	BOUNDARY WALL				Total Rs.
3	SITE DEVELOPMENT				Total Rs.
4	RECHARGE PIT				Total Rs.
5	WATCH TOWER				Total Rs.
6	FIRE FIGHTING UG SUMP & PUMP ROOM				Total Rs.
7	DOMESTIC AND TREATED WATER SUPPLY				Total Rs.
8	BOREWELL				Total Rs.
9	LANDSCAPING				Total Rs.
10	O.H.T, CUM PUMP HOUSE				Total Rs.
11	RAIN WATER COLLECTION ROOM				Total Rs.
12	EXT. SEWERAGE SYSTEM				Total Rs.
13	U.G.R (125 CUM WITH PUMP HOUSE 4 NOS)				Total Rs.
14	U.G.R (150 CUM WITH PUMP HOUSE)				Total Rs.
15	EXTERNAL ELECTRICAL WORK				Total Rs.
16	FIRE FIGHTING SYSTEM				Total Rs.
					Total Rs.

Or Say

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q

OF

BALANCE WORK OF APPROACH ROAD & RAIN WATER DRAINAGE, CULVERT

FOR PROPOSED NATIONAL UNIVERSITY ODISHA

AT NARAJ, CUTTACK

CONSULTANT :

M/s. RATH ARCHITECTONIC

104, Madhusudan Nagar

Unit-IV, Bhubaneswar-751001

Ph. No. (0674) 2390940, 2395340

Sl.No	Description	Unit	Qty.	Rate	Amount
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ABSTRACT COST

1	CIVIL WORKS			TOTAL Rs.	-
				TOTAL Rs.	-

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q OF BALANCE WORK OF APPROACH ROAD , RAIN WATER DRAINAGE & CULVERT

1	Earth work in ordinary soil within 50m initial lead and 1.5m initial lift including rough dressing in layers not exceeding 0.3m in depth and the Earth transported by transport vehicles as directed by the Engineer-in-charge. Rate in figure: Rate in word:	Cum	3264.9		
2	Earth work in ordinary soil in embankment ,roads,etc. within 50m initial lead and 1.5m initial lift including rough dressing and breaking clods to maximum 5 cm to 7cm and laying in layers not exceeding 0.3cm in depth and as per specification approved by the department along with proper compaction with HRR (section measurement to be taken on the finished compacted section of the fill) Rate in figure: Rate in word:	Cum	145		
3	Dismantling of Reinforced Cement concrete grade including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	45		
4	Dismantling Brick work in cement mortar including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	30		
5	Dismantling of cement concrete grade M-10 and below including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	15		
6	Dismantling of cement concrete grade M-15 including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	20		

Sl.No	Description	Unit	Qty.	Rate	Amount
7	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved. Rate in figure: Rate in word:	Cum.	137		
8	Providings and Spreading moorum and consolidation with PRR including watering ,cost and conveyance of morrum as per specification and direction of Engg.Incharge. Rate in figure: Rate in word:	Cum	1287		
9	Filling the area with sand,watered and rammed as per required depth including cost of all material, labour, etc.and as per direction of Engg.Incharge. Rate in figure: Rate in word:	Cum	16371		
10	Providing, laying, spreading and compacting of good quality stone quarry dust in foundation trenches with proper thickness and well watered, compacted, dressed and leveled to proper gradient including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Cum.	1692.225		
11	CEMENT BONDED FLOOR TILES: Providing of precast hydraulic pressed cement bonded designed pigment tiles suitable for driveway (average 20 mm thick) over a base of 1:4 (1 cement : 4 mortar) all complete including filling up the joints using pigmented cement. The tile shall be of approved make and the shade to be approved by the Architect / Owner before execution of the work. The job is inclusive of all transportation, wastage, royalties, taxes, etc. as applicable. Rate in figure: Rate in word:	Sqm.	11281.5		

Sl.No	Description	Unit	Qty.	Rate	Amount
12	Providing,laying, spreading and compacting stone aggregate of specified sizes to WBM specifications(Grading- I using morrum) in uniform thickness, hand picking, rolling with 3 wheeled road / vibratory roller 8-10 tonne capacity in stages to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density as per Clause 404 of MoSRT&H Specification for Road &Bridge works(4th revision)and as per direction of Engg.Incharge.. Rate in figure: Rate in word:	Cum	1287		
13	Providing ,laying,spreading and compacting graded stone aggregate to wet mix macadam(WMM) specification including premixing the material with water at OMC in mechanical mix plant,carriage of mixed material by tipper to site, laying in uniform layers with pavers in subbase/base course on well prepared surface and compacting with vibratory roller to achieve the desired density as per Clause 406 of MoSRT&H Specification for Road &Bridge works(4th evision)and as per direction of Engg.Incharge.. Rate in figure: Rate in word:	Cum	1287		
14	Providing and laying plain cement concrete (1:4:8) in foundation and bottom layers of flooring using 40 mm size black hard crusher broken granite metal of approved quality from approved quarry including mixing, lowering, laying and compacting to proper thickness, watering and curing for the required period, including cost of all material, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools & plants etc., complete as per the direction of Engineer-in-charge. Rate in figure: Rate in word:	Cum	370		
15	Providing and laying plain cement concrete (1:2:4) in foundation and bottom layers of flooring using 25 mm size black hard crusher broken granite metal of approved quality from approved quarry including mixing, lowering, laying and compacting to proper thickness, watering and curing for the required period, including cost of all material, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools & plants, etc., complete as per the direction of Engineer-in-charge. Rate in figure: Rate in word:	Cum.	215.41		

Sl.No	Description	Unit	Qty.	Rate	Amount
16	Rigid smooth centering and shuttering for R.C.C. works including false works and dismantling then after casting including cost of materials , labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools & plants etc., complete as per the direction of Engineer-in-charge. R.C.C foundation and footing bases of columns mass concrete pre-cast slab etc	sqm	15305		
	Rate in figure:				
	Rate in word:				
17	Providing & placing in position RCC Precast slabs, thickness upto 75 mm, in CC 1:2:4 with 12 to 6 mm graded trap aggregate including finishing the top surface smooth with trowel, and providing lifting hooks or notches as required.	Sqm.	1306.5		
	Rate in figure:				
	Rate in word:				
18	R.C.C work M-15 grade with 20mm and down grade black hard granite crusher broken stone chips including hoisting and laying etc., complete as per the direction of Engineer-in-charge.	Cum	2030.6		
	Rate in figure:				
	Rate in word:				
19	Providing and laying in position cement concrete of M-25 grade(1:1:2) excluding the cost of centring and shuttering all work upto plinth level. etc., complete as per the direction of Engineer-in-charge.	Cum	1360		
	Rate in figure:				
	Rate in word:				
20	Providing, laying & binding of M.S. round / deformed / tor steel reinforcement bars of required diameters for straightening, cutting to size, bending, and binding the grills, lifting and placing in position at all heights & locations as per design complete including cost of bars, cost of binding wires 22 gauge, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants upto floor five level, etc. complete as per the direction of the Engineer-in-charge. (linear measurement will be taken and quantity will be calculated on standard weight of bars for all heights).	Qntl	2140.58		
	Rate in figure:				
	Rate in word:				

Sl.No	Description	Unit	Qty.	Rate	Amount
21	K.B. brick masonry work using (250 mm x 120 mm x 80 mm) with tolerance of size K.B. bricks having crushing strength not less than 75 kg / sqcm, mix (1 cement : 6 sands) in 250 mm thick wall, immersing the bricks for minimum 6 hrs in water before use, with all necessary projection, splay cutting, circular moulding, corbelling, etc., including cost of all materials, labour, conveyance, loading, and unloading, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants etc., as per the direction of the Engineer-in-charge in foundation & plinth. Rate in figure: Rate in word:	Cum	887		
22	Providing 12 mm thick cement plaster in cement mortar (1:4) finished smooth with a floating coat of neat cement on walls and bed concrete etc. all complete and as per direction of Engineer-in-charge for all heights. Rate in figure: Rate in word:	Sqm.	7264.4		
23	Providing weep holes in abutments and wing walls of size 8cm x 23 cm as per I.R.C. 78/1983 in proper position and slope of 1 in 20 towards the draining face at 1m interval including cost of all materials cost of conveyance, royalty, taxes, all labour etc. complete as directed by the Engineer-in-charge. Rate in figure: Rate in word:	Mtr.	120		
24	Providing of hume pipe culvert of 600mm dia 20 mtr long at ramp of mahanadi embankment slope beyond existing gate at R.L.=93.00mtr level including cost of all materials cost of conveyance, royalty, taxes, all labour etc. complete as directed by the Engineer-in-charge. Rate in figure: Rate in word:	Mtr.	20		
25	Encasing of R.C.C. Hume pipe with cement concrete(1:5:10) bed of 150 mm thick all round wherever required. The scope of work excluded the cost of pipe etc.,all complete as per direction of Engineer-in-charge. 600 mm dia R.C.C Hume Pipe Rate in figure: Rate in word:	Mtr.	20		
26	Providing and fixing 25mm thick compressible fibre board in expansion joint on road after each 6mtr. Interval crosswise including cost of all materials labour, T&P etc. complete as per specification and direction of Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	468		

Sl.No	Description	Unit	Qty.	Rate	Amount
27	Providing C.I. Gratings in decking of size upto 150 mm dia for drainage of water as per approved design and specification including cost of all materials labour, T&P etc. complete as per specification and direction of Engineer-in-charge.	Nos.	175		
	Rate in figure:				
	Rate in word:				
				TOTAL:	-

Rate in figure:
Rate in word:

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q
OF BALANCE WORKS OF BOUNDARY WALL
FOR
PROPOSED NATIONAL LAW UNIVERSITY ODISHA
AT NARAJ, CUTTACK

CONSULTANT :

M/s. RATH ARCHITECTONIC

PLOT NO. 104, MADHUSUDAN NAGAR

UNIT-IV, BHUBANESWAR-751001

Ph. No. (0674) 2390940, 2395340

E-mail : ratharchitectonic@rediffmail.com

Sl.No	Description	Unit	Qty.	Rate	Amount
ABSTRACT COST					
CIVIL WORKS					
1	BOUNDARY WALL			Rs.	-
				Rs.	-
TOTAL				Rs.	-

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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**B.O.Q OF OF BALANCE WORKS OF BOUNDARY WALL
FOR PROPOSED NATIONAL LAW UNIVERSITY ODISHA AT NARAJ, CUTTACK**

Sl.No	Description	Unit	Qty.	Rate	Amount
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- | | | | | | |
|---|--|------|--------|--|--|
| 1 | Excavation of foundation trenches and column foundation and pits in all kinds of soil within an initial lead and lift of 1.5 mtrs. depth including dressing the sides and leveling the bed and depositing the excavated material away from the site within an initial lead of 50 mtrs including cost of all labour, sundries, tools and plant etc., complete as per the direction of the Engineer-in-charge.
Rate in figure:
Rate in word: | Cum. | 738.3 | | |
| 2 | Excavation of foundation trenches and column foundation and pits in all kinds of soil within an initial lead and lift of exceeding 1.5 mtrs. but upto 3.00 mtr. depth including dressing the sides and leveling the bed and depositing the excavated material away from the site within an initial lead of 50 mtrs including cost of all labour, sundries, tools and plant etc., complete as per the direction of the Engineer-in-charge. The rate includes dewatering of the excavated pit if any water seepage found during execution of all such related works.
Rate in figure:
Rate in word: | Cum. | 206.65 | | |
| 3 | Filling foundation trenches and plinths with excavated materials in layers not exceeding 0.3 mtr in depth including watering and ramming and dressing and levelling the top proper level or gradient, including cost of all labour, sundries, tools and plants, etc. complete as per the direction of the Engineer-in-charge.
Rate in figure:
Rate in word: | Cum. | 593.6 | | |
| 4 | Filling foundation trenches and plinths with sand, well watered, compacted, dressed and leveled to proper gradient including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge.
Rate in figure:
Rate in word: | Cum. | 85.4 | | |
| 5 | Dismantling of Reinforced Cement concrete grade including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge..
Rate in figure: | Cum. | 8 | | |

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
6	Dismantling Brick work in cement mortar including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge..	Cum.	12		
	Rate in figure:				
	Rate in word:				
7	Dismantling of cement concrete grade M-10 and below including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge..	Cum.	15		
	Rate in figure:				
	Rate in word:				
8	Dismantling of cement concrete grade M-15 including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge..	Cum.	18		
	Rate in figure:				
	Rate in word:				
9	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	Cum.	35		
10	Providing and laying plain cement concrete (1:4:8) in foundation and bottom layers of flooring using 40 mm size black hard crusher broken granite metal of approved quality from approved quarry including mixing, lowering, laying and compacting to proper thickness, watering and curing for the required period, including cost of all material, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools & plants etc., complete as per the direction of Engineer-in-charge.	Cum.	54.65		
	Rate in figure:				
	Rate in word:				
11	Providing and laying plain cement concrete (1:2:4) in foundation and bottom layers of flooring using 25 mm size black hard crusher broken granite metal of approved quality from approved quarry including mixing, lowering, laying and compacting to proper thickness, watering and curing for the required period, including cost of all material, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools & plants, etc., complete as per the direction of Engineer-in-charge.	Cum.	3		
	Rate in figure:				

Sl.No	Description	Unit	Qty.	Rate	Amount
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Rate in word:

12 ANTI-TERMITE TREATMENT :

- (i) Providing pre construction anti-termite treatment with chemical

emulsion Chloropyrifos EC 20% with 1% concentration.

Sqm. 1721

Rate in figure:

Rate in word:

The chemical emulsion shall be in required dosage on entire area of ground and wall trenches as follow.

- (a) Bottom surface, sides of foundation trenches, column pits and basement. At the rate of 5 litres per sqm. of surface area.
- (b) After the foundation for the walls, columns, piers and retaining walls of the basement come up treat the back fill earth in immediate contact with face side of the foundation. At the rate of 7.5 litres per sqm. of vertical surface of foundation.
- (c) Prior to laying the sand bed or subgrade for the ground floor of the building, to surface of consolidated earth filling with in the plinth walls should be levelled and treated. At the rate of 5 litres per sqm. of surface area.
- (d) Junctions of wall and floor shall be treated by making 30 mm wide 30 mm deep channels at the junction. Holes are made in the channel at 150 mm apart up to ground level with crow bar then chemical emulsion is poured. At the rate of 7.5 litres per sqm. of vertical wall or column surface.
- (e) External periphery shall be treated by making 300 mm deep holes at 150 mm centre and filled with chemicals. At the rate of 7.5 litres per sqm.

13 PILE WORK

- (a) Boring, providing and installing cast in situ double under reamed piles of specified diametre and length below pile cap in M 30 cement concrete, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and the length of the pile to be embedded in pile cap.

- (i) 300 mm dia. Piles

Mtr. 1884.00

Rate in figure:

Rate in word:

Sl.No	Description	Unit	Qty.	Rate	Amount
14	<p>Providing lifting, hoisting and laying reinforced cement concrete to all type of concreting work to base of columns and footing, columns, beams, plinth band, lintels, chajja, shaft, fins, roof slabs, balconies, stair cases, parapets, window wills, lofts, railing, jally, copping or in places as shown in the drawing or as directed with 20 mm and down graded size black hard crusher broken chips of approved quality from approved quarry including mixing and vibro compacting to proper shape and size, level and plumbs and finishing the exposed surfaces smooth (if required providing plaster with cement mortar (1:4) wherever necessary without any extra cost) scaffolding, including, watering and curing the required period, including cost of all materials, labour, conveyance, loading and unloading, royalties, sundries, tools and plants, etc., complete as per direction of the Engineer-in-charge including cost of all materials and labour. M-25 Grade Concrete in Foundation and Plinth.</p> <p>Rate in figure: Rate in word:</p>	Cum.	323.0		
15	<p>STEEL REINFORCEMENT</p> <p>Providing, laying & binding of M.S. round / deformed / tor steel reinforcement bars of required diameters for straightening, cutting to size, bending, and binding the grills, lifting and placing in position at all heights & locations as per design complete including cost of bars, cost of binding wires 22 gauge, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants upto floor five level, etc. complete as per the direction of the Engineer-in-charge. (linear measurement will be taken and quantity will be calculated on standard weight of bars for all heights).</p> <p>Rate in figure: Rate in word:</p>	Qntl.	150.0		
16	<p>Providing strong, rigid, leveled, and plumbed centering and shuttering to required shape and size, with shuttering ply or steel centering materials with all necessary bracing and tiles and supports with leveling centering covered with bituminous paper with provisions necessary holes and pockets for electrical conduits, pipes, P.H. pipes, for hooks or boxes, switch and board insert plates, clamps and extension bars etc., including dismantling the same after the required intervals from the date of casting including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge.</p>				
(a)	<p>Foundations, footings, bases of columns etc. for mass concrete.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	943.6		

Sl.No	Description	Unit	Qty.	Rate	Amount
(b)	Columns, beams, plinth beams, girders, bressumers and cantilevers, staircase, horizontal and vertical fins, bands, coping, moulding, cornice etc. Rate in figure: Rate in word:	Sqm.	778.7		
17	K.B. brick masonry work using (250 mm x 120 mm x 80 mm) with tolerance of size K.B. bricks having crushing strength not less than 75 kg / sqcm, mix (1 cement : 6 sands) in 250 mm thick wall, immersing the bricks for minimum 6 hrs in water before use, with all necessary projection, splay cutting, circular moulding, corbelling, etc., including cost of all materials, labour, conveyance, loading, and unloading, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants etc., as per the direction of the Engineer-in-charge in foundation & plinth. Rate in figure: Rate in word:	Cum.	82.00		
18	K.B. brick masonry work using (250 mm x 120 mm x 80 mm) with tolerance of size K.B. bricks having crushing strength not less than 75 kg / sqcm, mix (1 cement : 6 sands) in 250 mm thick wall, immersing the bricks for minimum 6 hrs in water before use, with all necessary projection, splay cutting, circular moulding, corbelling, etc., including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants etc. upto floor five level, as per the direction of the Engineer-in-charge in superstructure. Rate in figure: Rate in word:	Cum.	220.00		
19	CEMENT PLASTER (IN COARSE SAND)				
(i)	Providing Avg. 12 mm thick cement plaster 1:6 (1 cement : 6 sand) to inside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	915.4		

Sl.No	Description	Unit	Qty.	Rate	Amount
(ii)	Providing Avg. 16 mm thick cement plaster 1:6 (1 cement : 6 sand) to outside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	915.4		
20	Providing and applying 2 coats acrylic based weather coat paint (exterior quality) of approved make, which includes two coat of exterior putty over a coat of primer of approved brand & shade over the surfaces including preparation of surface, with cost of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	1830.7		
21	WATER PROOFING:				
(i)	PLASTERING WATER PROOFING: Providing of Integral Waterproofing admixture confirms IS:2645 on plaster surface and consumption should be 100gm/50kg bag including all material, labour, tool and taxes complete. as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	1830.7		
(ii)	EXTERNAL WATER PROOFING: Supplying & applying one coat with approved make external water proofing @5kg with white cement/50kg bag and water to the external wall of the painting(weathercoat) area followed by two coat of with approved make weather coat paint.all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	1830.7		
22	Extra for supplying and applying concrete bonding agent compound for obtaining proper bonding between old concrete and new concrete. The bonding agent compound shall be of approved make as directed by Engineer-in-charge which shall be applied as per manufacturer's specification and the quantity shall be measured in liters. Rate in figure: Rate in word:	KG.	26.2		

Sl.No	Description	Unit	Qty.	Rate	Amount
23	Extra for supplying and mixing approved quality concrete admixture as per manufacturer's specification in all kind of concrete work at any location as per approved make. The admixture shall be based on the design mix of cement which shall be carried out by the contractor prior to start of work. Rate in figure: Rate in word:	KG.	1040.4		
24	Providing and constructing barbed wire fencing above boundary wall as shown in the lay out drawing, with details drawings and specification provided along with the tender documents. The work shall be carried out as per the specification and the details mentioned in the drawings with required size of 50x50x6mm angle iron post grouted above boundary wall with cement concrete (1:2:4) with strut of required size with 3 layers of horizontal , and two layer of diagonal of barbed wire 9.38 Kg/100mt (minimum) between the two posts fitted and fixed with GI staples, turn buckles etc complete. The Angle section shall be painted with synthetic enamel paint over a coat of zinc cremated primer and any other related works as may be required for the effective functioning and completion of the work. Cost exclusive of cement concrete(1:2:4),angle section, G.I staples,turn buckles and including all labour, materials, and all taxes required for completion work with all respect as per the direction of Engg-in-Charge. Rate in figure: Rate in word:	Rmt	2034.2		
25	The M.S angle section 50x50x6 shall be painted with synthetic enamel paint over a coat of zinc cremated primer etc. complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding,sundries, tools and plants, etc., as per the direction of the Engineer-in-charge Rate in figure: Rate in word:	KG.	803.25		
26	Supplying and fixing turn buckles and straining bolts for barbed wire fencing etc. complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding,sundries, tools and plants, etc., as per the direction of the Engineer-in-charge Rate in figure: Rate in word:	Set	340		

Sl.No	Description	Unit	Qty.	Rate	Amount
27	Providing and constructing razor cut fencing above boundary wall as shown in the lay out drawing, with details drawings and specification provided along with the tender documents. The work shall be carried out as per the specification and the details mentioned in the drawings. Cost including all labour, materials, and all taxes required for completion work with all respect as per the direction of Engg-in-Charge.	Rmt	2034.2		
	Rate in figure:				
	Rate in word:				
	Rate in figure:				
	Rate in word:				
				Total:	-

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q
OF SITE DEVELOPMENT
FOR
PROPOSED NATIONAL LAW UNIVERSITY ODISHA
AT NARAJ, CUTTACK

CONSULTANT :

M/s. RATH ARCHITECTONIC

PLOT NO. 104, MADHUSUDAN NAGAR

UNIT-IV, BHUBANESWAR-751001

Ph. No. (0674) 2390940, 2395340

E-mail : ratharchitectonic@rediffmail.com

Sl.No	Description	Unit	Qty.	Rate	Amount
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ABSTRACT COST

CIVIL WORKS

1 SITE DEVELOPMENT

Rs. -

TOTAL

Rs. -

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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SITE DEVELOPMENT

1 Filling the specified areas upto a depth of 5mtr with filling sand in layers not exceeding 0.3mtr in depth., well watered, compacted, dressed and leveled to proper gradient including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge. Cum 74750
 Rate in figure:
 Rate in word:

2 Filling the specified areas upto a depth of 0.5mtr with good earth in layers over the areas filled with filling sand well watered, compacted, dressed and leveled to proper gradient including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge. Cum 65000
 Rate in figure:
 Rate in word:

TOTAL:

Rate in figure:
 Rate in word:

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q
OF BALANCE WORK OF RECHARGE PIT
FOR
PROPOSED NATIONAL LAW UNIVERSITY ODISHA
AT NARAJ, CUTTACK

CONSULTANT :

M/s. RATH ARCHITECTONIC

PLOT NO. 104, MADHUSUDAN NAGAR

UNIT-IV, BHUBANESWAR-751001

Ph. No. (0674) 2390940, 2395340

E-mail : ratharchitectonic@rediffmail.com

Sl.No	Description	Unit	Qty.	Rate	Amount
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ABSTRACT COST

CIVIL WORKS

1	RECHARGE PIT			Rs.	-
			TOTAL	Rs.	-

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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RECHARGE PIT

1	Excavation of foundation trenches and column foundation and pits in all kinds of soil within an initial lead and lift of 1.5 mtrs. depth including dressing the sides and leveling the bed and depositing the excavated material away from the site within an initial lead of 50 mtrs including cost of all labour, sundries, tools and plant etc., complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Cum.	1380		
2	Excavation of foundation trenches and column foundation and pits in all kinds of soil within an initial lead and lift of exceeding 1.5 mtrs. but upto 3.00 mtr. depth including dressing the sides and leveling the bed and depositing the excavated material away from the site within an initial lead of 50 mtrs including cost of all labour, sundries, tools and plant etc., complete as per the direction of the Engineer-in-charge. The rate includes dewatering of the excavated pit if any water seepage found during execution of all such related works. Rate in figure: Rate in word:	Cum.	419.814		
3	Filling foundation trenches and plinths with excavated materials in layers not exceeding 0.3 mtr in depth including watering and ramming and dressing and levelling the top proper level or gradient, including cost of all labour, sundries, tools and plants, etc. complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Cum.	700		
4	Dismantling of Reinforced Cement concrete grade including T & P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	10		
5	Dismantling Brick work in cement mortar including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	15		

Sl.No	Description	Unit	Qty.	Rate	Amount
6	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved. Rate in figure: Rate in word:	Cum.	25		
7	Providing and laying of P.C.C. of 1:4:8 (1 cement : 4 coarse sand : 8 graded crusher broken granite stone aggregate 40 mm nominal size) in foundation trenches, under floors in line level including curing and ramming etc. all complete including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge.. Rate in figure: Rate in word:	Cum.	25		
8	Providing lifting, hoisting and laying reinforced cement concrete to all type of concreting work to base of columns and footing, columns, beams, plinth band, lintels, chajja, shaft, fins, roof slabs, balconies, stair cases, parapets, window wills, lofts, railing, jally, copping or in places as shown in the drawing or as directed with 20 mm and down graded size black hard crusher broken chips of approved quality from approved quarry including mixing and vibro compacting to proper shape and size, level and plumbs and finishing the exposed surfaces smooth (if required providing plaster with cement mortar (1:4) wherever necessary without any extra cost) scaffolding, including, watering and curing the required period, including cost of all materials, labour, conveyance, loading and unloading, royalties, sundries, tools and plants, etc., complete as per direction of the Engineer-in-charge including cost of all materials and labour. M-25 Grade Concrete in Foundation and Plinth. Rate in figure: Rate in word:	Cum.	90		
9	STEEL REINFORCEMENT Providing, laying & binding of M.S. round / deformed / tor steel reinforcement bars of required diameters for straightening, cutting to size, bending, and binding the grills, lifting and placing in position at all heights & locations as per design complete including cost of bars, cost of binding wires 22 gauge, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants upto floor five level, etc. complete as per the direction of the Engineer-in-charge. (linear measurement will be taken and quantity will be calculated on standard weight of bars for all heights). Rate in figure:	Qntl.	72		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
10	Providing strong, rigid, leveled, and plumbed centering and shuttering to required shape and size, with shuttering ply or steel centering materials with all necessary bracing and tiles and supports with leveling centering covered with bituminous paper with provisions necessary holes and pockets for electrical conduits, pipes, P.H. pipes, for hooks or boxes, switch and board insert plates, clamps and extension bars etc., including dismantling the same after the required intervals from the date of casting including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge.				
(a)	Foundations, footings, bases of columns etc. for mass concrete. Rate in figure: Rate in word:	Sqm.	688		
11	K.B. brick masonry work using (250 mm x 120 mm x 80 mm) with tolerance of size K.B. bricks having crushing strength not less than 75 kg / sqcm, mix (1 cement : 6 sands) in 250 mm thick wall, immersing the bricks for minimum 6 hrs in water before use, with all necessary projection, splay cutting, circular moulding, corbelling, etc., including cost of all materials, labour, conveyance, loading, and unloading, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants etc., as per the direction of the Engineer-in-charge in foundation & plinth Rate in figure: Rate in word:	Cum.	521.76		
12	Providing and fixing in position precast R.C.C.manhole cover and frame of 600mm x 450mm internal dimension of required shape and approved quality. Rate in figure: Rate in word:	Nos.	86		
13	Boring with 150 mm diameter slot casing uPVC slotted pipe for rain water harvesting pit well in all soils except ordinary hard rocks requiring blasting including the slotted casing with uPVC pipe etc complete including cost, conveyance, taxes, T & P etc complete as per direction of Engineer-in-charge (Beyond 12 m and upto 18 m depth) Rate in figure: Rate in word:	Mtr.	1548		
14	Supplying and making filtration bed with boulder of 5-20 cm,dressed and leveled to proper gradient including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge. Rate in figure:	Cum.	377.833		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
15	Supplying and making filtration bed with gravel of 5-10 mm,dressed and leveled to proper gradient including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants, etc.,complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Cum.	335.853		
16	Supplying, filling, spreading & leveling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer –incharge. Rate in figure: Rate in word:	Cum.	377.833		
17	Providing Avg. 12 mm thick cement plaster 1:6 (1 cement : 6 sand) to outside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge in foundation, plinth. Rate in figure: Rate in word:	Sqm.	1602.16		
18	Providing Avg. 16 mm thick cement plaster 1:6 (1 cement : 6 sand) to inside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	1750		
19	Providing & placing in position RCC Precast slabs, thickness upto 75 mm, in CC 1:2:4 with 12 to 6 mm graded trap aggregate including finishing the top surface smooth with trowel, and providing lifting hooks or notches as required. Rate in figure: Rate in word:	Sqm.	1004		

Sl.No	Description	Unit	Qty.	Rate	Amount
20	Providing C.I. Gratings in decking of size upto 150 mm dia for drainage of water as per approved design and specification including cost of all materials labour, T&P etc. complete as per specification and direction of Engineer-in-charge. Rate in figure: Rate in word:	No.	86		
21	Providing ,Supplying, fixing, testing uPVC , pipes & fittings conforming to ASTM-D-1785 (sch-80) of approved make.Jointing with solvent cement solution as per ASTM-D-2564t & testing of joints complete as per direction of the Engineer-in-charge				
(i)	100 mm nominal dia pipes. Rate in figure: Rate in word:	Rmt	430		
(ii)	150 mm nominal dia pipes. Rate in figure: Rate in word:	Rmt	860		
	Rate in figure: Rate in word:				
				TOTAL :	_____ -

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q

FOR WATCH TOWER(4 nos)

OF NATIONAL LAW UNIVERSITY ODISHA, CUTTUCK

CONSULTANT :

M/s. RATH ARCHITECTONIC

PLOT NO. 104, MADHUSUDAN NAGAR

UNIT-IV, BHUBANESWAR-751001

Ph. No. (0674) 2390940, 2395340

E-mail : ratharchitectonic@rediffmail.com

Sl.No	Description	Unit	Qty.	Rate	Amount
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ABSTRACT COST

CIVIL WORKS

1 WATCH TOWER (4 NOS.)

TOTAL : -

TOTAL : -

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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**B.O.Q FOR PROPOSED WATCH TOWER (4 NOS.)
OF NLU (O)ODISHA AT NARAJ, CUTTACK**

1	Excavation of foundation trenches and column foundation and pits in all kinds of soil within an initial lead and lift of 1.5 mtrs. depth including dressing the sides and leveling the bed and depositing the excavated material away from the site within an initial lead of 50 mtrs including cost of all labour, sundries, tools and plant etc., complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Cum.	124.00		
2	Filling foundation trenches and plinths with excavated materials in layers not exceeding 0.3 mtr in depth including watering and ramming and dressing and levelling the top proper level or gradient, including cost of all labour, sundries, tools and plants, etc. complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Cum.	41.3		
3	Filling foundation trenches and plinths with sand, well watered, compacted, dressed and leveled to proper gradient including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Cum.	19.2		
4	Dismantling of Reinforced Cement concrete grade including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	8		
5	Dismantling Brick work in cement mortar including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	12		
6	Dismantling of cement concrete grade M-10 and below including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	6		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in figure: Rate in word:				
7	Dismantling of cement concrete grade M-15 including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	5		
8	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved. Rate in figure: Rate in word:	Cum.	20		
9	CEMENT CONCRETE (CAST-IN-SITU):				
(i)	Providing and laying plain cement concrete (1:4:8) in foundation and bottom layers of flooring using 40 mm size black hard crusher broken granite metal of approved quality from approved quarry including mixing, lowering, laying and compacting to proper thickness, watering and curing for the required period, including cost of all material, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools & plants etc., complete as per the direction of Engineer-in-charge. Rate in figure: Rate in word:	Cum.	18.8		
(ii)	Providing and laying plain cement concrete (1:2:4) in foundation and bottom layers of flooring using 25 mm size black hard crusher broken granite metal of approved quality from approved quarry including mixing, lowering, laying and compacting to proper thickness, watering and curing for the required period, including cost of all material, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools & plants, etc., complete as per the direction of Engineer-in-charge. Rate in figure: Rate in word:	Cum.	2.8		
10	CAST-IN-SITU R.C.C.:				

Sl.No	Description	Unit	Qty.	Rate	Amount
(i)	<p>Providing lifting, hoisting and laying reinforced cement concrete to all type of concreting work to base of columns and footing, columns, beams, plinth band, lintels, chajja, shaft, fins, roof slabs, balconies, stair cases, parapets, window wills, lofts, railing, jally, copping or in places as shown in the drawing or as directed with 20 mm and down graded size black hard crusher broken chips of approved quality from approved quarry including mixing and vibro compacting to proper shape and size, level and plumbs and finishing the exposed surfaces smooth (if required providing plaster with cement mortar (1:4) wherever necessary without any extra cost) scaffolding, including, watering and curing the required period, including cost of all materials, labour, conveyance, loading and unloading, royalties, sundries, tools and plants, etc., complete as per direction of the Engineer-in-charge including cost of all materials and labour. M-25 Grade Concrete in Foundation and Plinth.</p> <p>Rate in figure: Rate in word:</p>	Cum.	35		
(ii)	<p>Providing lifting, hoisting and laying reinforced cement concrete to all type of concreting work to base of columns and footing, columns, beams, plinth band, lintels, chajja, shaft, fins, roof slabs, balconies, stair cases, parapets, window wills, lofts, railing, jally, copping or in places as shown in the drawing or as directed with 20 mm and down graded size black hard crusher broken chips of approved quality from approved quarry including mixing and vibro compacting to proper shape and size, level and plumbs and finishing the exposed surfaces smooth (if required providing plaster with cement mortar (1:4) wherever necessary without any extra cost) scaffolding, including, watering and curing the required period, including cost of all materials, labour, conveyance, loading and unloading, royalties, sundries, tools and plants, etc upto floor five level, complete as per direction of the Engineer-in-charge including cost of all materials and labour. M-25 Grade Concrete in Superstructure.</p> <p>Rate in figure: Rate in word:</p>	Cum.	39.2		

11 FORM WORK:

Sl.No	Description	Unit	Qty.	Rate	Amount
(i)	Providing strong, rigid, leveled, and plumbed centering and shuttering to required shape and size, with shuttering ply or steel centering materials with all necessary bracing and tiles and supports with leveling centering covered with bituminous paper with provisions necessary holes and pockets for electrical conduits, pipes, P.H. pipes, for hooks or boxes, switch and board insert plates, clamps and extension bars etc., including dismantling the same after the required intervals from the date of casting including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge.				
(a)	Foundations, footings, bases of columns etc. for mass concrete. Rate in figure: Rate in word:	Sqm.	317.5		
(b)	Suspended floors, roofs, landings, balconies and access platform. Rate in figure: Rate in word:	Sqm.	108		
(c)	Columns, beams, plinth beams, girders, bressumers and cantilevers, staircase, horizontal and vertical fins, bands, coping, moulding, cornice etc. Rate in figure: Rate in word:	Sqm.	395		
12	Providing and fixing double scaffolding system (cup lock type) on the exterior side, upto seven storey 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 challies, M.S. clamps and M.S. staricase 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 lacations 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. Rate in figure: Rate in word:	Sqm.	108		
13	STEEL REINFORCEMENT:				

Sl.No	Description	Unit	Qty.	Rate	Amount
	<p>Providing, laying & binding of M.S. round / deformed / tor steel reinforcement bars of required diameters for straightening, cutting to size, bending, and binding the grills, lifting and placing in position at all heights & locations as per design complete including cost of bars, cost of binding wires 22 gauge, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants upto floor five level, etc. complete as per the direction of the Engineer-in-charge. (linear measurement will be taken and quantity will be calculated on standard weight of bars for all heights).</p> <p>Rate in figure: Rate in word:</p>	Qntl.	12.00		
14	<p>K.B. brick masonry work using (250 mm x 120 mm x 80 mm) with tolerance of size K.B. bricks having crushing strength not less than 75 kg / sqcm, mix (1 cement : 6 sands) in 250 mm thick wall, immersing the bricks for minimum 6 hrs in water before use, with all necessary projection, splay cutting, circular moulding, corbelling, etc., including cost of all materials, labour, conveyance, loading, and unloading, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants etc., as per the direction of the Engineer-in-charge in foundation & plinth</p> <p>Rate in figure: Rate in word:</p>	Cum.	8		
15	<p>K.B. brick masonry work using (250 mm x 120 mm x 80 mm) with tolerance of size K.B. bricks having crushing strength not less than 75 kg / sqcm, mix (1 cement : 6 sands) in 250 mm thick wall, immersing the bricks for minimum 6 hrs in water before use, with all necessary projection, splay cutting, circular moulding, corbelling, etc., including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants etc. upto floor five level, as per the direction of the Engineer-in-charge in superstructure.</p> <p>Rate in figure: Rate in word:</p>	Cum.	10		
16	PILE WORK :				
	<p>(i) Boring, providing and installing cast in situ double under reamed piles of specified diametre and length below pile cap in M 30 cement concrete, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and the length of the pile to be embedded in pile cap. (Length of pile for payment shall be measured upto to the bottom of pile cap).</p>				
	<p>(i) 400 mm dia. Piles</p> <p>Rate in figure:</p>	Mtr.	336.00		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
17	Vertical load (downward/uplift) and lateral load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification and the direction of Engineer-in-charge.				
	Single pile upto 50 tonne capacity				
	Initial test	Per test	4		
	Rate in figure:				
	Rate in word:				
18	Vertical load (downward/uplift) and lateral load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification and the direction of Engineer-in-charge.				
	Single pile upto 50 tonne capacity				
	Routine test	Per test	4		
	Rate in figure:				
	Rate in word:				
19	M.S. GRILL :				
	Supplying, fabricating and fixing MS grills madeup with M.S. square bar / round bar / flat as per design and drawing including applying two coat enamel paint over a coat of red oxide primer and fixing the same to wooden dor and window frames as per requirement and direction of Engineer-in-charge.	Qntl.	1.5		
	Rate in figure:				
	Rate in word:				
20	2.5 cm Artificial stone (A.S.) flooring with cement concrete (1:2:4) including punning using 12mm gauge hard broken granites chips including cost, convenance, taxes, T & P etc complete as per direction of Engineer-in-charge	Sqm.	145.00		
	Rate in figure:				
	Rate in word:				
21	Providing, fixing of G.I. railing made with 40 mm dia G.I. pipe as per design including two coats of approved coloured enamel paint over a coat of primer etc. all complete and as per the direction of Engineer-in-charge.	Mtr.	36.5		
	Rate in figure:				
	Rate in word:				

Sl.No	Description	Unit	Qty.	Rate	Amount
22	Providing, fitting & fixing of a lightening arrestor of copper shall be provided on the roof of the tank as per IS : 2309. The top of the lightening arrestor shall be above the highest point of the roof. The arrestor shall be suitably earthed with aluminium tape conductor etc. all complete and as per the direction of Engineer-in-charge. Rate in figure: Rate in word:	No.	1		
23	CEMENT PLASTER (IN COARSE SAND):				
(a)	Providing Avg. 16 mm thick cement plaster 1:6 (1 cement : 6 sand) to outside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	250		
(b)	Providing Avg. 12 mm thick cement plaster 1:6 (1 cement : 6 sand) to inside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	36		
(c)	Providing average 6 mm thick cement plaster under ceiling, chajja and beam proportion 1:4 cement mortar including chipping slurring etc. complete.as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	85		
24	Forming groove of uniform size from 12 mm x 12 mm and upto 25 mm x 15 mm in plastered surface as per approved pattern using wooden battens, nailed to the under layer including removal of wooden battens, repairs to the edges of plaster panel and finishing the groove complete as per specifications and direction of the Engineer-in-Charge. Rate in figure: Rate in word:	Rmt.	36		

Sl.No	Description	Unit	Qty.	Rate	Amount
25	Providing and applying 2 coats acrylic based weather coat paint (exterior quality) of approved make, which includes two coat of exterior putty over a coat of primer of approved brand & shade over the surfaces including preparation of surface, with cost of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	250		
26	INSIDE WALL PAINTING :				
(a)	Supplying and painting of internal walls and ceiling with two or more coats of acrylic emulsion paint of approved make, which includes two coat of internal putty with a coat of primer all complete. The shade and brand to be approved by NLUO/ Architect before execution of paint work. Rate in figure: Rate in word:	Sqm.	160.90		
(b)	Supplying and painting of enamel paint with two or more coats of approved make on the surface to be finished with required thickness internal putty which includes one coat of primer of approved brand all complete. The shade and brand/make to be approved by NLUO/ Architect before execution of painting work. Rate in figure: Rate in word:	Sqm.	18.00		
27	M.S. LADDERS : Providing, fitting & fixing of M.S. ladders provided with steel ladder along with hand rails made of series of M.S. steel bars. The steel ladders shall be study and should be fastend and anchored to the concrete by means of anticorrosive inserts and bolts. Rate in figure: Rate in word:	Qnt	6		
28	WATER PROOFING:				
(a)	EXTERNAL WATER PROOFING:				

Sl.No	Description	Unit	Qty.	Rate	Amount
	<p>Supplying & applying one coat with approved make external water proofing @5kg with white cement/50kg bag and water to the external wall of the painting(weathercoat) area followed by two coat of with approved make weather coat paint.all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	108		
(b)	<p>R.C.C ROOF WATER PROOFING: Providing and cleaning of RCC surface and wall to remove dust and loosely adhering particles completely. Supply and application of 1:3 cement – sand mortar , mixed with approved make water proofing – the polymer modified high quality emulsion, as a coving at the corners of roof slab and between slab and walls in the remaining area all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	85		
(c)	<p>PLASTERING WATER PROOFING: Providing of Integral Waterproofing admixture confirms IS:2645 on plaster surface and consumption should be100gm/50kg bag inclding all material,labour,tool and taxes complete.as per the direction of the Engineer-in-charge.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	371		
29	<p>Extra for supplying and applying concrete bonding agent compound for obtaining proper bonding between old concrete and new concrete. The bonding agent compound shall be of approved make as directed by Engineer-in-charge which shall be applied as per manufacturer's specification and the quantity shall be measured in liters.</p> <p>Rate in figure: Rate in word:</p>	KG.	5.6		
30	<p>Extra for supplying and mixing approved quality concrete admixture as per manufacturer's specification in all kind of concrete work at any location as per approved make. The admixture shall be based on the design mix of cement which shall be carried out by the contractor prior to start of work.</p> <p>Rate in figure: Rate in word:</p>	KG.	221.54		
31	<p>Providing gola 75 x 75 mm in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 stone aggregate 10 mm and down gauge) including finishing with cement mortar 1 : 3 (1 cement : 3 fine sand) as per standard design.</p>				

Sl.No	Description	Unit	Qty.	Rate	Amount
	In 75 x 75 mm deep chase	Mtr.	48		
	Rate in figure:				
	Rate in word:				
32	Supplying all materials, labour and tools and plant and fixing 100 mm dia uPVC rain water / sewerage pipes and fitting to walls with nails and uPVC hooks, bobbins and wooden plugs as required with all fittings such as plain / door bends, tees, Y-piece and short pieces etc. at all heights.	Rmt.	72		
	Rate in figure:				
	Rate in word:				
	Rate in figure:				
	Rate in word:				
				TOTAL:	-

For M/s. RATH ARCHITECTONIC

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q

OF BALANCE WORK OF FIRE FIGHTING U.G.SUMP(100 CUM)-4 Nos & PUMP

FOR

PROPOSED NATIONAL LAW UNIVERSITY ODISHA

AT NARAJ, CUTTACK

CONSULTANT :

M/s. RATH ARCHITECTONIC

PLOT NO. 104, MADHUSUDAN NAGAR

UNIT-IV, BHUBANESWAR-751001

Ph. No. (0674) 2390940, 2395340

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Sl.No	Description	Unit	Qty.	Rate	Amount
ABSTRACT COST					
CIVIL WORKS					
1	FIRE FIGHTING U.G. SUMP(4 NOS.) & PUMP ROOM(4 NOS.)			Rs.	-
				TOTAL	Rs. -

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
B.O.Q OF BALANCE WORK OF FIRE FIGHTING U.G.SUMP(100 CUM)-4 Nos & PUMP ROOM-4 Nos. FIRE FIGHTING U.G.SUMP-(6MtrX5MtrX3.625Mtr) & PUMP ROOM- (7MtrX5MtrX4Mtr)					
1	Excavation of foundation trenches and column foundation and pits in all kinds of soil within an initial lead and lift of 1.5 mtrs. depth including dressing the sides and leveling the bed and depositing the excavated material away from the site within an initial lead of 50 mtrs including cost of all labour, sundries, tools and plant etc., complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Cum.	373.14		
2	Excavation of foundation trenches and column foundation and pits in all kinds of soil within an initial lead and lift of exceeding 1.5 mtrs. but upto 3.00 mtr. depth including dressing the sides and leveling the bed and depositing the excavated material away from the site within an initial lead of 50 mtrs including cost of all labour, sundries, tools and plant etc., complete as per the direction of the Engineer-in-charge. The rate includes dewatering of the excavated pit if any water seepage found during execution of all such related works. Rate in figure: Rate in word:	Cum.	54.702		
3	Filling foundation trenches and plinths with excavated materials in layers not exceeding 0.3 mtr in depth including watering and ramming and dressing and levelling the top proper level or gradient, including cost of all labour, sundries, tools and plants, etc. complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Cum.	142.61		
4	Filling foundation trenches and plinths with sand, well watered, compacted, dressed and leveled to proper gradient including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Cum.	81.24		
5	Dismantling of Reinforced Cement concrete grade including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	15		

Sl.No	Description	Unit	Qty.	Rate	Amount
6	Dismantling Brick work in cement mortar including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	20		
7	Dismantling of cement concrete grade M-10 and below including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	6		
8	Dismantling of cement concrete grade M-15 including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	8		
9	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved. Rate in figure: Rate in word:	Cum.	35		
10	Providing and laying of P.C.C. of 1:4:8 (1 cement : 4 coarse sand : 8 graded crusher broken granite stone aggregate 40 mm nominal size) in foundation trenches, under floors in line level including curing and ramming etc. all complete including cost, conveyance, taxes, T & P etc complete as per requirement and direction of Engineer-in-charge. Rate in figure: Rate in word:	Cum.	81.5		
11	Providing and laying plain cement concrete (1:2:4) in foundation and bottom layers of flooring using 25 mm size black hard crusher broken granite metal of approved quality from approved quarry including mixing, lowering, laying and compacting to proper thickness, watering and curing for the required period, including cost of all material, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools & plants, etc., complete as per the direction of Engineer-in-charge. Rate in figure: Rate in word:	Cum.	50		

Sl.No	Description	Unit	Qty.	Rate	Amount
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12 ANTI-TERMITE TREATMENT :

- (i) Providing pre construction anti-termite treatment with chemical

emulsion Chloropyrifos EC 20% with 1% concentration. Sqm. 602.5
Rate in figure:
Rate in word:

The chemical emulsion shall be in required dosage on entire area of ground and wall trenches as follow.

- (a) Bottom surface, sides of foundation trenches, column pits and basement. At the rate of 5 litres per sqm. of surface area.
- (b) After the foundation for the walls, columns, piers and retaining walls of the basement come up treat the back fill earth in immediate contact with face side of the foundation. At the rate of 7.5 litres per sqm. of vertical surface of foundation.
- (c) Prior to laying the sand bed or subgrade for the ground floor of the building, to surface of consolidated earth filling with in the plinth walls should be levelled and treated. At the rate of 5 litres per sqm. of surface area.
- (d) Junctions of wall and floor shall be treated by making 30 mm wide 30 mm deep channels at the junction. Holes are made in the channel at 150 mm apart up to ground level with crow bar then chemical emulsion is poured. At the rate of 7.5 litres per sqm. of vertical wall or column surface.
- (e) External periphery shall be treated by making 300 mm deep holes at 150 mm centre and filled with chemicals. At the rate of 7.5 litres per sqm.

13 WATER PROOFING:-

- (i) Providing and laying water proofing treatment to inside surfaces of the U.G. Sump of the following operation.
- (a) R.C.C. surface to be cleared of all dirt, loose material and kept dry and holes / cracks to be repaired with cement putty using bonding agent of approved manufactures. The prepared surface shall be coated with two coats of acrylic polymer modified cementitious (PMC) slurry coating upto the finished floor level. The second coat shall be applied after the first coat has dried.
- (b) Applying one coat of acrylic polymer modified cement brush topping over PMC slurry coating after the last PMC slurry coat has dried.

Sl.No	Description	Unit	Qty.	Rate	Amount
(c)	<p>Providing a protective layer over the treated surface by laying 20 mm thick cement plaster 1 : 4 (1 cement : 4 coarse sand) mixed with approved water proofing compound when the treatment sets dry.</p> <p>Rate in figure: Rate in word:</p>	Sqm	486.5		
(ii)	<p>PLASTERING WATER PROOFING:</p> <p>Providing of Integral Waterproofing admixture confirms IS:2645 on plaster surface and consumption should be 100gm/50kg bag including all material, labour, tool and taxes complete as per the direction of the Engineer-in-charge.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	1242		
(iii)	<p>EXTERNAL WATER PROOFING:</p> <p>Supplying & applying one coat with approved make external water proofing @5kg with white cement/50kg bag and water to the external wall of the painting (weathercoat) area followed by two coats of with approved make weather coat paint. All complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	444		
(iv)	<p>R.C.C ROOF WATER PROOFING:</p> <p>Providing and cleaning of RCC surface and wall to remove dust and loosely adhering particles completely. Supply and application of 1:3 cement – sand mortar, mixed with approved make water proofing – the polymer modified high quality emulsion, as a coving at the corners of roof slab and between slab and walls in the remaining area all complete and including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	265		

Sl.No	Description	Unit	Qty.	Rate	Amount
14	<p>Providing lifting, hoisting and laying reinforced cement concrete to all type of concreting work to base of columns and footing, columns, beams, plinth band, lintels, chajja, shaft, fins, roof slabs, balconies, stair cases, parapets, window wills, lofts, railing, jally, copping or in places as shown in the drawing or as directed with 20 mm and down graded size black hard crusher broken chips of approved quality from approved quarry including mixing and vibro compacting to proper shape and size, level and plumbs and finishing the exposed surfaces smooth (if required providing plaster with cement mortar (1:4) wherever necessary without any extra cost) scaffolding, including, watering and curing the required period, including cost of all materials, labour, conveyance, loading and unloading, royalties, sundries, tools and plants, etc., complete as per direction of the Engineer-in-charge including cost of all materials and labour. M-20 Grade Concrete in Foundation and Plinth.</p> <p>Rate in figure: Rate in word:</p>	Cum	110		
15	<p>Providing lifting, hoisting and laying reinforced cement concrete to all type of concreting work to base of columns and footing, columns, beams, plinth band, lintels, chajja, shaft, fins, roof slabs, balconies, stair cases, parapets, window wills, lofts, railing, jally, copping or in places as shown in the drawing or as directed with 20 mm and down graded size black hard crusher broken chips of approved quality from approved quarry including mixing and vibro compacting to proper shape and size, level and plumbs and finishing the exposed surfaces smooth (if required providing plaster with cement mortar (1:4) wherever necessary without any extra cost) scaffolding, including, watering and curing the required period, including cost of all materials, labour, conveyance, loading and unloading, royalties, sundries, tools and plants, etc upto floor five level, complete as per direction of the Engineer-in-charge including cost of all materials and labour. M-25 Grade Concrete in Superstructure.</p> <p>Rate in figure: Rate in word:</p>	Cum.	197.77		
16	<p>Providing & laying 40 mm thick damp-proof course to all masonry works as per specifications in 1:2:4 with 12.5 mm and downsized aggregates the DPC shall be laid in two layers of 20 mm thick each etc. complete as per specification, drawings and as directed by Engineer-in-charge.</p> <p>Rate in figure: Rate in word:</p>	Sqm.	8		

Sl.No	Description	Unit	Qty.	Rate	Amount
17	Providing precast RCC Jali, 50 mm thick, fixing in position with Cement mortar 1:3 as per required design and pattern. The rate includes cost of all materials, labour, conveyance, loading and unloading, royalties, sundries, tools and plants, scaffolding, curing etc., complete as per direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	2		
18	Providing & placing in position RCC Precast slabs, thickness upto 75 mm, in CC 1:2:4 with 12 to 6 mm graded trap aggregate including finishing the top surface smooth with trowel, and providing lifting hooks or notches as required. Rate in figure: Rate in word:	Sqm.	8		
19	Providing RCC Racks / selves, counter slabs, benches thickness upto 75 mm, having full bearing on wall and projection upto 600 mm in CC 1:2:4 with 12 to 6 mm graded trap aggregate. The top surface and exposed edges shall be finished with neat cement punning over 12 mm thick cement plaster 1:6. Rate in figure: Rate in word:	Sqm.	6		
20	Providing, laying & binding of M.S. round / deformed / tor steel reinforcement bars of required diameters for straightening, cutting to size, bending, and binding the grills, lifting and placing in position at all heights & locations as per design complete including cost of bars, cost of binding wires 22 gauge, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants upto floor five level, etc. complete as per the direction of the Engineer-in-charge. (linear measurement will be taken and quantity will be calculated on standard weight of bars for all heights). Rate in figure: Rate in word:	Qntl	95.00		
21	Providing strong, rigid, leveled, and plumbed centering and shuttering to required shape and size, with shuttering ply or steel centering materials with all necessary bracing and tiles and supports with leveling centering covered with bituminous paper with provisions necessary holes and pockets for electrical conduits, pipes, P.H. pipes, for hooks or boxes, switch and board insert plates, clamps and extension bars etc., including dismantling the same after the required intervals from the date of casting including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge.				
(a)	Foundations, footings, bases of columns etc. for mass concrete.	Sqm.	867.66		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in figure: Rate in word:				
(b)	Suspended floors, roofs, landings, balconies and access platform. Rate in figure: Rate in word:	Sqm.	311.4		
(c)	Columns, beams, plinth beams, girders, bressumers and cantilevers, staircase, horizontal and vertical fins, bands, coping, moulding, cornice etc. Rate in figure: Rate in word:	Sqm.	620		
(d)	lintel Rate in figure: Rate in word:	Sqm.	20		
(e)	R.C.C. wall & fins Rate in figure: Rate in word:	Sqm.	504		
22	K.B. brick masonry work using (250 mm x 120 mm x 80 mm) with tolerance of size K.B. bricks having crushing strength not less than 75 kg / sqcm, mix (1 cement : 6 sands) in 250 mm thick wall, immersing the bricks for minimum 6 hrs in water before use, with all necessary projection, splay cutting, circular moulding, corbelling, etc., including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants etc. upto floor five level, as per the direction of the Engineer-in-charge in foundation,plinth . Rate in figure: Rate in word:	Cum.	15		
23	K.B. brick masonry work using (250 mm x 120 mm x 80 mm) with tolerance of size K.B. bricks having crushing strength not less than 75 kg / sqcm, mix (1 cement : 6 sands) in 250 mm thick wall, immersing the bricks for minimum 6 hrs in water before use, with all necessary projection, splay cutting, circular moulding, corbelling, etc., including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants etc. upto floor five level, as per the direction of the Engineer-in-charge in superstructure. Rate in figure: Rate in word:	Cum.	60		

Sl.No	Description	Unit	Qty.	Rate	Amount
24	Providing average 25 mm thick grading plaster with mix 1:2:4 (1 cement : 2 sand : 4 bazuri) of cement mortar using 2% water proofing compound (of cement) of approved make (pedilite, sika or equivalent) and quality on top of roof terrace of all floors including scrapping and cleaning the roof plastering and finishing smooth to proper slope and gradient, including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, watering. Rate in figure: Rate in word:	Sqm	311.4		
25	Providing gola 75 mm x 75 mm in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 stone aggregate 10 mm and down gauge) including finishing with cement mortar 1:3 (1 cement : 3 fine sand) all complete as per direction of Engineer-in-charge. In 75 mm x 75 mm deep chase. Rate in figure: Rate in word:	Mtr.	156		
26	Providing 12 mm thick cement plaster in cement mortar (1:3) in inside surface of brick masonry finished smooth with a floating coat of neat cement on walls and bed concrete etc. all complete and as per direction of Engineer-in-charge for all heights. Rate in figure: Rate in word:	Sqm.	533		
27	Providing Avg. 16 mm thick cement plaster 1:6 (1 cement : 6 sand) to outside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	444		
28	Providing average 6 mm thick cement plaster under ceiling, chajja and beam proportion 1:4 cement mortar including chipping slurring etc. complete.as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	265		
29	Providing & applying cement punning over cement plaster as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	798		
30	Providing weather drip nosing of size 40 mm x 12 mm deep in cement mortar proportion 1 : 3.	Mtr.	35.1		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in figure: Rate in word:				
31	Making raised band upto 600 mm wide and 12 mm projection from the plastered surface in cement plaster 1 : 3, over masonry or concrete surface. Rate in figure: Rate in word:	Mtr	96.00		
32	Forming groove of uniform size from 12 mm x 12 mm and upto 25 mm x 15 mm in plastered surface as per approved pattern using wooden battens, nailed to the under layer including removal of wooden battens, repairs to the edges of plaster panel and finishing the groove complete as per specifications and direction of the Engineer-in-Charge. Rate in figure: Rate in word:	Mtr.	160		
33	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 mx1 mx400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement,rounding the edges, making and finishing the outlet complete. Rate in figure: Rate in word:	Nos.	4		
34	Extra for supplying and applying concrete bonding agent compound for obtaining proper bonding between old concrete and new concrete. The bonding agent compound shall be of approved make as directed by Engineer-in-charge which shall be applied as per manufacturer's specification and the quantity shall be measured in liters. Rate in figure: Rate in word:	KG.	35		
35	Extra for supplying and mixing approved quality concrete admixture as per manufacturer's specification in all kind of concrete work at any location of approved make. The admixture shall be based on the design mix which shall be carried out by the contractor prior to start of work. Rate in figure: Rate in word:	KG.	980		
36	Providing and fixing circular / hexagonal M.S. sheet ceiling fan box 73 mm height make out of 1.5 mm thick M.S. sheet welded with 12 mm dia M.S. bar bent to shape with provision of conduit inlet all complete as per direction of Engineer-in-charge. The box shall be finished with two coats of anticorrosive paints. Rate in figure: Rate in word:	Nos.	4		

Sl.No	Description	Unit	Qty.	Rate	Amount
37	Providing and applying 2 coats acrylic based weather coat paint (exterior quality) of approved make, which includes two coat of exterior putty over a coat of primer of approved brand & shade over the surfaces including preparation of surface, with cost of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	444		
38	INSIDE WALL PAINTING :				
(a)	Supplying and painting of internal walls and ceiling with two or more coats of acrylic emulsion paint of approved make, which includes two coat of internal putty with a coat of primer all complete. The shade and brand to be approved by NLUO/ Architect before execution of paint work. Rate in figure: Rate in word:	Sqm.	709		
(b)	Supplying and painting of enamel paint with two or more coats of approved make on the surface to be finished with required thickness internal putty which includes one coat of primer of approved brand all complete. The shade and brand/make to be approved by NLUO/ Architect before execution of painting work. Rate in figure: Rate in word:	Sqm.	7		
39	ALUMINIUM WINDOW: Supplying, fitting and fixing of colour anodized Aluminium sections of approved make for two track / three track windows and ventilators frame for chowkath stays, style handles, approved locking arrangements complete with 5.5 mm thick clear glass (weight not less than 13.75 kg/sqmm) including PVC / Neoprene gasket, rollers, aluminium snap beading etc. all complete and as per the architectural drawings and direction of Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	30.78		
40	Supplying, fabricating and fixing MS grills madeup with M.S. square bar / round bar / flat as per design and drawing including applying two coat enamel paint over a coat of red oxide primer and fixing the same to wooden dor and window frames as per requirement and direction of Engineer-in-charge. Rate in figure: Rate in word:	Qntl.	7.695		

Sl.No	Description	Unit	Qty.	Rate	Amount
41	DOORS:				
	(a) M.S.DOOR :				
	Supplying, fitting and fixing of M.S.door with Single Leaf outer frame made of 35x35x5 mm equal M.S L angle and shutter frame made of 25 x25 x5mm equal M.S. L angle for horizontal and vertical members and the shutter frame strengthened by stiffeners of 2 Nos. Horizontal and 3 Nos. diagonal using MS flat of size 20x5mm fully covered with 18 gauge plain M.S full sheet welded with shutter frame neatly,with,fixing on shutter welded mesh as per drawing and design and also fixing by welding 6 Nos. of holdfasts, 1 No. of wind appliance , 2 Nos. of tower bolts,1 No of aldrop,2 Nos of handles, fixing the shutter with 6 Nos. of hinges with outer frame of the door including painting the whole unit with two coat of best quality of red oxide primer and enamel paint of approved shade all complete as per drawing and direction of Engineer-in-charge .				
	Rate in figure:	Sqm.	16.965		
	Rate in word:				
42	STAINLESS STEEL RAILING WITH HANDLE :				
	Providing, fixing of stainless steel railing using 304 grade 18 gauge 50 mm dia, 25 mm dia, S.S. pipes, 75 mm dia, S.S. Ball and 50 mm dia, S.S. cap including cutting the pipes into length as per design and jointing the pieces using electrode welding fixing the frame in position including grinding the welded section joints to obtain smooth joints and finally polishing the joints to complete the railing work all complete as per design. etc. all complete and as per the direction of Engineer-in-charge.				
	Rate in figure:	Rmt.	40		
	Rate in word:				
43	PLINTH PROTECTION WORK :				
	Making plinth protection 50 mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) over 75 mm bed of dry brick ballast 40 mm nominal size well rammed and consolidated and grouted with fine sand including finishing the top smooth.				
	Rate in figure:	Sqm.	160		
	Rate in word:				
44	2.5 cm Artificial stone (A.S.) flooring with cement concrete (1:2:4) including punning using 12mm gauge hard broken granites chips including cost, convenance, taxes, T & P etc complete as per direction of Engineer-in-charge				
		Sqm.	295		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in figure: Rate in word:				
45	Providing flooring with 300 x 300 x 25 mm PCC Designer's Tiles of approved make , design and shade set over 20 mm thick cement mortar (1:3) mix joint panted with pigment to match the shade of the tiles, laid in panels or in patterns with necessary levelling course in floor, dado, risers and treads of steps, pathways etc. including cost of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants etc. complete as per the direction of the Engineer-in-charge. Base rate- 950.00/- to 1050/-per sqm. Rate in figure: Rate in word:	Sqm.	40		
46	Providing and fixing in position precast R.C.C.manhole cover and frame of 600mm x 450mm internal dimension of required shape and approved quality. Rate in figure: Rate in word:	Nos.	4		
47	Providing and fixing M.S. footrest with 20x20x10cm cement concrete blocks 1:3:6(1 cement:3 coarse sand:6 graded stone aggregate 20mm nominal size) as per standard design with 20x20 mm square bar.etc., complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Nos.	40		
48	Supplying all materials, labour and tools and plant and fixing 100 mm dia PVC rain water / sewerage pipes and fitting to walls with nails and PVC hooks, bobbins and wooden plugs as required with all fittings such as plain / door bends, tees, Y-piece and short pieces etc. at all heights. Rate in figure: Rate in word:	Rmt.	40		
				Total:	-
	Rate in figure: Rate in word:				

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q
OF EXT- DOMESTIC AND TREATED WATER SUPPLY
FOR
PROPOSED NATIONAL LAW UNIVERSITY ODISHA
AT NARAJ, CUTTACK

CONSULTANT :

M/s. RATH ARCHITECTONIC

PLOT NO. 104, MADHUSUDAN NAGAR

UNIT-IV, BHUBANESWAR-751001

Ph. No. (0674) 2390940, 2395340

E-mail : ratharchitectonic@rediffmail.com

Sl.No	Description	Unit	Qty.	Rate	Amount
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ABSTRACT COST

CIVIL WORKS

1	EXT. DOMESTIC AND TREATED WATER SUPPLY			Rs.	
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TOTAL

Rs.

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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**B.O.Q OF DOMESTIC AND TREATED WATER SUPPLY
FOR PROPOSED NATIONAL LAW UNIVERSITY ODISHA AT NARAJ, CUTTACK**

Sl.No	Description	Unit	Qty.	Rate	Amount
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- | | | | | | |
|---|---|------|------|--|--|
| 1 | Excavation in all types of soil for laying water supply pipes upto 100mm dia.including forming bottom surface to requiried level, refilling selected excavated earth around the pipe in layers 150mm thick, watering .Consolidating and disposing off the surplus earth within the site as directed by the engineer with a lead of aproximately 500m complete. (Depth upto 1.50 below ground level)
Rate in figure:
Rate in word: | Cum. | 2306 | | |
| 2 | Dismantling of Reinforced Cement concrete grade including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.
Rate in figure:
Rate in word: | Cum. | 25 | | |
| 3 | Dismantling Brick work in cement mortar including T & P and scaffolding wherever necessary, sorting the dismentled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge..
Rate in figure:
Rate in word: | Cum. | 18 | | |
| 4 | Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.
Rate in figure:
Rate in word: | Cum. | 43 | | |
| 5 | Filling foundation trenches and plinths with excavated materials in layers not exceeding 0.3 mtr in depth including watering and ramming and dressing and levelling the top proper level or gradient, including cost of all labour, sundries, tools and plants, etc. complete as per the direction of the Engineer-in-charge.
Rate in figure:
Rate in word: | Cum. | 2230 | | |

Sl.No	Description	Unit	Qty.	Rate	Amount
6	Providing and fixing of M.S. black steel heavy duty (Class `C') pipes (IS:1239 Part-I), and fitting like flanges (MS steel flanges tees, elbows, bends, Junctions, Reducers etc; clamps / structural steel supports as required/directed at site including cutting & making good the walls, RCC work etc cutting chases & filling the same with cement conc. 1:3:6 including painting the exposed pipes with desired shade of enamel over a coat of primer.etc complete as per direction of the Engineer-in-charge.				
(i)	100 mm dia M.S pipe Rate in figure: Rate in word:	Rmt	30		
(ii)	80 mm dia M.S pipe Rate in figure: Rate in word:	Rmt	15		
(iii)	65 mm dia M.S pipe Rate in figure: Rate in word:	Rmt	30		
(iv)	100 mm dia M.S long radius bend Rate in figure: Rate in word:	Nos	6		
(v)	80 mm dia M.S long radius bend Rate in figure: Rate in word:	Nos	3		
(vi)	65 mm dia M.S long radius bend Rate in figure: Rate in word:	Nos	6		
(vii)	50 x 80 mm dia M.S ecentric reducer Rate in figure: Rate in word:	Nos	3		
(viii)	50 x 65 mm dia M.S ecentric reducer Rate in figure: Rate in word:	Nos	3		
(ix)	40 x 65 mm dia M.S ecentric reducer Rate in figure: Rate in word:	Nos	3		
(x)	100 mm dia M.S tee Rate in figure: Rate in word:	Nos	2		
(xi)	100 mm dia M.S flange Rate in figure: Rate in word:	Nos	6		

Sl.No	Description	Unit	Qty.	Rate	Amount
(xii)	50 mm dia M.S flange Rate in figure: Rate in word:	Nos	8		
(xiii)	65 mm dia M.S flange Rate in figure: Rate in word:	Nos	6		
(xiv)	75 mm dia M.S flange Rate in figure: Rate in word:	Nos	10		
7	Providing ,Supplying, fixing, testing uPVC , pipes & fittings conforming to ASTM-D-1785 (sch-80) of approved make.Jointing with solvent cement solution as per ASTM-D-2564t ,testing of joints etc complete as per direction of the Engineer-in-charge.				
(i)	32mm nominal dia pipes. Rate in figure: Rate in word:	Rmt	60		
(ii)	40mm nominal dia pipes. Rate in figure: Rate in word:	Rmt	180		
(iii)	50mm nominal dia pipes. Rate in figure: Rate in word:	Rmt	350		
(iv)	65mm nominal dia pipes. Rate in figure: Rate in word:	Rmt	600		
(v)	80mm nominal dia pipes. Rate in figure: Rate in word:	Rmt	350		
(vi)	100 mm nominal dia pipes. Rate in figure: Rate in word:	Rmt	1900		
(vii)	150 mm nominal dia pipes. Rate in figure: Rate in word:	Rmt	3100		
(viii)	200 mm nominal dia pipes. Rate in figure: Rate in word:	Rmt	100		
8	Providing ,Supplying, fixing, testing uPVC fittings conforming to ASTM-D-1785 (sch-80) of approved make.Jointing with solvent cement solution as per ASTM-D-2564 , complete as per direction of the Engineer-in-charge.				

Sl.No	Description	Unit	Qty.	Rate	Amount
(i)	200 mm dia bend(90 deg) Rate in figure: Rate in word:	Nos	6		
(ii)	150 mm dia bend(90 deg) Rate in figure: Rate in word:	Nos	60		
(iii)	100 mm dia bend(90 deg) Rate in figure: Rate in word:	Nos	40		
(iv)	80 mm bend(90 deg) Rate in figure: Rate in word:	Nos	20		
(v)	65 mm dia bend(90 deg) Rate in figure: Rate in word:	Nos	20		
(vi)	50 mm dia bend(90 deg) Rate in figure: Rate in word:	Nos	20		
(vii)	40 mm dia bend(90 deg) Rate in figure: Rate in word:	Nos	15		
(viii)	200 mm dia tee Rate in figure: Rate in word:	Nos	6		
(ix)	150 mm dia tee Rate in figure: Rate in word:	Nos	30		
(x)	100 mm dia tee Rate in figure: Rate in word:	Nos	20		
(xi)	100 mm x 65 mm reducing tee Rate in figure: Rate in word:	Nos	6		
(xii)	100 mm x 50 mm reducing tee Rate in figure: Rate in word:	Nos	5		
(xiii)	100 mm x 40 mm reducing tee Rate in figure: Rate in word:	Nos	10		
(xiv)	100 mm x 32 mm reducing tee Rate in figure: Rate in word:	Nos	5		

Sl.No	Description	Unit	Qty.	Rate	Amount
(xv)	80mm x 40 mm reducing tee Rate in figure: Rate in word:	Nos	6		
(xvi)	80 mm x 32 mm reducing tee Rate in figure: Rate in word:	Nos	6		
(xvii)	80 mm x 25 mm reducing tee Rate in figure: Rate in word:	Nos	5		
(xviii)	65 mm x 50 m reducing tee Rate in figure: Rate in word:	Nos	8		
(xix)	50 mm x 40 mm reducing tee Rate in figure: Rate in word:	Nos	5		
(xx)	50 mm x 32 mm reducing tee Rate in figure: Rate in word:	Nos	6		
(xxi)	100 mm x 65 mm reducer Rate in figure: Rate in word:	Nos	6		
(xxii)	200 mm x 150 mm reducer Rate in figure: Rate in word:	Nos	5		
(xxiii)	150 mm x 100 mm reducer Rate in figure: Rate in word:	Nos	6		
(xxiv)	150 mm x 65 mm reducer Rate in figure: Rate in word:	Nos	6		
(xxv)	150 mm x 50 mm reducer Rate in figure: Rate in word:	Nos	12		
(xxvi)	100 mm x 80 mm reducer Rate in figure: Rate in word:	Nos	5		
(xxvii)	100 mm x 50 mm reducer Rate in figure: Rate in word:	Nos	6		
(xxviii)	80 mm x 65 mm reducer Rate in figure: Rate in word:	Nos	5		

Sl.No	Description	Unit	Qty.	Rate	Amount
(xxix)	65 mm x 50 mm reducer Rate in figure: Rate in word:	Nos	6		
(xxx)	50 mm x 40 mm reducer Rate in figure: Rate in word:	Nos	5		
(xxxi)	40 mm x 32 mm reducer Rate in figure: Rate in word:	Nos	6		
(xxxii)	150 mm upvc flange Rate in figure: Rate in word:	Nos	100		
(xxxiii)	100 mm upvc flange Rate in figure: Rate in word:	Nos	100		
(xxxiv)	150 mm coupler Rate in figure: Rate in word:	Nos	300		
(xxxv)	100 mm coupler Rate in figure: Rate in word:	Nos	150		
(xxxvi)	80 mm coupler Rate in figure: Rate in word:	Nos	50		
(xxxvii)	65 mm coupler Rate in figure: Rate in word:	Nos	50		
(xxxviii)	50 mm coupler Rate in figure: Rate in word:	Nos	40		
(xxxix)	solvent cement(500 ml) Rate in figure: Rate in word:	Nos	400		
(xl)	Primer(500 ml) Rate in figure: Rate in word:	Nos	200		
(xli)	32 mm UNION Rate in figure: Rate in word:	Nos	4		
(xlii)	32 mm Male thread adoptor(brass) Rate in figure: Rate in word:	Nos	8		

Sl.No	Description	Unit	Qty.	Rate	Amount
(xlili)	Mosquito proof coupling in vent pipe Rate in figure: Rate in word:	Nos	4		
9	Providing, fitting & fixing of 100 mm dia (puddle Flanged ends MS plate 6 mm thick);etc complete as per direction of the Engineer-in-charge. Rate in figure: Rate in word:	Nos	10		
10	Providing, fitting & fixing of 80 mm dia (puddle Flanged ends MS plate 6 mm thick); etc complete as per direction of the Engineer-in-charge. Rate in figure: Rate in word:	Nos	6		
11	Providing, fitting & fixing of 65 mm dia (puddle Flanged ends MS plate 6 mm thick); etc complete as per direction of the Engineer-in-charge. Rate in figure: Rate in word:	Nos	6		
12	Providing, fitting & fixing pvc rung 200 mm X 300mm (inside u.g.r.)etc. all complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos	30		
13	Providing, fitting & fixing FRP cicular man hole cover with frame of 600 mm dia (for flushing water u.g.r) etc. all complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos	8		
14	Supplying, installing, testing and commissioning of submersible dewatering pump .The pump shall have ss motor body with ip 68 protection, ac thermal protection ,dry motor construction with sealing chamber etc. all complete as per direction of Engineer-in-charge. Purpose=Disposal of water from STP treated water U.G.R Location - Inside ugr sump Flow =200 lit/min Head= 5 met single phase Motor HP= 0.8 Rate in figure: Rate in word:	Nos	2		
15	Providing and testing of packaged variable speed drive type skid mounted hydropneumatic system comprising of :-				

Sl.No	Description	Unit	Qty.	Rate	Amount
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Pumps should be of vertical, non self-priming, multistage, in-line centrifugal pump with cartridge type mechanical seal. Impellers and intermediate chambers should be made of stainless steel DIN W. Nr 1.4301. Pump head and base should be made of Cast iron. All cast iron parts should be coated with Cathodic Electrolysis Deposition (CED) of thickness 18 +/- 4 µm. Pipe work connection to pumps should be via DIN flanges. Motors should be of TEFC design, IE2 eff class, flange mounting – top pull out design, 2-pole with operating speed of 2900 rpm, suitable for 400/440 Volts, 3 phase, 50 Hz A.C, double-lock drive end bearings to withstand high thrust, insulation class F, Enclosure class - IEC 60034. Rated bearing life of motors should be of L10 grade and Maximum noise level should be 72dB at 1 meter level. Temperature rise of motors should confirm to class B. Vibration level of motors should be according to ISO 10816. Motors having RMS vibration speed below than 2.8 mm/sec will be acceptable.

Delivery manifolds in Hot Dip Galvanized steel (80-110micron) with DIN standard flange connections. Suitable range of 10 bar pressure gauges (WIKA make) and 16 bar pressure transmitter (Danfoss make) should be connected at the discharge manifolds. One non-return valve and isolating valves for each pump is provided in delivery side and one isolating valve is provided in individual suction side. Manifolds and valves are suitable for 16bar pressure rating. Pumps should be mounted on the common base frame. Base frame and panel side support is in Galvanized steel.

Control cabinet with an IP 41 enclosure of suitable rating with the keypad and display screen mounted through the outer door. In addition to the electronic pump controller, the control cabinet shall include single Danfoss makes VFD, circuit breakers for each pump and the control circuit, control relays for alarm functions and fuses. Control cabinet shall include the Motor protection, Dry run protection, Ethernet connectivity (Web based control), 320 X 240 pixels colour display unit., Pump Fault Lights – A Red light for fault indications, Visual Alarm, Manual Operation. Pump Logic controller manufacturer shall be listed by and bear the label of Underwriter's Laboratory Inc (UL). The controller shall be specifically designed for variable speed pumping applications.

Automatic case cade function should ensure that, pumps should automatically adopt to variable demand condition by switching the pumps ON or OFF. Pumps should runs at energy efficiently with limited no of pumps. The pump logic controller shall be manufacturer Multi Pump Controller or approved equal housed in a NEMA 1 enclosure.

HPS for Treated water transfer pumps set from STP-1 to

Flushing OHT for hostel buildings

Each pump Flow : 20 m3/hr,

Head : 40 m,

Minimum Pump Efficiency : 70%

Recommended Motor of each pump : 5.5 KW

Sl.No	Description	Unit	Qty.	Rate	Amount
	Quantity : 1 Set (2W+1S) Rate in figure: Rate in word:	Set	1		
	HPS for Treated water transfer pumps set from STP -1 to Flushing OHT for Academic, Library, Admin Building Each pump Flow : 10 m3/hr, Head : 55 m, Minimum Pump Efficiency : 70% Recommended Motor of each pump : 3.0 KW Quantity : 1 Set (2W+1S) Rate in figure: Rate in word:	Set	1		
	HPS for Treated water transfer pumps set from STP -2 to Flushing OHT for Phase 2 Staff Colony, Guest House & Service Apartments Each pump Flow : 15 m3/hr, Head : 60 m, Minimum Pump Efficiency : 70% Recommended Motor of each pump : 5.5 KW Quantity : 1 Set (2W+1S) Rate in figure: Rate in word:	Set	1		
16	Providing , fixing, testing and commissioning of motorized butterfly valve for filling of overhead water tanks complete with high and low level control switches to control tanks,the level controller shall be installed in overhead tank,the level switch will close the valve when water level is high in overhead tanks and open the valve when overhead water tanks level is low.The system should be complete in all aspect with accessories,electrical water level control unit ,copper control wiring in weather proof casing etc. complete as per the direction of Engineer-in-charge.				
	(i) 40mm dia Rate in figure: Rate in word:	Nos.	4		
	(ii) 50mm dia Rate in figure: Rate in word:	Nos.	10		
	(iii) 65mm dia Rate in figure: Rate in word:	Nos.	6		

Sl.No	Description	Unit	Qty.	Rate	Amount
17	Construction of valve chamber with 230mm best quality TM bricks in CM 1:4 over a bed of 100 mm thick P.C.C.(1:4:8), internal walls plastered smooth in CM 1:3 and external walls plastered rough with sponge finish including curing with all necessary leads and lift and providing heavy duty cast iron cover with frame with locking arrangement ect. complete including frp man hole cover with frame of size 600*600) For valves up to150 mm dia Size of chamber 0.6mx0.6mx1 (clear dimension) etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos.	15		
18	Providing and fixing C.I iron gate valve PN-1.0(flanged) with non rising stem conforming IS: 14846 hand wheel operated ,stainless steel stem with gun metal parts . flanges drilled to IS : 1538 etc complete as per direction of Engineer-in-charge.				
(i)	65mm dia Rate in figure: Rate in word:	Nos.	6		
(ii)	100mm dia Rate in figure: Rate in word:	Nos.	6		
(iii)	150mm dia Rate in figure: Rate in word:	Nos.	7		
19	Supplying & fixing full way lever operated forged brass ball valve of brass body with forged brass hard chromeplated steel ball tested to a pressure not less than 15 Kg / sqcm with threaded / flanged joints complete with nuts, bolts, gaskets, washers union etc.complete as per direction of Engineer-in-charge.				
(i)	32 mm dia (Screwed ends) Rate in figure: Rate in word:	Nos.	2		
20	Supplying and fixing in position C.I non return valve(flanged) as per IS: 5312 , swing type with natural rubber flap,flanges drilled to IS : 1538 PN:1.0 etc.complete.as per direction of Engineer-in-charge.				
(i)	65mm dia Rate in figure: Rate in word:	Nos.	4		
(ii)	100mm dia Rate in figure: Rate in word:	Nos.	4		

Sl.No	Description	Unit	Qty.	Rate	Amount
21	Supplying and fixing in position approved make bronze vertical non return valve(screwed) of approved make to IS: 778, etc complete as per direction of Engineer-in-charge. 32 mm dia Rate in figure: Rate in word:	Nos.	2		
22	Providing & fixing cast iron foot valve(swing type) conforming to IS:4038 flanged end with strainer.body seat ring of G.M and neoprene rubber seated disc for 100% leakproof with required flange, nuts, bolts, gaskets etc complete as per direction of Engineer-in-charge.				
(i)	75 mm dia foot valve Rate in figure: Rate in word:	Nos.	3		
(ii)	65 mm dia foot valve Rate in figure: Rate in word:	Nos.	6		
23	Providing and fixing gun metal ball cock of approved quality with brass rod , copper ball float suitable for test pressure not less than 10 kg/sqcm bolts , nuts, rubber insertions etc. complete.as per the direction of Engineer-in-charge.				
(i)	50mm dia. Rate in figure: Rate in word:	Nos.	10		
(ii)	65mm dia Rate in figure: Rate in word:	Nos.	6		
(iii)	75mm dia. Rate in figure: Rate in word:	Nos.	6		
24	Providing and fixing C.I. double acting air valve of approved quality with bolts , nuts, rubber insertions etc. complete. (The tall pieces ,tapers etc if required will be paid separately)as per the direction of Engineer-in-charge.				
(i)	50mm dia Rate in figure: Rate in word:	Nos.	6		
(ii)	40 mm dia Rate in figure: Rate in word:	Nos.	6		

Sl.No	Description	Unit	Qty.	Rate	Amount
25	Providing and fixing M.S. structural work fabricated from structural steel sections M.S. angles, channels, plates including cutting to size, drilling, welding fixing for support of pump suction and delivery pipe.where ever required including two coats of synthetic enamel paint/epoxy paint over a coat of primer as per direction of Engineer-in-charge.	Qntl	3		
	Rate in figure:				
	Rate in word:				
	Rate in figure:				
	Rate in word:				
				TOTAL:	-

For M/s. Rath Architectonic

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q

OF

BALANCE WORK OF BORE WELL

FOR

**NATIONAL LAW UNIVERSITY, ODISHA
NARAJ, CUTTACK**

CONSULTANT :

M/s. RATH ARCHITECTONIC

104, Madhusudan Nagar

Unit-IV, Bhubaneswar-751001

Ph. No. (0674) 2390940, 2395340

Sl.No	Description	Unit	Qty.	Rate	Amount
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ABSTRACT COST

1	CIVIL WORKS			: TOTAL Rs.	-
				TOTAL Rs.	-

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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**B.O.Q OF BALANCE WORK OF BOREWELL(6Nos.)
FOR PROPOSED NATIONAL LAW UNIVERSITY ODISHA AT NARAJ, CUTTACK**

A BORING, LOWERING AND DEVELOPING OF 200 MM DIAMETER BOREWELL :

- 1 Supplying all materials, labour, Tools & Plant and boring tube wells of following dia in all kinds of soil and rocks up to the depths as follows with supply of necessary boring rods, bits & ancillary equipments, boring mud, hand boring machinery or drilling rig, air compressor, mud water pump, necessary fuel, consumable and spares of machinerie etc. including washing the bore hole and lowering the housing pipes, blank pipes & slotted pipes of of M.S/UPVC/Fibre glass reinforce plastic pipes in proper position forming the well assembly followed by approved quality gravel shrouding including jointing and welding of pipes of fittings, providing necessary water, light barriers etc.

conveyance of all materials and cleaning the site complete as per direction of Engineer in charge and as per relevant IS: specification (Zone tests shall be conducted & litho logs submitted to NLUO/PMC for acceptance before lowering) including painting outer surface of housing pipes black pipes and slotted pipes as applicalbe before lowering with two coats of anticorrosiv paint of approved quality after thoroughly cleaning the surface including conveyance of all materials complete as per direction of Engineer in charge including sanitary sealing up to 3.00 Mtrs. depth below GL.including supply of PVC(ASTM Schedule 80) pipes etc as required.The Minium diameter of bore hole before lowering should not less than 600 mm.

350 mm (14") dia housing pipe below G.L

Om to 10th m.	Mtr.	60
Rate in figure:		
Rate in word:		

11th m to 20th m.	Mtr,	60
Rate in figure:		
Rate in word:		

21st m to 30 th m.	Mtr.	60
Rate in figure:		
Rate in word:		

300 mm (12") dia Housing pipes below G.L.
Rate in figure:
Rate in word:

Sl.No	Description	Unit	Qty.	Rate	Amount
	Om to 10th m. Rate in figure: Rate in word:	Mtr.	60		
	11th m to 20th m. Rate in figure: Rate in word:	Mtr,	60		
	21st m to 30 th m. Rate in figure: Rate in word:	Mtr.	60		
	200 mm (8") dia blank / slotted pipes below G.L Rate in figure: Rate in word:				
	31st m to 40th m. Rate in figure: Rate in word:	Mtr.	60		
	41st m. to 50th m. Rate in figure: Rate in word:	Mtr,	60		
	51st m. to 60th m. Rate in figure: Rate in word:	Mtr.	60		
	61st m. to 70th m. Rate in figure: Rate in word:	Mtr.	60		
	71st m. to 80th m. Rate in figure: Rate in word:	Mtr	60		
2	Supplying all materials, labour & T&P and keeping the bore ready for logging as per direction of Engineer - in - charge. Rate in figure: Rate in word:	Mtr	480		

Sl.No	Description	Unit	Qty.	Rate	Amount
3	Supplying all materials, labour T&P and developing the tube well with 8 hours continuous pumping once a day for minimum 5 consecutive days & more or till sand free clear water is obtained providing required machinery and equipment with supply of necessary fuel, consumables and spares of machineries etc. including conveyance of all materials and draining out water complete as per direction of Engineer - in - charge. Rate in figure: Rate in word:	Each No.	6		
4	Supplying all materials, labour T&P and measuring the discharge and draw down of the tube well with 8 hours continuous pumping once a day for 12 consecutive days providing required capacity pumping set with accessories, supplying necessary fuel consumables and spares of pump set etc. including conveyance of all materials and draining out water complete as per direction of Engineer - in - charge. Rate in figure: Rate in word:	Each No.	6		
5	Supplying all materials, labour, T&P and fitting and fixing the following fittings of approved quality with welding as necessary including conveyance of all materials and as per direction of Engineer - in - charge.				
(a)	M. S/P.V.C Bail plug at the the bottom of the well assembly before lowering. Rate in figure: Rate in word:	Each No.	6		
(b)	M.S./P.V.C Cap at the top end of the wall assembly. Rate in figure: Rate in word:	Each No.	6		
6	Supplying all materials, labour T&P and Providing sanitary sealing as per direction of the Engineer- In -Charge Rate in figure: Rate in word:	Each No.	6		

B SUBMERSIBLE PUMP SET:

Supplying and testing of Submersible vertical multistage stainless steel 304 borewell pumps - from Borewell to UGR, which is comprising of :

Sl.No	Description	Unit	Qty.	Rate	Amount
	<p>inside the borewell Submersible stainless steel multistage pump set having spring loaded non return valve capable of require pump discharge & head. The pump should be directly coupled with submersible water cool motor capable to give required discharge suitable for operation within 380 - 400-415 volts (plus minus 10%), 3 phase, 50 cycles, AC supply with sand shield, liquid-lubricated bearing and pressure equalizing. The materials of complete pump & motor should be Stainless Steel (AISI 304). The DOL control panel make of C&S operation should be automatic/manual and consisting of powder coated cabinet, Overload relay, voltmeter with selector switch, single phase preventor, ammeter, Motor On/ trip LED indicator light, with single floater type level controller.</p> <p>Pump Discharge : 11.5 m3/hr Head : 60 Minimum Pump Efficiency : 70% Recommended Motor of each pump : 4 KW No of Stages : 6 Quantity : 1 no. Rate in figure: Rate in word:</p>	No.	6		
	<p>Control Panel : 5.5 KW with Level control operation for auto & maunal operation complete as per direction of Engineer - in - charge Rate in figure: Rate in word:</p> <p>Rate in figure: Rate in word:</p>	No.	6		
				TOTAL:	<u> </u> -

For M/s. RATH ARCHITECTONIC

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q
OF BALANCE WORK OF LANDSCAPING WORKS
FOR
PROPOSED NATIONAL LAW UNIVERSITY ODISHA
AT NARAJ, CUTTACK

CONSULTANT / PMC :
M/s. RATH ARCHITECTONIC
104, Madhusudan Nagar
Unit-IV, Bhubaneswar-751001
Ph. No. (0674) 2390940, 2395340

Sl.No	Description	Unit	Qty.	Rate	Amount
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ABSTRACT COST

1 LANDSCAPING WORK

Total Rs. -

Total: -

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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**B.O.Q OF BALANCE WORK OF LANDSCAPING WORKS OF
NLUO ODISHA, NARAJ, CUTTACK**

(SEC - A)

1	Supplying and stacking of good earth at site including royalty and carriage up to 1 km (earth measured in stacks will be reduced by 20% for payment) etc., complete as as directed by the PMC. Rate in figure: Rate in word:	Cum	2,500.00		
2	Supplying and stacking at site dump manure from approved source including carriage up to 1km (manure measured in stacks will be reduced by 8% for payment) etc., complete as as directed by the PMC				
(a)	Screened through sieve of 15mm designation 16mm Rate in figure: Rate in word:	Cum	2,500.00		
3	Uprooting weeds from the trenched area after 10 - 15 days of its flooding with water including disposal of uprooted vegetation.etc., complete as as directed by the PMC. Rate in figure: Rate in word:	Sqm.	20,000.00		
4	Fine dressing the ground.etc., complete as as directed by the PMC. Rate in figure: Rate in word:	Sqm.	20,000.00		
5	Mixing Earth & manure in proportion specified or directed.etc., complete as as directed by the PMC. Rate in figure: Rate in word:	Cum	21,684.00		
6	Grassing with Jaysia Japanica (Carpet Grass) / Barbuda Selection - I grass including watering and maintenance of the lawn for 30 days or more till the grass form a thick lawn free from weeds and fit for moving including supplying good earth if needed.etc., complete asas directed by the PMC. Rate in figure: Rate in word:	Sqm	12,620.00		
7	Spreading of sludge, dump manure or/and good etc., complete as as directed by the PMC. Rate in figure: Rate in word:	Sqm.	21,684.00		

Sl.No	Description	Unit	Qty.	Rate	Amount
8	Uprooting rank vegetation and weeds by digging the area to a depth of 60 cm removing ail weeds and other growth with roots by forking repeatedly, breaking clods, rough dressing, flooding with water, uprooting fresh growths after 10 to 15 days and then fine dressing for planting new grass, including disposal of all rubbish with leads and lifts.etc., complete as directed by the PMC Rate in figure: Rate in word:	Sqm	22,120.00		
9	Grassing with 'Doob' 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).etc., complete as as directed by the PMC. Name of the grass selection -01,Mexican,Barbuda & jaysia japanica.				
(a)	In rows 7.5 cm apart in either direction. Rate in figure: Rate in word:	Sqm	12,500.00		
10	Digging holes In ordinary soil and refilling the same with the excavated earth mixed with, manure or sludge in the ratio of 2.1 by volume (2 parts of stacked volume of earth after reduction by 20%: 1 part of stacked volume of manure after reduction by 8%) flooding with water, dressing including removal of rubbish and surplus earth, If any with all leads and lifts (cost of manure, sludge or extra good earth if needed to be paid for separately) etc., complete as as directed by the PMC.				
(a)	Holes minimum 1.2m to 1.5m dia & min 1.2m to 1.5m deep as per the size of the plant. Rate in figure: Rate in word:	No	250.00		
11	Digging holes in ordinary soil and refilling the same with the excavated earth mixed with manure or sludge in the ratio 2:1 by volume (2 parts of stacked volume of earth after reduction by 20%: 1 part of stacked volume of manure after reduction by 8%) flooding with water, dressing including removal of rubbish and surplus earth, if any with all leads and lifts (cost of manure, sludge or extra good earth if needed to be paid for separately) etc., complete as as directed by the PMC.				
(a)	Holes 60 cm to 75 cm dia, and minimum 60 cm to 75 cm deep as per the size of the plant. Rate in figure: Rate in word:	No	550.00		

Sl.No	Description	Unit	Qty.	Rate	Amount
12	<p>Supply and planting best quality container grown healthy trees of 3mtr. minimum height, (25 mm caliper dia. minimum) of species as specified. AH trees to be approved before planting. Inclusive of maintenance as specified for one year after planting, (as per schedule plant) etc., complete as as directed by the PMC.</p> <p>Name of Plants:-Bottle Palm, Foxtail Palm, Ficus Golden, Ficus Elastica, Ficus Benjamina,Ficus Panda</p> <p>Rate in figure:</p> <p>Rate in word:</p>	No	250.00		
13	<p>Supply of planting best quality Pot-Grown healthy shrubs minimum 750 mm (13 mm caliper dia. minimum) tall species specified, inclusive of creosote treated bamboo stake 2m long and preparation aid cultivation of shrub beds as specified. All plants to be approved before planting. Inclusive of Maintenance as specified for one year after * planting, (as per Schedule Plant) etc., complete as as directed by the PMC.</p> <p>Name of Plants:-Champa, Jashmine, Tikoma, Musunda, Ixora, Habiscus, Verigated, Tagar, Malli, Heena, Lolina</p> <p>Rate in figure:</p> <p>Rate in word:</p>	No	550.00		
14	<p>Supply and planting best quality Pot-Grown healthy Ground cover plant (Hedge) minimum of 300 mm stem of species specified, inclusive of preparation and cultivation of beds as specified. All plants to be approved before planting. Inclusive of maintenance as specified for one year after planting. (As per Schedule Plant, including pits and plantation) etc., complete as as directed by the PMC.</p> <p>Name of Plants:- White Mini Tagar, Golden Dorenta, White Dorenta,Aclifa, Verbina, Lantena, Altenthra.</p> <p>Rate in figure:</p> <p>Rate in word:</p>	No	12,000.00		
15	<p>Providing of decorative hedges, decorative plants and perennial at suitable places .etc., complete as directed by the PMC.</p> <p>Furcuria, Cycus, Arceria, Silver Oak, Ficus Starlight, Golden bottle bush. (All are healthy & bushy)</p> <p>Rate in figure:</p> <p>Rate in word:</p>	No	1,452.00		
16	<p>Supplying , fitting and fixing of Flexible water sprinkler & pop up made by rain bird –Equivalent for grass lawn at an interval of 30' -0' in both the direction(5'-0')shall be circular of the water sprinkler etc with flexible hose pipe 33Mtr. (33mtr & dia is 1" make oriplast) etc., complete as directed by the PMC.</p> <p>Rate in figure:</p> <p>Rate in word:</p>	No	10.00		

Sl.No	Description	Unit	Qty.	Rate	Amount
17	Supplying and planting of Saiberian grass colour of green,white, golden at an interval of 1'-0" in both the direction (0'-6") as per the drawing and the direction by PMC. Rate in figure: Rate in word:	No	1,100.00		
18	Supply and fixing of Granite / FRP pot of height of 1'-0" to 3'-0" in appropriate place of the landscaped area as directed by the PMC. Rate in figure: Rate in word:	No	6.00		
19	Supply and fixing of Granite / FRP pot of height of 7'-0" in appropriate place of the landscaped area as directed by the PMC. Rate in figure: Rate in word:	No	1.00		
20	Supply and fixing of dancing statue in appropriate place of the landscaped area as directed by the PMC.				
(a)	Height of the statue 2'-0" Rate in figure: Rate in word:	No	2.00		
(b)	Height of the Statue 4'-0" Rate in figure: Rate in word:	No	2.00		
(c)	Height of the Statue 6'-0" Rate in figure: Rate in word:	No	2.00		
21	Supplying and laying of white pebbles of sizes 1" and 2' in the appropriate places of the landscaped area as mentioned in the drawing or as directed by the PMC. Rate in figure: Rate in word:	Sqm	200.00		
	Rate in figure: Rate in word:			TOTAL:	-

Sl.No	Description	Unit	Qty.	Rate	Amount
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**B.O.Q OF LAND SCAPING WORKS
(CIVIL & P.H.)**

1	Excavation of foundation trenches and column foundation and pits in all kinds of soil within an initial lead and lift of 1.5 mtrs. depth including dressing the sides and leveling the bed and depositing the excavated material away from the site within an initial lead of 50 mtrs including cost of all labour, sundries, tools and plant etc., complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Cum.	60.00		
2	Filling foundation trenches and plinths with sand, well watered, compacted, dressed and leveled to proper gradient including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Cum.	15.00		
3	CEMENT CONCRETE (CAST-IN-SITU) Providing and laying plain cement concrete (1:4:8) in foundation and bottom layers of flooring using 40 mm size black hard crusher broken granite metal of approved quality from approved quarry including mixing, lowering, laying and compacting to proper thickness, watering and curing for the required period, including cost of all material, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools & plants etc., complete as per the direction of Engineer-in-charge. Rate in figure: Rate in word:	Cum.	25.00		
4	BRICK WORK K.B. brick masonry work using (250 mm x 120 mm x 80 mm) with tolerance of size K.B. bricks having crushing strength not less than 75 kg / sqcm, mix (1 cement : 6 sands) in 250 mm thick wall, immersing the bricks for minimum 6 hrs in water before use, with all necessary projection, splay cutting, circular moulding, corbelling, etc., including cost of all materials, labour, conveyance, loading, and unloading, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants etc., as per the direction of the Engineer-in-charge in foundation & plinth Rate in figure: Rate in word:	Cum.	60.00		

Sl.No	Description	Unit	Qty.	Rate	Amount
5	Providing flooring with 300 x 300 x 25 mm PCC Designer's Tiles of approved make , design and shade set over 20 mm thick cement mortar (1:3) mix joint panted with pigment to match the shade of the tiles, laid in panels or in patterns with necessary levelling course in floor, dado, risers and treads of steps, pathways etc. including cost of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants etc. complete as per the direction of the Engineer-in-charge. Base rate- 950.00/- to 1050/-per sqm. Rate in figure: Rate in word:	Sqm.	120		
6	CEMENT PLASTER (IN COARSE SAND) Providing Avg. 16 mm thick cement plaster 1:6 (1 cement : 6 sand) to outside surface of masonry out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	95.00		
				Total :	_____
	(Part - A + Part - B)		:	Total :	_____
	Rate in figure: Rate in word:				

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q

OF BALANCE WORK OF OVER HEAD TANK CUM PUMP HOUSE
OF NATIONAL LAW UNIVERSITY ODISHA, AT NARAJ CUTTACK

CONSULTANT :

M/s. RATH ARCHITECTONIC

PLOT NO. 104, MADHUSUDAN NAGAR

UNIT-IV, BHUBANESWAR-751001

Ph. No. (0674) 2390940, 2395340

E-mail : ratharchitectonic@rediffmail.com

Sl.No	Description	Unit	Qty.	Rate	Amount
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ABSTRACT COST

CIVIL WORKS

1	O.H.T. CUM PUMPHOUSE		:		-
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TOTAL : _____ -

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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**B.O.Q OF BALANCE WORK OF OVER HEAD TANK CUM PUMPHOUSE
OF NLU (O) ODISHA, AT NARAJ CUTTACK**

1 M.S. GRILL

Supplying, fabricating and fixing MS grills madeup with M.S. square bar / round bar / flat as per design and drawing including applying two coat enamel paint over a coat of red oxide primer and fixing the same to wooden dor and window frames as per requirement and direction of Engineer-in-charge. Qntl. 1.6
Rate in figure:
Rate in word:

2 VENTILATOR :

Providing, fitting and fixing of ventilator grill shall be made out of 6 mm wire netting with 25 mm x 25 mm x 6 mm M.S. angle, which shall be finished with approved shade powder coating, so that a layer of 15 micron can be formed in a smooth finish. The entire process shall be carried out in hot finish in appropriate temperature to obtain the necessary finish etc. all complete and as per the direction of Engineer-in-charge. Qntl. 0.32
Rate in figure:
Rate in word:

3 Providing, fixing of G.I. railing made with 40 mm dia G.I. pipe as per design including two coats of approved coloured enamel paint over a coat of primer etc. all complete and as per the direction of Engineer-in-charge. Rmt. 40
Rate in figure:
Rate in word:

4 Providing, fitting & fixing of one set of water level indicator consisting of copper / polythene float guide pulleys, nylon chord and enamel coated guage calibrated to indicate depth of water in meter or equivalent amount of water in kiloliters etc. all complete and as per the direction of Engineer-in-charge. Set. 1
Rate in figure:
Rate in word:

5 Forming groove of uniform size from 12 x 12 mm and upto 25 x 15 mm in plastered surface as per approved pattern using wooden battens, nailed to the under layer including removal of wooden battens, repairs to the edges of plaster panel and finishing the groove complete as per specifications and direction of the Engineer-in-Charge. Rmt. 20
Rate in figure:
Rate in word:

Sl.No	Description	Unit	Qty.	Rate	Amount
6	M.S. LADDERS :				
a.	Providing, fitting & fixing of M.S. ladders from ground level to staging height & top of staging of the tank provided with steel ladder along with hand rails made of series of M.S. steel bars. The steel ladders shall be study and should be fastend and anchored to the concrete by means of anticorrosive inserts and bolts. Rate in figure: Rate in word:	Qntl.	4		
b.	Providing, fitting & fixing of M.S. ladders for lift machine room of building provided with steel ladder along with hand rails made of series of M.S. steel bars. The steel ladders shall be study and should be fastend and anchored to the concrete by means of anticorrosive inserts and bolts. Rate in figure: Rate in word:	Qntl.	6		
7	Providing gola 75 x 75 mm in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 stone aggregate 10 mm and down gauge) including finishing with cement mortar 1 : 3 (1 cement : 3 fine sand) as per standard design. In 75 x 75 mm deep chase Rate in figure: Rate in word:	Mtr.	18		
8	Providing and laying S & S Centrifugally cast (Spun) / Ductile Iron pipes conforming to IS : 8329.				
(i)	200 mm dia Ductile Iron Class K-7 pipes. Rate in figure: Rate in word:	Rmt.	60		
(ii)	100 mm dia Ductile Iron Class K-7 pipes. Rate in figure: Rate in word:	Rmt	125		
(iii)	80 mm dia Ductile Iron Class K-7 pipes. Rate in figure: Rate in word:	Rmt	60		
9	Providing flanged joints to double flanged D.I. pipes and specials including testing of joints.				
(i)	150 mm diameter pipes. Rate in figure: Rate in word:	No.	14		
(ii)	200 mm diameter pipes. Rate in figure: Rate in word:	No.	40		

Sl.No	Description	Unit	Qty.	Rate	Amount
10	Providing & laying D.I. Standard specials such as tees, bends, collars tapers and caps etc., suitable for flanged jointing as per IS : 8329.				
(i)	200 mm dia ductile iron 90 deg bend Rate in figure: Rate in word:	Nos	6		
(ii)	100 mm dia ductile iron 90 deg bend Rate in figure: Rate in word:	Nos	10		
(iii)	80 mm dia ductile iron 90 deg bend Rate in figure: Rate in word:	Nos	6		
(iv)	200 mm dia ductile iron tee Rate in figure: Rate in word:	Nos	4		
(v)	100 mm dia ductile iron tee Rate in figure: Rate in word:	Nos	6		
(vi)	80 mm dia ductile iron tee Rate in figure: Rate in word:	Nos	4		
11	Providing and fixing C.I. gate valve complete with bolts, nuts, rubber insertions etc. all complete.				
(i)	200 mm gate valve Rate in figure: Rate in word:	Nos	2		
(ii)	100 mm gate valve Rate in figure: Rate in word:	Nos	2		
(iii)	80 mm gate valve Rate in figure: Rate in word:	Nos	2		
12	Construction of brick masonry support 600 mm x 600 mm with brick foundation, brick superstructure, plastering, earth work excvaton, P.C.C. etc. all complete.				
	Rate in figure: Rate in word:	Nos	5		

Sl.No	Description	Unit	Qty.	Rate	Amount
13	Providing and fixing C.I. Non return valve (with cap) complete with bolts, nuts, rubber insertions etc. all complete.				
	100 mm NRV Rate in figure: Rate in word:	Nos	2		
14	Providing, fitting & fixing of C.I. lockable hinged type manhole covers 500 mm dia each 50 kg. waight with frame and cover fixed at suitable places in the roof of the tank etc. all complete as per direction of Engineer-in-charge.	No.	2		
	Rate in figure: Rate in word:				
15	Providing, fitting & fixing pvc rung 200 mm X 300mm (inside o.h.t.)etc. all complete as per direction of Engineer-in-charge.	Nos	15		
	Rate in figure: Rate in word:				
Total :					-

For M/s. RATH ARCHITECTONIC

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q

OF BALANCE WORK OF RAIN WATER COLLECTION CHAMBER
OF NATIONAL LAW UNIVERSITY ODISHA,AT NARAJ, CUTTACK

CONSULTANT :

M/s. RATH ARCHITECTONIC

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Sl.No	Description	Unit	Qty.	Rate	Amount
ABSTRACT COST					
CIVIL WORKS					
1	RAIN WATER COLLECTION CHAMBER			Rs.	<hr/>
TOTAL				Rs.	

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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**B.O.Q OF BALANCE WORK OF RAIN WATER COLLECTION CHAMBER
OF NLU (O) ODISHA, AT NARAJ, CUTTACK**

Sl No	Description	unit	Quantity	Rate	price
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1 Providing and testing of Submersible Nonclogging single stage rain water pumps - from rain water Collection pit 1 & 2, which is comprising of :

Submersible Non clogging Vertical single stage pumps with Cast iron body and S-Tube type Cast iron impeller connected to TEFC submersible motor for 415 volts, 3 phase, 50 cycles including automatically for 2 pumping system comprising with Single phase preventer, Cyclic Timer, fault based change over, Potential free contacts, IP 41 Enclosure, manufacturer recommended volt meter, ammeter with selector switch, MCB, necessary wiring, cable alleys, earthing, interlocking, starter with Automatic float type level controller including valves, non return valves, Cast Iron Auto coupling, GI lifting chains, GI pipe guide rail etc. complete in all respect as per direction of Engg - in-charge.

Submersible Nonclogging single stage rain water pumps - from rain water Collection pit 1

Each pump Flow : 54 m³/hr,

Head : 17 m,

Solid handling : 50 mm

Minimum Pump Efficiency : 65%

(a)	Recommended Motor of each pump : 4.9 KW Rate in figure: Rate in word:	Nos.	2		
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(b)	Control Panel 2 x 5.5 KW Rate in figure: Rate in word:	Set	1		
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(c)	Auto Coupling for each pump Rate in figure: Rate in word:	Nos.	2		
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(d)	Submersible Nonclogging single stage rain water pumps - from rain water Collection pit 2 Each pump Flow : 54 m ³ /hr, Head : 17 m, Solid handling : 50 mm Minimum Pump Efficiency : 65% Recommended Motor of each pump : 4.9 KW Quantity : 2 nos. Rate in figure: Rate in word:	Nos.	2		
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(e)	Control Panel 2 x 5.5 KW Rate in figure: Rate in word:	Set	1		
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(f)	Auto Coupling for each pump	Nos.	2		
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Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in figure: Rate in word:				
2	Providing ,Supplying, fixing, testing M.S(MILD STEEL) heavy class pipes plain end conforming to IS:1239 of approved make.				
(a)	100 mm dia M.S pipe	Rmt	250		
	Rate in figure: Rate in word:				
3	Providing ,Supplying, fixing, testing M.S fittings				
(a)	100 mm dia long radius 90 deg bend	Nos	10		
	Rate in figure: Rate in word:				
(b)	100 mm dia tee	Nos	6		
	Rate in figure: Rate in word:				
(c)	100 dia flange	Nos	100		
	Rate in figure: Rate in word:				
(d)	50 x 100 mm concentric reducer	Nos	4		
	Rate in figure: Rate in word:				
4	Providing and fixing C.I. gate valve complete with bolts, nuts, rubber insertions etc. all complete.				
(i)	100 mm gate valve	Nos	6		
	Rate in figure: Rate in word:				
5	Providing and fixing C.I. Non return valve (with cap) complete with bolts, nuts, rubber insertions etc. all complete.				
(i)	100 mm NRV	Nos	2		
	Rate in figure: Rate in word:				
6	Providing and fixing 600 mm X 600 mm frp man hole cover with frame etc. all complete.as per the direction of the Engineer-in-charge	Nos	4		
	Rate in figure: Rate in word:				
7	Providing, fitting & fixing pvc rung 200 mm X 300mm (inside tank)etc. all complete as per direction of Engineer-in-charge.	Nos	15		
	Rate in figure: Rate in word:				
	Rate in figure: Rate in word:			Total:	

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q
OF BALANCE WORK OF EXT. SEWERAGE SYSTEM
FOR
PROPOSED NATIONAL LAW UNIVERSITY ODISHA
AT NARAJ, CUTTACK

CONSULTANT :

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E-mail : ratharchitectonic@rediffmail.com

Sl.No	Description	Unit	Qty.	Rate	Amount
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ABSTRACT COST

CIVIL WORKS

1	EXT. SEWERAGE SYSTEM			Rs.	-
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TOTAL

Rs.

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For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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**B.O.Q OF BALANCE WORK OF SEWERAGE SYSTEM
OF NLU (O) ODISHA ,AT NARAJ,CUTTACK**

Sl.No	Description	Unit	Qty.	Rate	Amount
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- | | | | | | |
|---|--|------|---------|--|--|
| 1 | Excavation in all types of soil for laying pipes for sewerage Including forming surface of required level. Select excavated earth around the pipe in layer 150mm thick, watering, consolidating and disposing off the surplus earth within the site as directed by the engineer with a lead of approximately 50m complete. (Avg. Depth upto 1.5m below ground level) | Cum. | 3116.13 | | |
| | Rate in figure: | | | | |
| | Rate in word: | | | | |
| 2 | Excavation in all types of soil for laying pipes for sewerage Including forming surface of required level. Select excavated earth around the pipe in layer 150mm thick, watering, consolidating and disposing off the surplus earth within the site as directed by the engineer with a lead of approximately 50m complete. (Avg. Depth upto 3.0m below ground level) | Cum. | 35.65 | | |
| | Rate in figure: | | | | |
| | Rate in word: | | | | |
| 3 | Filling foundation trenches and plinths with excavated materials in layers not exceeding 0.3 mtr in depth including watering and ramming and dressing and levelling the top proper level or gradient, including cost of all labour, sundries, tools and plants, etc. complete as per the direction of the Engineer-in-charge. | Cum. | 2150 | | |
| | Rate in figure: | | | | |
| | Rate in word: | | | | |
| 4 | Filling foundation trenches and plinths with sand, well watered, compacted, dressed and leveled to proper gradient including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge. | Cum. | 648 | | |
| | Rate in figure: | | | | |
| | Rate in word: | | | | |
| 5 | Dismantling of Reinforced Cement concrete grade including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. | Cum. | 25 | | |
| | Rate in figure: | | | | |
| | Rate in word: | | | | |

Sl.No	Description	Unit	Qty.	Rate	Amount
6	Dismantling Brick work in cement mortar including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	20		
7	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved. Rate in figure: Rate in word:	Cum.	45		
8	Supplying, laying and jointing uPVC pipes (for Sewerage) as per IS :15328 of Ring Stiffness SN-8 with Ringtight joints using ELASTOMETRIC RUBBER SEAL, in pipe trenches to required depth and adequate width of trench including earthwork in excavation and stacking of earth at convenient locations (as per instruction of Engineer-in-charge) complete with proper bedding as per tech. spec.Pipes are to be laid in straight aligned lengths to correct line and level with sight rails and boning rods. Pipes shall be tested in 'as laid' condition but before back filling as per direction of Engineer-in-Charge.The rate is inclusive of taxes,materials, labour, conveyance, loading and unloading only.complete as per the direction of the Engineer-in-charge.				
(i)	160mm nominal dia pipes. Rate in figure: Rate in word:	Rmt	2200		
(ii)	200mm nominal dia pipes. Rate in figure: Rate in word:	Rmt	800		
(iii)	250mm nominal dia pipes. Rate in figure: Rate in word:	Rmt	250		
(iv)	315mm nominal dia pipes. Rate in figure: Rate in word:	Rmt	80		
9	Encasing of uPVC pipe with cement concrete(1:2:4) bed of 150mm thick all round wherever required. The scope of work excluded the cost of pipe..				
(i)	160 mm nominal pipe Rate in figure:	Rmt	2200		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
(ii)	200 mm nominal pipe Rate in figure: Rate in word:	Rmt	800		
(iii)	250 mm nominal pipe Rate in figure: Rate in word:	Rmt	250		
(iv)	315 mm nominal pipes. Rate in figure: Rate in word:	Rmt	80		
10	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.				
(i)	150 mm dia R.C.C. Hume Pipe Rate in figure: Rate in word:	Mtr.	110		
(ii)	200 mm dia R.C.C. Hume Pipe Rate in figure: Rate in word:	Mtr.	70		
(iii)	250 mm dia R.C.C. Hume Pipe Rate in figure: Rate in word:	Mtr.	20		
(iv)	1400 mm dia R.C.C. Hume Pipe Rate in figure: Rate in word:	Mtr.	30		
11	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) around R.C.C. pipes including bed concrete as per P.W.D. design:				
(i)	150 mm dia R.C.C. Hume Pipe Rate in figure: Rate in word:	Mtr.	110		
(ii)	200 mm dia R.C.C. Hume Pipe Rate in figure: Rate in word:	Mtr.	70		
(iii)	250 mm dia R.C.C. Hume Pipe	Mtr.	20		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in figure: Rate in word:				
(iv)	1400 mm dia R.C.C. Hume Pipe Rate in figure: Rate in word:	Mtr.	30		
12	Providing and fixing square-mouth S.W. gully trap grade 'A' complete with C.I. Grating brick masonry chamber with bricks of class designation 45 and water tight C.I. cover with frame of 300 x 300 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 design. 180 x 150 mm size P type. Rate in figure: Rate in word:	Nos.	50		
13	Constructing brick masonry chamber for underground C.I. inspection chamber and bends with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg), R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete as per standard design:				
(a)	Inside dimensions 600 x 850 mm and 45 cm deep for line with three or more inlets. Rate in figure: Rate in word:	No.	30		
14	Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand) with R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 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: Inside size 1200X1200 mm and upto 2500 mm 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):				
		Nos.	130		

Sl.No	Description	Unit	Qty.	Rate	Amount
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Rate in figure:

Rate in word:

- 15 Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand) with R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 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:

Inside size 1200X900 mm and upto 2500mm 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):

Nos. 70

Rate in figure:

Rate in word:

TOTAL: -

Rate in figure:

Rate in word:

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q

OF BALANCE WORK OF U.G.R 125 CUM(4 NOS.) WITH PROVISION FOR WATER

FOR

PROPOSED NATIONAL LAW UNIVERSITY ODISHA

AT NARAJ, CUTTACK

CONSULTANT :

M/s. RATH ARCHITECTONIC

PLOT NO. 104, MADHUSUDAN NAGAR

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Sl.No	Description	Unit	Qty.	Rate	Amount
ABSTRACT COST					
CIVIL WORKS					
1	U.G.R 125 CUM (4 NOS.)			Rs.	
2	PUMP HOUSE(4 NOS.)			Rs.	
			TOTAL:	Rs.	

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q OF BALANCE WORK OF U.G.R 125 CUM(4 NOS.) WITH PROVISION FOR WATER SUPPLY FOR PROPOSED NATIONAL LAW UNIVERSITY ODISHA AT NARAJ, CUTTACK

1	Excavation of foundation trenches and column foundation and pits in all kinds of soil within an initial lead and lift of 1.5 mtrs. depth including dressing the sides and leveling the bed and depositing the excavated material away from the site within an initial lead of 50 mtrs including cost of all labour, sundries, tools and plant etc., complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Cum.	532		
2	Filling foundation trenches and plinths with excavated materials in layers not exceeding 0.3 mtr in depth including watering and ramming and dressing and levelling the top proper level or gradient, including cost of all labour, sundries, tools and plants, etc. complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Cum.	267		
3	Filling foundation trenches and plinths with sand, well watered, compacted, dressed and leveled to proper gradient including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Cum.	122		
4	Dismantling of Reinforced Cement concrete grade including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	6		
5	Dismantling Brick work in cement mortar including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	4		

Sl.No	Description	Unit	Qty.	Rate	Amount
6	Dismantling of cement concrete grade M-10 and below including T & P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	8		
7	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved. Rate in figure: Rate in word:	Cum.	10		
8	Providing and laying of P.C.C. of 1:4:8 (1 cement : 4 coarse sand : 8 graded crusher broken granite stone aggregate 40 mm nominal size) in foundation trenches, under floors in line level including curing and ramming etc. all complete including cost, convenance, taxes, T & P etc complete as per requirement and direction of Engineer-in-charge. Rate in figure: Rate in word:	Cum.	60		
9	Providing 12 mm thick cement plaster in cement mortar (1:3) in inside surface of brick masonry finished smooth with a floating coat of neat cement on walls and bed concrete etc. all complete and as per direction of Engineer-in-charge for all heights. Rate in figure: Rate in word:	Sqm.	30		
10	Providing Avg. 16 mm thick cement plaster 1:6 (1 cement : 6 sand) to outside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	45		

Sl.No	Description	Unit	Qty.	Rate	Amount
11	K.B. brick masonry work using (250 mm x 120 mm x 80 mm) with tolerance of size K.B. bricks having crushing strength not less than 75 kg / sqcm, mix (1 cement : 6 sands) in 250 mm thick wall, immersing the bricks for minimum 6 hrs in water before use, with all necessary projection, splay cutting, circular moulding, corbelling, etc., including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants etc. upto floor five level, as per the direction of the Engineer-in-charge in superstructure. Rate in figure: Rate in word:	Cum.	5		<hr/>

P.H WORK:

12	Providing ,Supplying, fixing, testing M.S heavy class pipes plain end conforming to IS:1239 of approved make.complete as per direction of the Engineer-in-charge.				
(i)	100 mm dia M.S pipe Rate in figure: Rate in word:	Rmt	40		
(ii)	150 mm dia M.S pipe Rate in figure: Rate in word:	Rmt	20		
(iii)	150 mm dia M.S long radius bend Rate in figure: Rate in word:	Nos	20		
(iv)	150x100 mm dia M.S reducing tee Rate in figure: Rate in word:	Nos	6		
(v)	40mm x 50 mm M.S ecentric reducer Rate in figure: Rate in word:	Nos	3		
(vi)	65mm x 75 mm M.S ecentric reducer Rate in figure: Rate in word:	Nos	8		
(vii)	80 mm dia M.S flange Rate in figure: Rate in word:	Nos	25		
(viii)	65 mm dia M.S flange Rate in figure: Rate in word:	Nos	20		
(ix)	50 mm dia M.S flange Rate in figure: Rate in word:	Nos	20		

Sl.No	Description	Unit	Qty.	Rate	Amount
(x)	150 mm dia M.S flange Rate in figure: Rate in word:	Nos	15		
13	Providing ,Supplying, fixing, testing uPVC , pipes conforming to ASTM-D-1785 (sch-80) of approved make.Jointing with solvent cement solution as per ASTM-D-2564 testing of joints etc.complete as per direction of the Engineer-in-charge.				
(i)	150 MM DIA (SCH-80) Rate in figure: Rate in word:	Rmt	85		
(ii)	100 MM DIA (SCH-80) Rate in figure: Rate in word:	Rmt	250		
(iii)	80 MM DIA (SCH-80) Rate in figure: Rate in word:	Rmt	360		
(iv)	65 MM DIA (SCH-80) Rate in figure: Rate in word:	Rmt	120		
(v)	50 MM DIA (SCH-80) Rate in figure: Rate in word:	Rmt	90		
(vi)	40 MM DIA(SCH-80) Rate in figure: Rate in word:	Rmt	250		
(vii)	32 MM DIA (SCH-80) Rate in figure: Rate in word:	Rmt	150		
UPVC FITTINGS:					
14	Providing ,Supplying, fixing, testing uPVC fittings conforming to ASTM-D-2467 (sch-80) of approved make.Jointing with solvent cement solution as per ASTM-D-2564, trenching , refilling & testing of joints etc.complete as per direction of the Engineer-in-charge.				
(i)	150 mm dia 90 deg bend(sch-80) Rate in figure: Rate in word:	Nos	20		
(ii)	100 mm dia 90 deg bend(sch-80) Rate in figure: Rate in word:	Nos	20		

Sl.No	Description	Unit	Qty.	Rate	Amount
(iii)	80 mm dia bend(sch-80) Rate in figure: Rate in word:	Nos	10		
(iv)	50 mm dia bend(sch-80) Rate in figure: Rate in word:	Nos	15		
(v)	40 mm dia bend(sch-80) Rate in figure: Rate in word:	Nos	15		
(vi)	32 mm dia bend(sch-80) Rate in figure: Rate in word:	Nos	15		
(vii)	100 mm x 75 mm reducing tee(sch-80) Rate in figure: Rate in word:	Nos	8		
(viii)	80 mm x 50 mm reducing tee Rate in figure: Rate in word:	Nos	8		
(ix)	80 mm x 65 mm reducing tee Rate in figure: Rate in word:	Nos	6		
(x)	100 mm x 50 mm reducing tee Rate in figure: Rate in word:	Nos	6		
(xi)	65 mm x 32mm reducing tee Rate in figure: Rate in word:	Nos	6		
(xii)	40 mm x 32mm reducing tee Rate in figure: Rate in word:	Nos	8		
(xiii)	80 mm x 50 mm reducer Rate in figure: Rate in word:	Nos	8		
(xiv)	100 mm x 65 mm reducer Rate in figure: Rate in word:	Nos	8		
(xv)	65 mm x 40 mm reducer Rate in figure: Rate in word:	Nos	8		
(xvi)	80 mm x 40 mm reducer Rate in figure: Rate in word:	Nos	8		

Sl.No	Description	Unit	Qty.	Rate	Amount
(xvii)	40 mm x 32 mm reducer Rate in figure: Rate in word:	Nos	8		
(xviii)	100 mm coupler Rate in figure: Rate in word:	Nos	45		
(xix)	75 mm coupler Rate in figure: Rate in word:	Nos	65		
(xx)	65 mm coupler Rate in figure: Rate in word:	Nos	25		
(xxi)	50 mm coupler Rate in figure: Rate in word:	Nos	18		
(xxii)	40 mm coupler Rate in figure: Rate in word:	Nos	45		
(xxiii)	32 mm coupler Rate in figure: Rate in word:	Nos	25		
(xxiv)	32 mm upvc brass male threaded adoptor Rate in figure: Rate in word:	Nos.	15		
(xxv)	32 mm upvc union Rate in figure: Rate in word:	Nos.	8		
(xxvi)	Heavy solvent cement(500ml) for upvc pipe Rate in figure: Rate in word:	Nos	115		
(xxvii)	Primer(500 ml) Rate in figure: Rate in word:	Nos	52		
xxviii	100 mm upvc flange socket Rate in figure: Rate in word:	Nos	20		
15	Providing, fitting & fixing of 100 mm dia (puddle Flanged ends MS plate 6 mm thick);etc complete as per direction of the Engineer-in-charge. Rate in figure:	Nos	20		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
16	Providing, fitting & fixing of 80 mm dia (puddle Flanged ends MS plate 6 mm thick); etc complete as per direction of the Engineer-in-charge. Rate in figure: Rate in word:	Nos	8		
17	Providing, fitting & fixing of 50 mm dia (puddle Flanged ends MS plate 6 mm thick); etc complete as per direction of the Engineer-in-charge. Rate in figure: Rate in word:	Nos	8		
18	Providing, fitting & fixing of 32 mm dia (puddle Flanged ends MS plate 6 mm thick); etc complete as per direction of the Engineer-in-charge. Rate in figure: Rate in word:	Nos	5		
19	Providing, fitting & fixing pvc rung 200 mm X 300mm (inside u.g.r.)etc. all complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos	110		
20	Providing, fitting & fixing of 600 mm dia FRP manhole cover with frame.etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos	14		
21	Providing and fixing C.I iron gate valve PN-1.0(flanged) with non rising stem conforming IS: 14846 hand wheel operated ,stainless steel stem with gun metal parts . flanges drilled to IS : 1538 etc complete as per direction of Engineer-in-charge.				
(i)	150mm dia Rate in figure: Rate in word:	Nos.	3		
(ii)	65mm dia Rate in figure: Rate in word:	Nos.	2		
22	Supplying and fixing in position C.I non return valve(flanged) as per IS: 5312 , swing type with natural rubber flap,flanges drilled to IS : 1538 PN:1.0 etc.complete.as per the direction of Engineer-in-charge.				
(i)	150 mm dia Rate in figure: Rate in word:	Nos.	3		
(ii)	65mm dia Rate in figure:	Nos.	2		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
23	Supplying & fixing full way lever operated forged brass ball valve of brass body with forged brass hard chromeplated steel ball tested to a pressure not less than 15 Kg / sqcm with threaded / flanged joints complete with nuts, bolts, gaskets, washers union etc.complete.as per the direction of Engineer-in-charge.				
(i)	32 mm dia (Screwed ends) Rate in figure: Rate in word:	Nos.	4		
24	Providing & fixing gun metal vertical type non return valve conforming to IS:778 and tested to a pressure not less than 15 Kg/Sqcm, Including rubber gasket, flanges, union, nuts, bolts & washers complete as required.etc.complete.as per the direction of Engineer-in-charge.				
(i)	32 mm dia (Screwed ends) Rate in figure: Rate in word:	Nos.	4		
25	Providing & fixing cast iron foot valve(swing type) conforming to IS:4038 flanged end with strainer.bodyseat ring of G.M and neoprene rubber seated disc for 100% leakproof with required flange, nuts, bolts, gaskets etc complete.as per direction of Engineer-in-charge.				
(i)	50 mm dia Rate in figure: Rate in word:	Nos.	3		
(ii)	75 mm dia Rate in figure: Rate in word:	Nos.	7		
26	Providing and fixing C.I. double acting air valve with inbuilt isolation valve of approved quality with bolts , nuts, rubber insertions etc. complete. (The tall pieces ,tapers etc if required will be paid separately) etc. complete.as per the direction of Engineer-in-charge.				
(i)	40 mm dia Rate in figure: Rate in word:	Nos.	4		
27	Providing and fixing gun metal ball cock of approved quality with brass rod , copper ball float suitable for test pressure not less than 10 kg/sqcm bolts , nuts, with rubber insertions etc. complete.as per the direction of Engineer-in-charge.				
(i)	40mm dia. Rate in figure:	Nos.	5		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
(ii)	50mm dia. Rate in figure: Rate in word:	Nos.	5		
(iii)	65mm dia Rate in figure: Rate in word:	Nos.	11		
(iv)	75mm dia. Rate in figure: Rate in word:	Nos.	3		
28	Supplying , installing, testing, and commissioning approved make water level indicators for the overhead. Underground sump, storm, and pump room sump tanks detailed as sensors. Control and display panel in the basement and making all connections, wiring in conduits as per equipment manufacturers specification (approximately 600m).etc.complete.as per the direction of Engineer-in-charge. Rate in figure: Rate in word:	Set	7		
29	Supplying, installing, testing and commissioning of of packaged variable speed drive type skid mounted hydropneumatic system comprising of :- Pumps which should be of vertical, non self-priming, multistage, in-line centrifugal pump with cartridge type mechanical seal. Impellers and intermediate chambers should be made of stainless steel DIN W. Nr 1.4301. Pump head and base should be made of Cast iron. All cast iron parts should be coated with Cathodic Electrolysis Deposition (CED) of thickness 18 +/- 4 µm. Pipe work connection to pumps should be via DIN flanges.Motors should be of TEFC design, IE2 eff class, flange mounting – top pull out design, 2-pole with operating speed of 2900 rpm, suitable for 400/440 Volts, 3 phase, 50 Hz A.C, double-lock drive end bearings to withstand high thrust, insulation class F, Enclosure class - IEC 60034. Rated bearing life of motors should be of L10 grade and Maximum noise level should be 72dB at 1 meter level. Temperature rise of motors should confirm to class B. Vibration level of motors should be according to ISO 10816. Motors having RMS vibration speed below than 2.8 mm/sec will be acceptable.				

Sl.No	Description	Unit	Qty.	Rate	Amount
	<p>Delivery manifolds in Hot Dip Galvanized steel (80-110micron) with DIN standard flange connections. Suitable range of 10 bar pressure gauges (WIKA make) and 16 bar pressure transmitter (Danfoss make) should be connected at the discharge manifolds. One non-return valve and isolating valves for each pump is provided in delivery side and one isolating valve is provided in individual suction side. Manifolds and valves are suitable for 16bar pressure rating. Pumps should be mounted on the common base frame. Base frame and panel side support is in Galvanized steel.</p> <p>Control cabinet with an IP 41 enclosure of suitable rating with the keypad and display screen mounted through the outer door. In addition to the electronic pump controller, the control cabinet shall include single Danfoss makes VFD, circuit breakers for each pump and the control circuit, control relays for alarm functions and fuses. Control cabinet shall include the Motor protection, Dry run protection, Ethernet connectivity (Web based control), 320 X 240 pixels colour display unit., Pump Fault Lights – A Red light for fault indications, Visual Alarm, Manual Operation. Pump Logic controller manufacturer shall be listed by and bear the label of Underwriter's Laboratory Inc (UL). The controller shall be specifically designed for variable speed pumping applications. Automatic case cade function should ensure that, pumps should automatically adopt to variable demand condition by switching the pumps ON or OFF. Pumps should runs at energy efficiently with limited no of pumps. The pump logic controller shall be manufacturer Multi Pump Controller or approved equal housed in a NEMA 1 enclosure etc. complete.as per the direction of Engineer-in-charge.</p>				
	<p>(a) HPS for Domestic water transfer pumps set from UGR -1 to OHT for Hostel Buildings Each pump Flow : 30 m3/hr, Head : 35 m, Minimum Pump Efficiency : 70% Recommended Motor of each pump : 5.5 KW Quantity : 1 Set (2W+1S) Rate in figure: Rate in word:</p>	Set	1		
	<p>(b) HPS for Domestic water transfer pumps set from UGR-2 to OHT for Auditorium, Library, Admin, Academic, Amphi theater Building Each pump Flow : 30 m3/hr, Head : 50 m, Minimum Pump Efficiency : 70% Recommended Motor of each pump : 7.5 KW Quantity : 1 Set (2W+1S) Rate in figure: Rate in word:</p>	Set	1		
	<p>(c) HPS for Domestic water transfer pumps set from UGR-3 to OHT for Club House & swimming pool</p>				

Sl.No	Description	Unit	Qty.	Rate	Amount
	Each pump Flow : 10 m3/hr, Head : 22 m, Minimum Pump Efficiency : 65% Recommended Motor of each pump : 1.1 KW Quantity : 1 Set (1W+1S) Rate in figure: Rate in word:	Set	1		
(d)	HPS for Domestic water transfer pumps set from UGR-4 to OHT for Police Station & Market Complex Each pump Flow : 10 m3/hr, Head : 22 m, Minimum Pump Efficiency : 65% Recommended Motor of each pump : 1.1 KW Quantity : 1 Set (1W+1S) Rate in figure: Rate in word:	Set	1		
30	Supplying, installing, testing and commissioning of submersible dewatering pump .The pump shall have ss motor body with ip 68 protection, ac thermal protection ,dry motor construction with sealing chamber etc. complete.as per the direction of Engineer-in-charge. Purpose=Disposal of water from ugr Location - Inside ugr sump Flow =200 lit/min Head= 5 met single phase Motor HP= 0.8 Rate in figure: Rate in word:	Nos	4		
31	Providing , fixing, testing and commissioning of motorized butterfly valve for filling of overhead water tanks complete with high and low level control switches to control tanks,the level controller shall be installed in overhead tank,the level switch will close the valve when water level is high in overhead tanks and open the valve when overhead water tanks level is low.The system should be complete in all aspect with accessories,electrical water level control unit ,copper control wiring in weather proof casing etc. complete as per the direction of Engineer-in-charge.				
(i)	40mm dia Rate in figure: Rate in word:	Nos.	2		
(ii)	50mm dia Rate in figure: Rate in word:	Nos.	4		
(iii)	65mm dia Rate in figure: Rate in word:	Nos.	14		

Sl.No	Description	Unit	Qty.	Rate	Amount
32	Providing and fixing M.S. structural work fabricated from structural steel sections M.S. angles, channels, plates including cutting to size, drilling, welding fixing for support of pump suction and delivery pipe.where ever required including two coats of synthetic enamel paint/epoxy paint over a coat of primer as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Qntl	4		
33	Providing and fixing in position mosquito proof coupling in vent pipe as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos	8		
34	Providing &, testing & commissioning of dial type pressure gauge with pressure scale of 0 to 15 kg / sq.cm.Provision of isolation cock suitable for maximum pressure of 15 kg / sq.cm shall be included in cost.as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos	8		

TOTAL: _____

Rate in figure:

Rate in word:

For M/s. RATH ARCHITECTONIC.

**B.O.Q OF PUMP HOUSE (4 NOS.) OVER U.G.R
FOR PROPOSED NATIONAL LAW UNIVERSITY ORISSA AT NARAJ, CUTTACK**

1	Dismantling of Reinforced Cement concrete grade including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	2		
2	Dismantling Brick work in cement mortar including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	3		

Sl.No	Description	Unit	Qty.	Rate	Amount
3	Dismantling of cement concrete grade M-10 and below including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge.. Rate in figure: Rate in word:	Cum.	2		
4	Dismantling of cement concrete grade M-15 including T & P and scaffolding wherever necessary, sorting the dismantled material , disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 meters as per direction of Engineer-in-Charge. Rate in figure: Rate in word:	Cum.	7		
5	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved. Rate in figure: Rate in word:	Cum.	5		
6	Providing and laying plain cement concrete (1:2:4) in foundation and bottom layers of flooring using 25 mm size black hard crusher broken granite metal of approved quality from approved quarry including mixing, lowering, laying and compacting to proper thickness, watering and curing for the required period, including cost of all material, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools & plants, etc., complete as per the direction of Engineer-in-charge. Rate in figure: Rate in word:	Cum.	5		
7	Providing lifting, hoisting and laying reinforced cement concrete to all type of concreting work to base of columns and footing, columns, beams, plinth band, lintels, chajja, shaft, fins, roof slabs, balconies, stair cases, parapets, window wills, lofts, railing, jally, coping or in places as shown in the drawing or as directed with 20 mm and down graded size black hard crusher broken chips of approved quality from approved quarry including mixing and vibro compacting to proper shape and size, level and plumbs and finishing the exposed surfaces smooth (if required providing plaster with cement mortar (1:4) wherever necessary without any extra cost) scaffolding, including, watering and curing the required period, including cost of all materials, labour, conveyance, loading and unloading, royalties, sundries, tools and plants, etc upto floor five level, complete as per direction of the Engineer-in-charge including cost of all materials and labour. M-25 Grade Concrete in Superstructure.	Cum.	4		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in figure: Rate in word:				
9	Providing RCC Racks / selves, counter slabs, benches thickness upto 75 mm, having full bearing on wall and projection upto 600 mm in CC 1:2:4 with 12 to 6 mm graded trap aggregate. The top surface and exposed edges shall be finished with neat cement punning over 12 mm thick cement plaster 1:6. Rate in figure: Rate in word:	Sqm.	4		
10	Providing, laying & binding of M.S. round / deformed / tor steel reinforcement bars of required diameters for straightening, cutting to size, bending, and binding the grills, lifting and placing in position at all heights & locations as per design complete including cost of bars, cost of binding wires 22 gauge, labour, conveyance, loading and unloading, taxes, royalties, sundries, tools and plants upto floor five level, etc. complete as per the direction of the Engineer-in-charge. (linear measurement will be taken and quantity will be calculated on standard weight of bars for all heights). Rate in figure: Rate in word:	Qntl.	2.4		
11	Providing strong, rigid, leveled, and plumbed centering and shuttering to required shape and size, with shuttering ply or steel centering materials with all necessary bracing and tiles and supports with leveling centering covered with bituminous paper with provisions necessary holes and pockets for electrical conduits, pipes, P.H. pipes, for hooks or boxes, switch and board insert plates, clamps and extension bars etc., including dismantling the same after the required intervals from the date of casting including cost of all materials, labour, conveyance, loading and unloading, taxes, royalties, scaffolding, sundries, tools and plants, etc., complete as per the direction of the Engineer-in-charge.				
(a)	Foundations, footings, bases of columns etc. for mass concrete. Rate in figure: Rate in word:	Sqm.	24		
12	Providing Avg. 12 mm thick cement plaster 1:6 (1 cement : 6 sand) to inside surface of masonry, column, beams and chajjas, racking out joints, scrapping and cleaning the surface and finishing the plastered surface smooth to proper plumbs and levels and providing grooves as shown in the drawing or as directed including cost of all materials, labour, conveyance, loading and unloading., taxes, royalties, scaffolding, watering, curing, sundries, tools and plants, etc., as per the direction of the Engineer-in-charge. Rate in figure: Rate in word:	Sqm.	30		

Sl.No	Description	Unit	Qty.	Rate	Amount
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13 Providing and fixing circular / hexagonal M.S. sheet ceiling fan box 73 mm height make out of 1.5 mm thick M.S. sheet welded with 12 mm dia M.S. bar bent to shape with provision of conduit inlet all complete as per direction of Engineer-in-charge.

The box shall be finished with two coats of anticorrosive paints.

Nos. 4

Rate in figure:

Rate in word:

14 **DOORS:**

(i) **M.S.DOOR :**

Supplying, fitting and fixing of M.S.door with Single Leaf outer frame made of 35x35x5 mm equal M.S L angle and shutter frame made of 25 x25 x5mm equal M.S. L angle for horizontal and vertical members and the shutter frame strengthened by stiffeners of 2 Nos. Horizontal and 3 Nos. diagonal using MS flat of size 20x5mm fully covered with 18 gauge plain M.S full sheet welded with shutter frame neatly and also fixing by welding 6 Nos. of holdfasts, 1 No. of wind appliance , 2 Nos. of tower bolts,1 No of aldrops,2 Nos of handles, fixing the shutter with 6 Nos. of hinges with outer frame of the door including painting the whole unit with two coat of best quality of red oxide primer and enamel paint of approved shade all complete as per drawing and direction of Engineer-in-charge .

Sqm. 16.965

Rate in figure:

Rate in word:

TOTAL: _____

Rate in figure:

Rate in word:

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q
OF BALANCE WORK OF CENTRALISED U.G.R (150CUM)
FOR
PROPOSED NATIONAL LAW UNIVERSITY ODISHA
AT NARAJ, CUTTACK

CONSULTANT :

M/s. RATH ARCHITECTONIC

PLOT NO. 104, MADHUSUDAN NAGAR

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Sl.No	Description	Unit	Qty.	Rate	Amount
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ABSTRACT COST

CIVIL WORKS

1 U.G.R. (150 CUM WITH PUMP HOUSE)

Rs. _____

TOTAL :

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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**B.O.Q OF BALANCE WORK OF CENTRALIZED U.G.R. 150 CUM WITH PUMP HOUSE
FOR PROPOSED NATIONAL LAW UNIVERSITY ODISHA AT NARAJ, CUTTACK**

U.G.R. 150 CUM WITH PUMP HOUSE

1	Supplying, fabricating and fixing MS grills madeup with M.S. square bar / round bar / flat / angle as per design and drawing including applying two coat enamel paint over a coat of red oxide primer and fixing the same for door ,window and ladder frames including cost, convenance, taxes, T & P etc complete as per requirement and direction of Engineer-in-charge. Rate in figure: Rate in word:	Qntl	1.8		
2	Providing and laying S & S Centrifugally cast (Spun) / Ductile Iron pipes conforming to IS : 8329.				
(i)	100 mm dia Ductile Iron Class K-7 pipes. (pump suction pipe from ugr to pump inlet) Rate in figure: Rate in word:	Rmt	30		
3	Providing & laying D.I. Standard specials such as tees, bends, collars tapers and caps etc., suitable for flanged jointing as per IS : 8329				
(i)	100 mm dia 90 deg bend Rate in figure: Rate in word:	Nos	8		
(ii)	100 mm dia ductile iron tee Rate in figure: Rate in word:	Nos	2		
(iii)	100 mm dia Flange Rate in figure: Rate in word:	Nos	4		
(iv)	65 mm x 100mm ecentric reducer Rate in figure: Rate in word:	Nos	2		
(v)	50 mm x 100 mm concentric reducer Rate in figure: Rate in word:	Nos	2		
(vi)	65 mm flange Rate in figure: Rate in word:	Nos	4		
(vii)	50 mm flange Rate in figure:	Nos	4		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
4	Providing and fixing of MS hot dip galvanized puddle flanges to be provided (in the structural wall of water tank) of various diameters etc. complete as per the direction of Engineer-in-charge.				
(i)	80 mm dia (Flanged ends MS plate 6 mm thick) Rate in figure: Rate in word:	Nos	2		
(ii)	100 mm dia (Flanged ends MS plate 6 mm thick) Rate in figure: Rate in word:	Nos	6		
(iii)	200 mm dia (Flanged ends MS plate 6 mm thick) Rate in figure: Rate in word:	Nos	2		
5	Providing and fixing C.I iron gate valve PN-1.0(flanged) with non rising stem conforming IS: 14846 hand wheel operated ,stainless steel stem with gun metal parts. flanges drilled to IS : 1538 etc complete as per direction of Engineer-in-charge.				
(i)	100 mm gate valve Rate in figure: Rate in word:	Nos	2		
6	Supplying and fixing in position C.I non return valve(flanged) as per IS: 5312 , swing type with natural rubber flap,flanges drilled to IS : 1538 PN:1.0 etc.complete.				
(i)	100 mm NRV Rate in figure: Rate in word:	Nos	3		
7	Providing & fixing cast iron foot valve(swing type) conforming to IS:4038 flanged end with strainer.bodyseat ring of G.M and neoprene rubber seated disc for 100% leakproof with required flange, nuts, bolts, gaskets etc complete.as per direction of Engineer-in-charge.				
(i)	100 mm foot valve Rate in figure: Rate in word:	Nos	2		
8	Providing, fitting & fixing pvc rung 200 mm X 300mm (inside ugr) etc. all complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos	20		

Sl.No	Description	Unit	Qty.	Rate	Amount
9	<p>Providing and fixing in position precast R.C.C.manhole cover and frame of 600mm x 450mm internal dimension of required shape and approved quality.</p> <p>Rate in figure:</p> <p>Rate in word:</p>	Nos.	1		
10	<p>Providing and testing of Centrifugal Horizontal single stage End suction pumps - from Centralize UGR to Centralize OHT Tower for domestic water supply Phase-2 Staff Colony, which is comprising of :</p> <p>The pumps shall be close coupled, single stage, centrifugal, foot mounted volute type radial split casing, end suction with back-pull out design with Mechanical seal. Pump casing shall be EN-GJL-250 Grey Cast Iron according to BS EN 1561: 1997 and capable of withstanding to the maximum pressure developed by the pump. The impeller shall be lead free cast brass enclosed type. The direction of rotation of the impeller is clockwise when viewed from the motor. Antifriction ball bearings shall be of standard type and shall meet minimum L-10 rating life up to 40000 hrs. The pump coupling should be of close-coupled type with stub shaft. All external and exposed cast iron parts of pumps have an epoxy-based coating made in a cathodic electro-deposition (CED) high-quality dip-painting process to prevent rusting and corrosion. The MOC of Baseframe should be MS Channel and standard as per manufacturer recommendation. Both suction Discharge port of pump should be flange connection & dimension in accordance with EN 1092-2.</p> <p>Motor shall be TEFC, IE2 Eff class, horizontal, foot mounted, totally enclosed fan-cooled, standard squirrel cage induction motors with main dimensions according to IEC standards and 2 pole. Electrical tolerances are to IEC 60034. Motor shall be energy efficient type. Motor shall be to with IP 55 enclosure. The class of insulation shall be F with temperature rise limited to Class B. Motor shall be suitable for operation on a 415 V ($\pm 10\%$ variation), 50Hz $\pm 5\%$, 3phase.</p> <p>The electrical control panels should be operated automatically for 2 pumping system comprising with Single phase preventer, Cyclic Timer, fault based change over, Potential free contacts, IP 41 Enclosure, manufacturer recommended volt meter, ammeter with selector switch, MCB, necessary wiring, cable alleys, earthing, interlocking, starter with Automatic float type level controller. If require, both pumps may run simultaneously at pre determind level automatically.</p> <p>Domestic water transfer pump with motor set from Centralize UGR to Centralize OHT Tower</p> <p>Each pump Flow : 50 m³/hr,</p> <p>Head : 60 m,</p> <p>Minimum Pump Efficiency : 60%</p> <p>Recommended Motor of each pump : 7.5 KW</p> <p>Quantity : 2 nos.</p> <p>Rate in figure:</p> <p>Rate in word:</p>	Nos.	2		

Sl.No	Description	Unit	Qty.	Rate	Amount
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(a) Control Panel 2 x 7.5 KW
 Rate in figure:
 Rate in word:

Set 1

Total: _____

Rate in figure:
 Rate in word:

For M/s. RATH ARCHITECTONIC

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q
OF EXTRNAL ELECTRICAL WORKS
FOR NATIONAL LAW UNIVERSITY ODISHA
AT NARAJ, CUTTACK

CONSULTANT :

M/s. RATH ARCHITECTONIC

PLOT NO. 104, MADHUSUDAN NAGAR

UNIT-IV, BHUBANESWAR-751001

Ph. No. (0674) 2390940, 2395340

E-mail : ratharchitectonic@rediffmail.com

Sl.No	Description	Unit	Qty.	Rate	Amount
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ABSTRACT COST

1 EXTERNAL ELECTRICAL WORKS :

Total :

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
2	Supply and laying of all required material of following sizes 1.1 KV grade ,stranded aluminium XLPE, armored aluminium power cable,Core laid up,Extracted PVC inner shethed,galvanized flat steel wire armoured and over all XLPE Outer sheath cable as per IS:1554/Part-1/1998 and laying of cables directly in ground at a depth of 750mm deep in all kinds of soil , 450mm wide with B -CLASS brick in C channel formation , back filling etc. Including laying in pre - laid hume pipe / GI pipe as requied .The space between the brick shall be filled of with 75mm thick layer of sand . There after fill up loose earth in trench , ram properly to compact , remove extra earth from side .				
(a)	3 x 10 sqmm Ar. AL cable. Rate in figure: Rate in word:	Mtr.	3500		
(b)	3x ½ x 50 sqmm Ar. AL cable. Rate in figure: Rate in word:	Mtr.	900		
(c)	4 x 35 sqmm Ar. AL cable. Rate in figure: Rate in word:	Mtr.	850		
(d)	3 x ½ x 120 sqmm Ar. AL cable. Rate in figure: Rate in word:	Mtr.	1600		
(e)	3 x ½ x240 sqmm Ar. AL cable. Rate in figure: Rate in word:	Mtr.	1500		
(f)	3 x ½ x300 sqmm Ar. AL cable. Rate in figure: Rate in word:	Mtr.	1600		
(g)	3 x ½ x630 sqmm Ar. AL cable. Rate in figure: Rate in word:	Mtr.	500		
3	Termination of cable of the following sizes by providing cable glands lugs etc. and complete with all respect.				
(a)	3 x 10 sqmm Ar. AL cable. Rate in figure: Rate in word:	Set.	60		
(b)	3x ½ x 50 sqmm Ar. AL cable. Rate in figure: Rate in word:	Set.	10		
(c)	4 x 35 sqmm Ar. AL cable. Rate in figure:	Set.	8		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
(d)	3 x ½ x 120 sqmm Ar. AL cable. Rate in figure: Rate in word:	Set.	20		
(e)	3 x ½ x240 sqmm Ar. AL cable. Rate in figure: Rate in word:	Set.	26		
(f)	3 x ½ x300 sqmm Ar. AL cable. Rate in figure: Rate in word:	Set.	12		
g)	3 x ½ x630 sqmm Ar. AL cable. Rate in figure: Rate in word:	Set.	12		
4	Providing and laying of 300 mm hume pipe. Rate in figure: Rate in word:	Mtr.	150		
5	Providing and laying of 250 mm hume pipe. Rate in figure: Rate in word:	Mtr.	150		
6	Providing and laying of 75 mm G.I. pipe.(CLASS-B) Rate in figure: Rate in word:	Mtr.	100		
7	Providing and laying of 100 mm G.I. pipe. (Class-B) Rate in figure: Rate in word:	Mtr.	100		
8	Providing and laying of 150 mm P.V.C pipe. Rate in figure: Rate in word:	Mtr.	125		
9	Providing and laying of 200 mm P.V.C pipe. Rate in figure: Rate in word:	Mtr.	100		
10	Supply of the straight through cable jointing kit of following sizes of make Raychem/Birla 3M / Mahindra/M-seal (Each drum having 500mtr. length)				
(a)	3 x 10 sqmm Ar. AL cable. Rate in figure: Rate in word:	No.	10		
(b)	3x ½ x 50 sqmm Ar. AL cable. Rate in figure: Rate in word:	No.	8		
(c)	4 x 35 sqmm Ar. AL cable. Rate in figure:	No.	2		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
(d)	3 x ½ x 120 sqmm Ar. AL cable. Rate in figure: Rate in word:	No.	6		
(e)	3 x ½ x240 sqmm Ar. AL cable. Rate in figure: Rate in word:	No.	2		
(f)	3 x ½ x300 sqmm Ar. AL cable. Rate in figure: Rate in word:	No.	8		
(g)	3 x ½ x630 sqmm Ar. AL cable. Rate in figure: Rate in word:	No.	6		
11	Supply and fixing of the following material :				
(a)	Fire fighting equipments Rate in figure: Rate in word:	Set.	20		
(b)	Sand bucket with sand (1 set) consisting of 4 Nos. bucket with stand. Rate in figure: Rate in word:	Set.	10		
(c)	Insulation pad (1 m x 1 m) Rate in figure: Rate in word:	Set.	30		
(d)	Supply of first aid box	Set.	12		
12(a)	Laying/sifting of Existing UG cable (re-rutting Upto 120 Sq.mm Ar. Al. Cable) Rate in figure: Rate in word:	Mtr.	400		
(b)	Laying/sifting of Existing UG cable (re- rutting above 185 sq.mm to 630 sq.mm Ar. Al. Cable) Rate in figure: Rate in word:	Mtr.	400		
13	Sifting and refixing of fidders/lihgt fidders including civil foundation(ht. of foundation is 2'-6") to fixing the fiddler. Rate in figure: Rate in word:	No.	4		
14	Supply and erection of 11 KV danger board with the inscription "Danger"11000 Volt in Oriya, Hindi & English including skull and bones as per IS : 2551 means for pole symble. Rate in figure: Rate in word:	Set.	20		

Sl.No	Description	Unit	Qty.	Rate	Amount
15	Providing and fixing of 9 meter swaged double arm hot drip galvanized octagonal pole with J.B. inside the pole grouted on ground with R.C.C. base and provision for junction box including cable glading and terminating as per the instruction of Engineer-in-charge / Consultant. Rate in figure: Rate in word:	No.	20		
16	Providing and fixing of 6 meter swaged double arm hot drip galvanized octagonal pole of approved dia with J.B. inside the pole grouted on ground with R.C.C. base and provision for junction box including cable glading and terminating as per the instruction of Engineer-in-charge / Consultant. Rate in figure: Rate in word:	No.	74		
17	Supply, Installation, testing and commissioning of all required material and mounting of 8" x 6" junction box with separate water proof encloser box on R.C.C. coupon for out door light having 1 No. 10Amp. SP MCB with porcelin connector and 1 No. neutral for controlling circuit and complete with all respect as per the instruction of Engineer-in-charge / Consultant. Rate in figure: Rate in word:	No.	94		
18	Providing and fixing of LED Street Light luminaire fittings Goldwyn make Cat. No. XS 04 15,60 watt LED lamp/equivalent model of the make specified in material list including all other accessories and necessary connection as per the direction of the engineering-in-charge or consultant. Rate in figure: Rate in word:	No.	148		
19	Providing and fixing of LED Street Light luminaire fittings Goldwyn make Cat. No. XS 04 18,80 watt LED lamp/equivalent model of the make specified in material list including all other accessories and necessary connection as per the direction of the engineering-in-charge or consultant. Rate in figure: Rate in word:	No.	40		
20	Supply, delivery, installation, testing and commissioning of POST TOP light of 30 w LED luminaire . Integral Power LED Driver, Polypropylene Housing for recessing for outdoor lighting.The rate inclusive of all material, transportation, taxes etc. for complete delivery at site or as per the direction of Engineer- in-charge of consultant. Product Code:VIN-PTO30 Input Voltage: 230V AC 50 Hz Input Power: 30W Operating Temperature: -20 °C to 50 °C Ingress Protection: IP 66, IK 10 Colour Rendering Index: > 80				

Sl.No	Description	Unit	Qty.	Rate	Amount
	<p>Lifespan: Typically 50, 000 Hours Power Factor: > 0.9 Safety Standard: EN 60598 EMC / EMI Standard: EN 61547/EN 55015 Make: VIN/G-ON/Goldwyn/ DECOLUX/havells/philips Rate in figure: Rate in word:</p>	No.	30		
21	<p>Supply, delivery, installation, testing and commissioning of POST TOP light of 35 w LED luminaire . Integral Power LED Driver, Polypropylene Housing for recessing for outdoor lighting.The rate inclusive of all material, transportation, taxes etc. for complete delivery at site or as per the direction of Engineer- in-charge of consultant. Product Code:VIN-PLO35 Input Voltage: 230V AC 50 Hz Input Power: 35W Operating Temperature: -20 °C to 50 °C Ingress Protection: IP 66, IK 10 Colour Rendering Index: > 80 Lifespan: Typically 50, 000 Hours Power Factor: > 0.9 Safety Standard: EN 60598 EMC / EMI Standard: EN 61547/EN 55015 Make: VIN/G-ON/Goldwyn/ DECOLUX/havells/philips Rate in figure: Rate in word:</p>	No.	45		
22	<p>Supply, delivery, installation and commissioning of 60 mm dia stain less steel mounting pole (304) of height 7 feet with base plate and appropriate size nut bolt to mounting the base plate including foundation and all other accessories as per the direction of PMC. The rate inclusive of all material, transportation, taxes etc. for complete delivery at site or as per the direction of Engineer- in-charge of consultant. Rate in figure: Rate in word:</p>	No.	60		
23	<p>Supply, delivery, installation, testing and commissioning of Energy Efficient LED Bollard with high corrosion resistance aluminum Alloy body and top cover,polycarbonate diffuser including required foundation,nut and bolts.The rate inclusive of all material, transportation, taxes etc. for complete delivery at site or as per the direction of Engineer- in-charge of consultant. Product Code: VIN-BL1 Input Voltage: 230V AC 50 Hz Input Power: 10.5W Operating Temperature: -20 °C to 50 °C Ingress Protection: IP 65 Colour Rendering Index: > 70 Lifespan: Typically 50, 000 Hours Power Factor: > 0.9</p>				

Sl.No	Description	Unit	Qty.	Rate	Amount
	Safety Standard: EN 60598 EMC / EMI Standard: EN 61547/EN 55015 Make: Make: Goldwyn/ DECOLUX/havells/philips/VIN/G-ON	No.	30		
	Rate in figure: Rate in word:				
24	Supply, delivery, installation, testing and commissioning of Energy Efficient LED spot/flood light with high corrosion resistance die-cast aluminium body and bracket including required foundation,nut and bolts.The rate inclusive of all material, transportation, taxes etc. for complete delivery at site or as per the direction of Engineer- in-charge of consultant. Model: HYDROSKY Product Code: XB 06 13 Input Voltage: 230V AC 50 Hz Input Power: 11W Operating Temperature: -20 °C to 50 °C Ingress Protection: IP 66 Colour Rendering Index: > 80 Lifespan: Typically 50, 000 Hours Power Factor: > 0.9 Safety Standard: EN 60598 EMC / EMI Standard: EN 61547/EN 55015 Make:Goldwyn/ DECOLUX/havells/philips/VIN/G-ON	No.	35		
	Rate in figure: Rate in word:				
25	EARTHING				
A	Supply, installtion, testing and commissioning of 3meter Electrode chemical earthing with 58mm G.I galvanized electrode and 25x3mm G.I inner Strip with 50x6mm copper connecting terminal with 2bags of BFC (50kg)	No	20		
	Rate in figure: Rate in word:				
B(i)	Supply and installation including all connections of earth electrode stations comprising of :				
(a)	40 mm dia class - 'B' G.I. Pipe 3 mt. long.				
(b)	Digging of earth pit, placing of G.I. Pipe in the pit and filling up of the same with a mixture of 200 kg. Salt 100 kg. of charcoal and rest with good clay earth all firmly compact into the pit.				
(c)	30 cm. at the top portion at the pipe having a G.I. Hinges shall be enclosed in a brick work chamber built up to 10 cm below G.I. and upto 30 cm above G.I. Chamber which shall have 500 mm x 500 mm inside dimension will have a G.I. Hinge cover with the bare frame firmly grouted.	Set.	10		
	Rate in figure:				

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
(ii)	Providing and laying of 16 sqmm single core PVC insulated armoured aluminium cable from earthing connector to panel. Rate in figure: Rate in word:	Mtr.	200		
(iii)	Providing and fixing of earth box of 25 mm x 3 mm G.I. Strip on surface for connection of cable from earth-pit. Rate in figure: Rate in word:	Mtr.	800		
(ii)	Providing and laying of 8 SWG GI wire for pole earthing. Rate in figure: Rate in word:	Mtr.	700		
26	Supply of all required materials and recessed (concealed) wiring to proposed light points / fan/ exhaust fan/ call bell points with 2 (1 x1.5 sq.mm) PVC insulated 1000v grade FRLS copper wire run inside 19 mm PVC conduit pipe of 14 SWG or flexible conduit pipe laid on surface concealed in wall / ceiling along with 1 (1 x 1 sq.mm.) PVC insulated FRLS copper wire as earth continuity conductor and complete in all respect including with use of clip-in type modular plates, boxes, switches, ceiling roses, junction boxes with bakelite cover as specified and making good to the damages caused and complete as per direction of Engineer-in-charge / Consultant.				
(a)	Light points. Rate in figure: Rate in word:	No.	30		
(b)	Fan point with regulator (electronic step regulator) Rate in figure: Rate in word:	No.	10		
(c)	Exhaust fan point Rate in figure: Rate in word:	No.	5		
27	Supply of all required materials and recessed wiring to 2/3 pin clip-in modular type 5 Amp plug socket points with 2 (1 x 2.5 sq.mm.) PVC insulated 1100 V grade stranded single core FRLS copper wire run inside 19 mm PVC Conduit (14 S.W.G) pipe laid concealed in surface wall / ceiling along with 1 (1 x 1.0 sq.mm) PVC insulated FRLS copper wire as earth continuity conductor and complete in all respect including 5 pin 5 A sockets, switches, plates, boxes and cover as specified and making good to the damages caused and complete with all respect as per the direction of Engineer-in-charge / Consultant.				
(a)	Existing Rate in figure:	No.	10		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
(b)	Separate Rate in figure: Rate in word:	No.	12		
28	Supply of all required materials and recessed wiring to clip-in modular type 6 pin, 15/5 Amp plug socket points on surface of wall including the modular boxes switches with indicator plates, screws and complete in all respect including making good to the damages caused and as per direction of Consultant/ Engineer-in-charge. Rate in figure: Rate in word:	No.	8		
29	Supply of all required materials and recessed wiring to circuit / sub-mains with following number and sizes of PVC insulated FRLS 1100 volt grade stranded copper wire run inside 19 mm PVC conduit (14 S.W.G.) pipe laid on surface of wall / ceiling and copper wire as earth continuity conductor and complete in all respect including making good to all damages caused and as per the direction of Consultant and Engineer-in-charge. Rate in figure: Rate in word:				
(i)	Recessed wiring with 2 (1 x 2.5 sqmm) + 1 x (1 x 1 sqmm) copper wire from LDB to SDB. Rate in figure: Rate in word:	Mtr.	300		
(ii)	Recessed wiring with 2 (1 x 4 sqmm) + 1 x (1 x 2.5 sqmm) copper wire from LDB to individual 16 Amp. Socket & A.C. Point. Rate in figure: Rate in word:	Mtr.	200		
30	Supply of all required materials, installation, testing and commissioning company made board of approved make on the wall (Board shall be of min 16 SWG thick sheet steel, with suitable rating TB for termination of incoming wires, ELCB (overload, short ckt and earth leakage protection), MCBs and space for two nos of spare MCB)(all termination shall be done by using proper size of Lugs). Making good to all damages caused and complete with all respect as per direction of Engineer-in-charge.				
(i)	Light Distribution Board (8 way outgoing+ 2 spare one phase DB) MCB Distribution board single phase, neutral, double door acrylic cover, 8+2 way DB with MCB incomer and TB, complete with MCB's. Incoming :				

Sl.No	Description	Unit	Qty.	Rate	Amount
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32 Amp. DP MCB

Outgoing :

6 Amp. SP MCB - 6 Nos.

Set. 12

Rate in figure:

Rate in word:

TOTAL Rs. -

Rate in figure:

Rate in word:

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q

OF FIRE FIGHTING

ADMINISTRATIVE , ACADEMIC, BOYS HOSTEL 2NOS AND GIRLS HOSTEL 1NO

FOR

PROPOSED NATIONAL LAW UNIVERSITY ORISSA

AT NARAJ, CUTTACK

Sl.No	Description	Unit	Qty.	Rate	Amount
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ABSTRACT COST

1	ADMINISTRATIVE BUILDING				TOTAL Rs.
2	ACADEMIC BUILDING				TOTAL Rs.
3	BOYS HOSTEL I				TOTAL Rs.
4	BOYS HOSTEL II				TOTAL Rs.
5	GIRLS HOSTEL I				TOTAL Rs.
					TOTAL Rs.

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q
OF FIRE FIGHTING
ADMINSTRATIVE BUILDING
FOR
PROPOSED NATIONAL LAW UNIVERSITY ODISHA
AT NARAJ, CUTTACK

CONSULTANT :

M/s. RATH ARCHITECTONIC

PLOT NO. 104, MADHUSUDAN NAGAR

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E-mail : ratharchitectonic@rediffmail.com

Sl.No	Description	Unit	Qty.	Rate	Amount
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ABSTRACT COST

1 FIRE FIGHTING

: TOTAL Rs. _____ -

TOTAL Rs. -

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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**B.O.Q OF FIRE FIGHTING OF ADMINSTRATIVE BUILDING
FOR PROPOSED NATIONAL LAW UNIVERSITY ODISHA AT NARAJ, CUTTACK**

A FIRE PUMP ROOM

- | | | | | | |
|---|---|-----|---|--|--|
| 1 | Supply, erection, testing & commissioning of electrical motor driven Main Hydrant / Sprinkler Pump of centrifugal horizontal end suction type with gland packing and capable to deliver 2280 LPM at 70 MWC .The pump shall be coupled to TEFC motor of suitable HP & speed and complete set shall mounted on common base frame . The quoted rate shall includes providing & fixing of coupling, coupling gaurd.matching flanges for suction & delivery side, Foundation bolts and RCC foundation as recommended by manufacturer etc.complete as per direction of Engineer-in-charge.
Rate in figure:
Rate in word: | Nos | 1 | | |
| 2 | Supply, installation, testing & commissioning of diesel Engine driven common stand by pump, horizontal centrifugal end suction back pull out type with gland packing and capable to deliver 2280 at 70MWC. The pump shall coupled to suitable HP of Diesel engine radiator water cooled type and mounted on common base frame, two sets of Batteries & battery leads with stand, Fuel tank (For 6 Hrs. running and filled fully) with stand &Fuel piping etc. The quoted rate shall includes coupling, coupling guard, and other standard accessories,RCC foundation (as recommended by manufacturer) and foundation bolts, etc, complete as per direction of Engineer-in-charge.
Rate in figure:
Rate in word: | Nos | 1 | | |
| 3 | Supply, erection, testing & commissioning of electrical motor driven Jockey pump of centrifugal horizontal end suction type with gland packing .bronze impeller and capable to deliver 180 LPM at 70MWC.The pump shall be coupled to TEFC motor of suitable HP & speed and complete set shall mounted on common base frame. The quoted rate shall includes providing & fixing of coupling, coupling gaurd.matching flanges for suction & delivery side, Foundation bolts and RCC foundation as recommended by manufacturer etc.complete as per direction of Engineer-in-charge.
Rate in figure:
Rate in word: | Nos | 1 | | |
| 4 | Fabricating & Supply, installing, testing and commissioning of compartmentalized common control panel for Electrical motor driven pumps and Diesel engine driven pumps.etc complete as per direction of Engineer-in-charge.
Rate in figure:
Rate in word: | Nos | 1 | | |

Sl.No	Description	Unit	Qty.	Rate	Amount
5	1100 V GRADE POWER / CONTROL CABLES Supplying, laying, testing & commissioning of FRLS.PVC outer sheathe, steel armoured, aluminium / copper conductor, 1100v grade power cables with glands etc.The cables shall be laid in tray on walls/ floor etc. as required. The minimum size of the cables shall as mentioned below.etc.complete as per direction of Engineer-in-charge.				
a	3.5 C x 70 Sq.mm aluminum for main pumps Rate in figure: Rate in word:	Rmt	60		
b	4C x 16 Sq. mm. Aluminum Jockey pump. Rate in figure: Rate in word:	Rmt	30		
c	12C x 2.5 Sq. mm. aluminum Diesel engines Rate in figure: Rate in word:	Rmt	30		
d	2C x 2.5 Sq. mm copper armoured for Instrumentation Rate in figure: Rate in word:	Rmt	60		
6	Supplying and fixing of ladder type G.I.sheet cable tray with neccessary angle iron suspension supports, anchor fasteners etc. complete, to line and levels. Maximum height of suspension shall not exceed 500 mm.Size of the tray shall be 40x 300 x 40mm.etc.complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Rmt	20		
7	Supplying and fixing of ladder type G.I.sheet cable tray with neccessary angle iron suspension supports, anchor fasteners etc. complete, to line and levels. Maximum height of suspension shall not exceed 500 mm.Size of the tray shall be 40x 150 x 40mm.etc.complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Rmt	15		
8	G.I. Earthing strips of 50mm x 6mm thick, strip shall be run on floor / ceiling / walls, from the equipment to the nearest Earth pit with neccessary accessories as required. (Earth pit shall be executed by other agencies).etc.complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Rmt	40		

Sl.No	Description	Unit	Qty.	Rate	Amount
9	G.I. Earthing strips of 25mm x 3mm thick, strip shall be run on floor / ceiling / walls, from the equipment to the nearest Earth pit with necessary accessories as required. (Earth pit shall be executed by other agencies).etc.complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Rmt	20		
10	Supplying, installing, testing and commissioning of G.I. Pipes confirming to IS 3589, 6mm thick, with painting, suitable type of supports, anchor fasteners, bolts nuts (Galvanized), clamps, "U" bolts, malleable specials such as Reducers.Tees, elbows, flanges. Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc. complete. structural supports are measured as seperate line item.etc.complete as per direction of Engineer-in-charge.				
a	200mm nominal dia Rate in figure: Rate in word:	Rmt	18		
11	Supplying, installing, testing and commissioning of G.I. Pipes confirming to IS 1239 Pt -1 Heavy(class C) grade with painting, suitable type of supports, anchor fasteners, bolts nuts (Galvanised), clamps, "U" bolts, malleable specials such as Reducers.Tees, elbows, flanges. Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc. complete. structural supports are measured as seperate line item.etc.complete as per direction of Engineer-in-charge.				
a	150mm nominal dia Rate in figure: Rate in word:	Rmt	30		
b	100mm nominal dia Rate in figure: Rate in word:	Rmt	6		
c	80mm nominal dia Rate in figure: Rate in word:	Rmt	9		
d	25mm nominal dia Rate in figure: Rate in word:	Rmt	30		
12	Supplying, installing ,testing and commissioning of C.I.Gate valves as per IS:14846 (PN 16) Rating, for suction side of the pumps) and rising spindle type with flanges, bolts, nuts, washers, gaskets etc complete as per direction of Engineer-in-charge.				
a	200 mm nominal dia Rate in figure: Rate in word:	Nos.	2		

Sl.No	Description	Unit	Qty.	Rate	Amount
b	150 mm nominal dia Rate in figure: Rate in word:	Nos.	2		
c	100 mm nominal dia Rate in figure: Rate in word:	Nos.	1		
13	Supplying, installing, testing and commissioning of C.I. Non-return valves as per IS:5312(PN 16) swing check type with required flanges, nuts, bolts and gaskets etc. complete. as per direction of Engineer-in-charge.				
a	150 mm nominal dia Rate in figure: Rate in word:	Nos.	2		
b	80 mm nominal dia Rate in figure: Rate in word:	Nos.	1		
14	Supplying, Installing, testing and commissioning CI butterfly valves as per) BS 5155 (PN 16) slim seal standard lever operated type with required flanges, nuts, bolts etc. complete.as per direction of Engineer-in-charge.				
a	150mm nominal dia Rate in figure: Rate in word:	Nos	4		
b	80mm nominal dia Rate in figure: Rate in word:	Nos	1		
15	Supplying, installing and commissioning C.I.flanged "Y" type Strainer with SS mesh.suitable flanges, nuts, bolts, gaskets etc. complete.as per direction of Engineer-in-charge.				
a	200mm dia. Rate in figure: Rate in word:	Nos.	2		
16	Supplying, installing, testing and commissioning of Gun metal chrome finished Ball valves with fittings of screwed end type.etc.complete as per direction of Engineer-in-charge.				
a	25 mm dia Rate in figure: Rate in word:	Nos.	2		
b	15mm dia. Rate in figure: Rate in word:	Nos.	5		
17	Supply and installation of Pressure switches of suitable range for pump sets Fittings like unions / collar / reducers etc.complete as per direction of Engineer-in-charge.				
	Rate in figure: Rate in word:	Set	3		

Sl.No	Description	Unit	Qty.	Rate	Amount
18	Supply and installation of Pressure gauges of suitable range for pump sets siphon, Fittings like unions / colors / reducers etc.complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Set	2		
19	Supplying, installing, testing and commissioning of diesel engine exhaust piping of manufacturer's recommended size of 150 dia, M.S. medium grade. Piping shall be complete with supply and installation of exhaust pipe thermal insulation lagging with mineral wool as per IS 3677 / 1973 to withstand temperatures upto 750°C reinforced with chicken mesh and clad with aluminium sheet of 26 SWG and 50mm thick with 64 Kg/Cu. Mtr. Density, bird screen, long bends, supports etc. Piping shall be done with flanged connections to facilitate easy isolation.etc.complete as per direction of Engineer-in-charge.				
a	Mineral wool insulation with aluminum sheeting for 150mm dia pipe. Rate in figure: Rate in word:	Rmt	20		
b	150mm dia M.S. Medium grade shall be laid above ground. Rate in figure: Rate in word:	Rmt	20		
20	Structural supports like MS angle, sheets, channel etc complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Kgs	900		
A TOTAL FOR FIRE PUMP ROOM					
Rate in figure:					
Rate in word:					
B DOWN COMER SYSTEM					
1	Supply,erection,testing & commissioning of electrical motor driven Booster pump of monoblock type capable to deliver 450-LPM at 35MWC.The pump shall be coupled to TEFC motor of suitable Hp with speed of 2900RPM and complete set shall mounted on common base frame.etc.complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos	1		
2	Fabricating & Supply, installing, testing and commissioning of compartmentalized common control panel for Electrical motor driven booster pumps.etc.complete as per direction of Engineer-in-charge.	Nos	1		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in figure: Rate in word:				
3	Supply, installation of push button station with on off indications for local control of booster pump with locking arrangement etc.complete as per direction of Engineer-in-charge.	Nos	1		
	Rate in figure: Rate in word:				
4	1100 V GRADE POWER / CONTROL CABLES Supplying, laying, testing & commissioning of FRLS.PVC outer sheathe, steel armoured, aluminium / copper conductor, 1100v grade power cables with glands etc.The cables shall be laid in tray on walls/ floor etc. as required. The minimum size of the cables shall as mentioned below,etc.complete as per direction of Engineer-in-charge.				
a	4 C x 16 Sq.mm aluminum for Booster pumps	Rmts	15		
	Rate in figure: Rate in word:				
b	2C x 2.5 Sq. mm copper armoured for Instrumentation	Rmts	20		
	Rate in figure: Rate in word:				
c	3C x 2.5 Sq. mm copper armoured for push button station	Rmts	45		
	Rate in figure: Rate in word:				
5	Supplying and fixing of ladder type G.I.sheet cable tray with neccessary angle iron suspension supports, anchor fasteners etc. complete, to line and levels. Maximum height of suspension shall not exceed 500 mm.Size of the tray shall be 40x 150 x 40mm.etc.complete as per direction of Engineer-in-charge.	Rmts	60		
	Rate in figure: Rate in word:				
6	G.I. Earthing strips of 25mm x 6mm thick, strip shall be run on floor / ceiling / walls, from the equipment to the nearest Earth pit with neccessary accessories as required. (Earth pit shall be executed by other agencies).etc.complete as per direction of Engineer-in-charge.	Rmts	25		
	Rate in figure: Rate in word:				
7	Supplying, installing, testing and commissioning of G.I. Pipes confirming to IS 1239 Pt -1 Heavy(class C) grade with painting, suitable type of supports, anchor fasteners, bolts nuts (Galvanised), clamps, "U" bolts, malleable specials such as Reducers.Tees, elbows, flanges. Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc. complete. structural supports are measured as seperate line item etc.complete as per direction of Engineer-in-charge.				

Sl.No	Description	Unit	Qty.	Rate	Amount
a	100mm nominal dia Rate in figure: Rate in word:	Rmts	21		
b	25mm nominal dia Rate in figure: Rate in word:	Rmts	6		
8	Supplying, installing and commissioning C.I.flanged "Y" type Strainer with SS mesh.suitable flanges, nuts, bolts, gaskets etc. complete.as per direction of Engineer-in-charge.				
a	100mm nominal dia Rate in figure: Rate in word:	Nos	1		
9	Supplying, installing, testing and commissioning of C.I. Non-return valves as per IS:5312(PN 16) Wafer type with required flanges, nuts, bolts and gaskets etc. complete. as per direction of Engineer-in-charge.				
a	100mm nominal dia Rate in figure: Rate in word:	Nos	1		
10	Supplying, Installing, testing and commissioning CI butterfly valves as per BS 5155 (PN 16) slim seal standard lever operated type with required flanges, nuts, bolts etc. complete as per direction of Engineer-in-charge.				
a	100mm nominal dia Rate in figure: Rate in word:	Nos	3		
11	Supplying, installing, testing and commissioning of Gun metal chrome finished Ball valves with fittings of screwed end type.etc.complete as per direction of Engineer-in-charge.				
a	15mm dia. Rate in figure: Rate in word:	Nos	2		
b	25 mm dia Rate in figure: Rate in word:	Nos	2		
12	Supply and installation of Pressure switches of suitable range for pump sets Fittings like unions / collar / reducers etc..complete as per direction of Engineer-in-charge.				
	Rate in figure: Rate in word:	Nos	1		
13	Supply and installation of Pressure gauges of suitable range for pump sets siphon, Fittings like unions / colors / reducers etc.complete as per direction of Engineer-in-charge.				
	Rate in figure: Rate in word:	Nos	1		

Sl.No	Description	Unit	Qty.	Rate	Amount
14	Structural supports like MS angle, sheets, channel etc., complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Kgs	100		
15	Supply and construction of PCC (1:2:4) pedestals / supports for terrace level piping and booster pump.etc.complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	cum	0.35		
B TOTAL FOR DOWN COMER SYSTEM					
Rate in figure:					
Rate in word:					
C HYDRANT SYSTEM					
1	Supplying, installing, testing and commissioning of G.I. Pipes confirming to IS 1239 Pt -1 Heavy grade(C class) with painting, suitable type of supports like, anchor fasteners, bolts nuts, clamps, "U" bolts, malleable specials such as Reducers.Tees, elbows, flanges. Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc. complete. structural supports are measured as seperate line item etc.complete as per direction of Engineer-in-charge.				
a	150mm nominal dia Rate in figure: Rate in word:	Rmt	196		
b	100mm nominal dia Rate in figure: Rate in word:	Rmt	42		
c	80mm nominal dia Rate in figure: Rate in word:	Rmt	12		
d	25mm nominal dia Rate in figure: Rate in word:	Rmt	6		
2	Supplying, installing, testing and commissioning of G.I. Pipes confirming to IS 1239 Pt - I Heavy grade(class C) with suitable type of supports, malleable specials such as Reducers.Tees, elbows, flanges. Including cutting, Welding. The rate quoted should be included with anti corrosive treatment with 4 mm thick polymer corrosion resistant tape as per IS 10221, overlap shall be 15mm minimum.etc.complete as per direction of Engineer-in-charge.				
a	150mm nominal dia Rate in figure: Rate in word:	Rmt	48		
b	100mm nominal dia	Rmt	3		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in figure: Rate in word:				
3	Supplying, Installing, testing and commissioning CI butterfly valves as per BS 5155 (PN 16) slim seal standard lever operated type with required flanges, nuts, bolts etc. complete.as per direction of Engineer-in-charge.				
a	150mm nominal dia Rate in figure: Rate in word:	Nos.	3		
b	100mm nominal dia Rate in figure: Rate in word:	Nos.	1		
4	Supplying, erecting and commissioning of Landing Hydrants comprising of the following in the Fire duct;etc.complete as per direction of Engineer-in-charge.				
a	Single headed hydrant valve as per IS 5290, made of gunmetal with 63 mm dia instantaneous out & 80 mm dia fanged inlet inlet.Blank cap , chain and hand wheel etc complete. Rate in figure: Rate in word:	Nos	3		
b	15 M long, 63mm dia RRL hose with instantaneous couplings and Hoses shall be stored in side the hose cabinet. Rate in figure: Rate in word:	Nos	6		
c	1 no. Gun metal short branch pipe with nozzle. Rate in figure: Rate in word:	Nos	3		
d	Hose reel drum of swinging type with 19mm dia Rubber braided hose of 36.5M. length with ball valve (on upstream) and Shut off nozzle, complete. Rate in figure: Rate in word:	Nos	3		
e	Fire duct Shutter fabricated out of M.S. sheet of 16 swg. Door shall be 900mm x 1200 mm x 150mm & fixed with 4 mm thick Glass, suitable Rubber beedibg and Locking arrangement. Quoted rate shall be includes all fasteners etc, and complete shutter shall be enamel painted of approved colour both inside and out side. Rate in figure: Rate in word:	Nos	3		
5	Supplying, installing, testing and commissioning of yard hydrant comprising of the following,etc.complete as per direction of Engineer-in-charge.				

Sl.No	Description	Unit	Qty.	Rate	Amount
a	Single headed hydrant valve as per IS 5290, made of gunmetal with 63 mm dia instantaneous out & 80 mm dia fanged inlet inlet.Blank cap , chain and hand wheel etc complete. Rate in figure: Rate in word:	Nos.	5		
b	15 M long, 63mm dia RRL hose with instantaneous couplings and Hoses shall be stored in side the hose cabinet.	Nos.	10		
c	1 no. Gun metal short branch pipe with nozzle. Rate in figure: Rate in word:	Nos.	5		
d	M.S. Hose cabinet stand mounted type fabricated out of M.S. sheet of 16 swg. with glass fronted (4mm thick glass with rubber beeding) door and size of the cabinet shall be 600mm x 750 mm x 250 mm Quoted rate shall be includes suitable stand for mounting, all fasteners etc, and cabinet shall be powder coated of approved colour both inside and out side. Rate in figure: Rate in word:	Nos.	5		
6	Supplying, installing and commissioning of fire brigade inlet inlet connection of 4 way with 4 nos. 63 mm dia. built - in Gun metal Non- return valves instantaneous coupling type arranged on 150 mm dia. Pipe manifold and connected to wet riser main wet riser main. Qouted rate shall be included with C.I, Butterfly valve, C.I. Non-return valve and M.S. cabinet of suitable size with mounting supports etc. complete.etc.complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos.	1		
7	Supplying, installing and commissioning of fire brigade inlet inlet connection of 2 way with 2 nos. 63 mm dia. built - in Gun metal Non- return valves instantaneous coupling type arranged on 100 mm dia. Pipe manifold and connected to Fire water tank. Qouted rate shall be included with C.I, Butterfly valve, C.I. Non-return valve and M.S. cabinet of suitable size with mounting supports etc. complete for sprnkler risers.etc.complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos.	1		
8	Supplying and fixing approved make 25mm dia. automatic air release valve with ball valve& unions etc. complete. as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos.	1		

Sl.No	Description	Unit	Qty.	Rate	Amount
9	Structural supports like MS angle, sheets, channel etc.,complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Kgs	300		

C TOTAL FOR HYDRANT SYSTEM

Rate in figure:
Rate in word:

D CIVIL WORKS

1 Excavation of trenches up to 1.5 mts.in depth,for laying pipes upto 150mm dia.Including forming bottom surface to required level, refilling the trenches with selected excavated earth around th pipe in layers of 150mm thick, watering, consolidating. Quoted price inclusive of disposing off / carting away the surplus earth out side the site to a dump yard acceptable local bodies or as directed by the site engineer with ahead of 300 mts. etc. complete. as per direction of Engineer-in-charge.

a Excavation in all kinds of soil
Rate in figure:
Rate in word:

Cum 72

2 Supply and installation of RCC hume pipes of 300 mm dia & NP 2 Class with collars for road / below floor crossing of Fire water pipes.etc.complete as per direction of Engineer-in-charge.

Rate in figure:
Rate in word:

Rmt 40

3 Supply and construction of PCC (1:2:4) pedestals / supports for Under ground / above ground pipes etc.complete as per direction of Engineer-in-charge.

Rate in figure:
Rate in word:

cum 7.5

D TOTAL FOR CIVIL WORKS

Rate in figure:
Rate in word:

TOTAL(A+B+C+D)

Rate in figure:
Rate in word:

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q
OF FIRE FIGHTING
ACADEMIC BUILDING
FOR
PROPOSED NATIONAL LAW UNIVERSITY ODISHA
AT NARAJ, CUTTACK

CONSULTANT :

M/s. RATH ARCHITECTONIC

PLOT NO. 104, MADHUSUDAN NAGAR

UNIT-IV, BHUBANESWAR-751001

Ph. No. (0674) 2390940, 2395340

E-mail : ratharchitectonic@rediffmail.com

Sl.No	Description	Unit	Qty.	Rate	Amount
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ABSTRACT COST

1 FIRE FIGHTING

: TOTAL Rs.

TOTAL Rs.

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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**B.O.Q OF FIRE FIGHTING OF ACADEMIC BUILDING
FOR PROPOSED NATIONAL LAW UNIVERSITY ODISHA AT NARAJ, CUTTACK**

A DOWN COMER SYSTEM

1	Supply,erection,testing & commissioning of electrical motor driven Booster pump of monoblock type capable todeliver 450-LPMat 35MWC.The pump shall be coupled toTEFCmotor of suitable Hpwithspeed of 2900RPM and complete set shall mounted on common base frame.etc.complete as per direction of Engineer-in-charge.	Nos	1		
	Rate in figure:				
	Rate in word:				
2	Fabricating & Supply, installing, testing and commissioning of compartmentalized common control panel for Electrical motor driven booster pumps.etc.complete as per direction of Engineer-in-charge.	Nos	1		
	Rate in figure:				
	Rate in word:				
3	Supply, installation of push button station with on off indications for local control of booster pump with locking arrangement etc.complete as per direction of Engineer-in-charge.	Nos	1		
	Rate in figure:				
	Rate in word:				
4	1100 V GRADE POWER / CONTROL CABLES				
	Supplying, laying, testing & commissioning of FRLS.PVC outer sheathe, steel armoured, aluminium / copper conductor, 1100v grade power cables with glands etc.The cables shall be laid in tray on walls/ floor etc. as required. The minimum size of the cables shall as mentioned below,etc.complete as per direction of Engineer-in-charge.				
a	4 C x 16 Sq.mm aluminum for Booster pumps	Rmts	15		
	Rate in figure:				
	Rate in word:				
b	2C x 2.5 Sq. mm copper armoured for Instrumentation	Rmts	20		
	Rate in figure:				
	Rate in word:				
c	3C x 2.5 Sq. mm copper armoured for push button station	Rmts	40		
	Rate in figure:				
	Rate in word:				
5	Supplying and fixing of ladder type G.I.sheet cable tray with neccessary angle iron suspension supports, anchor fasteners etc. complete, to line and levels. Maximum height of suspension shall not exceed 500 mm.Size of the tray shall be 40x 150 x 40mm.etc.complete as per direction of Engineer-in-charge.	Rmts	55		
	Rate in figure:				
	Rate in word:				

Sl.No	Description	Unit	Qty.	Rate	Amount
6	G.I. Earthing strips of 25mm x 6mm thick, strip shall be run on floor / ceiling / walls, from the equipment to the nearest Earth pit with necessary accessories as required. (Earth pit shall be executed by other agencies).etc.complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Rmts	25		
7	Supplying, installing, testing and commissioning of G.I. Pipes confirming to IS 1239 Pt -1 Heavy(class C) grade with painting, suitable type of supports, anchor fasteners, bolts nuts (Galvanised), clamps, "U" bolts, malleable specials such as Reducers.Tees, elbows, flanges. Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc. complete. structural supports are measured as seperate line item etc.complete as per direction of Engineer-in-charge.				
a	100mm nominal dia Rate in figure: Rate in word:	Rmts	330		
b	25mm nominal dia Rate in figure: Rate in word:	Rmts	6		
8	Supplying, installing and commissioning C.I.flanged "Y" type Strainer with SS mesh.suitable flanges, nuts, bolts, gaskets etc. complete. as per direction of Engineer-in-charge.				
a	100mm nominal dia Rate in figure: Rate in word:	Nos	1		
9	Supplying, installing, testing and commissioning of C.I. Non-return valves as per IS:5312(PN 16) Wafer type with required flanges, nuts, bolts and gaskets etc. complete.etc.as per direction of Engineer-in-charge.				
a	100mm nominal dia Rate in figure: Rate in word:	Nos	1		
10	Supplying, Installing, testing and commissioning CI butterfly valves as per BS 5155 (PN 16) slim seal standard lever operated type with required flanges, nuts, bolts etc. complete.as per direction of Engineer-in-charge.				
a	100mm nominal dia Rate in figure: Rate in word:	Nos	8		

Sl.No	Description	Unit	Qty.	Rate	Amount
11	Supplying, installing, testing and commissioning of Gun metal chrome finished Ball valves with fittings of screwed end type.etc.complete as per direction of Engineer-in-charge.				
a	15mm dia. Rate in figure: Rate in word:	Nos	2		
b	25 mm dia Rate in figure: Rate in word:	Nos	2		
12	Supply and installation of Pressure switches of suitable range for pump sets Fittings like unions / collar / reducers etc.complete as per direction of Engineer-in-charge.	Nos	1		
	Rate in figure: Rate in word:				
13	Supply and installation of Pressure gauges of suitable range for pump sets siphon, Fittings like unions / colors / reducers etc.complete as per direction of Engineer-in-charge.	Nos	1		
	Rate in figure: Rate in word:				
14	Structural supports like MS angle, sheets, channel etc.,complete as per direction of Engineer-in-charge.	Kgs	500		
	Rate in figure: Rate in word:				
15	Supply and construction of PCC (1:2:4) pedestals / supports for terrace level piping and booster pump.etc.complete as per direction of Engineer-in-charge.	cum	4		
	Rate in figure: Rate in word:				
A TOTAL FOR DOWN COMER SYSTEM					
	Rate in figure:				
	Rate in word:				
B HYDRANT SYSTEM					
1	Supplying, installing, testing and commissioning of G.I. Pipes conforming to IS 1239 Pt -1 Heavy grade(C class) with painting, suitable type of supports like, anchor fasteners, bolts nuts, clamps, "U" bolts, malleable specials such as Reducers.Tees, elbows, flanges. Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc. complete. structural supports are measured as seperate line item etc.complete as per direction of Engineer-in-charge.				
a	100mm nominal dia Rate in figure: Rate in word:	Rmt	164		
b	25mm nominal dia Rate in figure:	Rmt	36		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
2	Supplying, erecting and commissioning of Landing Hydrants comprising of the following in the Fire duct;etc.complete as per direction of Engineer-in-charge.				
a	Hose reel drum of swinging type with 19mm dia Rubber braided hose of 36.5M. length with ball valve (on upstream) and Shut off nozzle, etc.complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos	18		
b	Fire duct Shutter fabricated out of M.S. sheet of 16 swg. Door shall be 900mm x 1200 mm x 150mm & fixed with 4 mm thick Glass, suitable Rubber beedibg and Locking arrangement. Quoted rate shall be includes all fasteners etc, and complete shutter shall be enamel painted of approved colour both inside and out side. Rate in figure: Rate in word:	Nos	18		
3	Supplying, installing and commissioning of fire brigade inlet inlet connection of 2 way with 2 nos. 63 mm dia. built - in Gun metal Non- return valves instantaneous coupling type arranged on 100 mm dia. Pipe manifold and connected to Fire water tank. Qouted rate shall be included with C.I, Butterfly valve, C.I. Non-return valve and M.S. cabinet of suitable size with mounting supports etc. complete for sprinkler risers.etc.complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos.	6		
4	Supplying and fixing approved make 25mm dia. automatic air release valve with ball valve& unions etc. complete.as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos.	6		
5	Structural supports like MS angle, sheets, channel etc.complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Kgs	250		
B	TOTAL FOR HYDRANT SYSTEM Rate in figure: Rate in word:				<hr/>
C	CIVIL WORKS				
1	Supply and construction of PCC (1:2:4) pedestals / supports for Under ground / above ground pipes. etc.complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	cum	5		

Sl.No	Description	Unit	Qty.	Rate	Amount
C	TOTAL FOR CIVIL WORKS				
	Rate in figure:				
	Rate in word:				
				TOTAL(A+B+C)	_____

Rate in figure:
Rate in word:

|For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q
OF FIRE FIGHTING
BOYS HOSTEL-I
FOR
PROPOSED NATIONAL LAW UNIVERSITY ODISHA
AT NARAJ, CUTTACK

CONSULTANT :

M/s. RATH ARCHITECTONIC

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Ph. No. (0674) 2390940, 2395340

E-mail : ratharchitectonic@rediffmail.com

Sl.No	Description	Unit	Qty.	Rate	Amount
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ABSTRACT COST

1 FIRE FIGHTING

: TOTAL Rs.

TOTAL Rs.

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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**B.O.Q OF FIRE FIGHTING OF BOYS HOSTEL-I
FOR PROPOSED NATIONAL LAW UNIVERSITY ODISHA AT NARAJ, CUTTACK**

A DOWN COMER SYSTEM

1	Supply,erection,testing & commissioning of electrical motor driven Booster pump of monoblock type capable todeliver 450-LPMat 35MWC.The pump shall be coupled toTEFCmotor of suitable Hpwithspeed of 2900RPM and complete set shall mounted on common base frame.etc.complete as per direction of Engineer-in-charge.	Nos	1		
	Rate in figure:				
	Rate in word:				
2	Fabricating & Supply, installing, testing and commissioning of compartmentalized common control panel for Electrical motor driven booster pumps.etc.complete as per direction of Engineer-in-charge.	Nos	1		
	Rate in figure:				
	Rate in word:				
3	Supply, installation of push button station with on off indications for local control of booster pump with locking arrangement etc.complete as per direction of Engineer-in-charge.	Nos	1		
	Rate in figure:				
	Rate in word:				
4	1100 V GRADE POWER / CONTROL CABLES				
	Supplying, laying, testing & commissioning of FRLS.PVC outer sheathe, steel armoured, aluminium / copper conductor, 1100v grade power cables with glands etc.The cables shall be laid in tray on walls/ floor etc. as required. The minimum size of the cables shall as mentioned below,etc.complete as per direction of Engineer-in-charge.				
a	4 C x 16 Sq.mm aluminum for Booster pumps	Rmts	15		
	Rate in figure:				
	Rate in word:				
b	2C x 2.5 Sq. mm copper armoured for Instrumentation	Rmts	20		
	Rate in figure:				
	Rate in word:				
c	3C x 2.5 Sq. mm copper armoured for push button station	Rmts	30		
	Rate in figure:				
	Rate in word:				
5	Supplying and fixing of ladder type G.I.sheet cable tray with neccessary angle iron suspension supports, anchor fasteners etc. complete, to line and levels. Maximum height of suspension shall not exceed 500 mm.Size of the tray shall be 40x 150 x 40mm.etc.complete as per direction of Engineer-in-charge.	Rmts	45		
	Rate in figure:				
	Rate in word:				

Sl.No	Description	Unit	Qty.	Rate	Amount
6	G.I. Earthing strips of 25mm x 6mm thick, strip shall be run on floor / ceiling / walls, from the equipment to the nearest Earth pit with necessary accessories as required. (Earth pit shall be executed by other agencies).etc.complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Rmts	30		
7	Supplying, installing, testing and commissioning of G.I. Pipes conforming to IS 1239 Pt -1 Heavy(class C) grade with painting, suitable type of supports, anchor fasteners, bolts nuts (Galvanised), clamps, "U" bolts, malleable specials such as Reducers.Tees, elbows, flanges. Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc. complete. structural supports are measured as seperate line item etc.complete as per direction of Engineer-in-charge.				
a	100mm nominal dia Rate in figure: Rate in word:	Rmts	118		
b	25mm nominal dia Rate in figure: Rate in word:	Rmts	6		
8	Supplying, installing and commissioning C.I.flanged "Y" type Strainer with SS mesh.suitable flanges, nuts, bolts, gaskets etc. complete. as per direction of Engineer-in-charge.				
a	100mm nominal dia Rate in figure: Rate in word:	Nos	1		
9	Supplying, installing, testing and commissioning of C.I. Non-return valves as per IS:5312(PN 16) Wafer type with required flanges, nuts, bolts and gaskets etc. complete as per direction of Engineer-in-charge.				
a	100mm nominal dia Rate in figure: Rate in word:	Nos	1		
10	Supplying, Installing, testing and commissioning CI butterfly valves as per BS 5155 (PN 16) slim seal standard lever operated type with required flanges, nuts, bolts etc. complete as per direction of Engineer-in-charge.				
a	100mm nominal dia Rate in figure: Rate in word:	Nos	4		
11	Supplying, installing, testing and commissioning of Gun metal chrome finished Ball valves with fittings of screwed end type.etc.complete as per direction of Engineer-in-charge.				
a	15mm dia.	Nos	2		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in figure: Rate in word:				
b	25 mm dia Rate in figure: Rate in word:	Nos	2		
12	Supply and installation of Pressure switches of suitable range for pump sets Fittings like unions / collar / reducers etc..complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos	1		
13	Supply and installation of Pressure gauges of suitable range for pump sets siphon, Fittings like unions / colors / reducers etc.complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos	1		
14	Structural supports like MS angle, sheets, channel etc., complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Kgs	250		
15	Supply and construction of PCC (1:2:4) pedestals / supports for terrace level piping and booster pump.etc.complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	cum	2		
A	TOTAL FOR DOWN COMER SYSTEM Rate in figure: Rate in word:				<hr/>
B	HYDRANT SYSTEM				
1	Supplying, installing, testing and commissioning of G.I. Pipes confirming to IS 1239 Pt -1 Heavy grade(C class) with painting, suitable type of supports like, anchor fasteners, bolts nuts, clamps, "U" bolts, malleable specials such as Reducers.Tees, elbows, flanges. Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc. complete. structural supports are measured as seperate line item etc.complete as per direction of Engineer-in-charge.				
a	100mm nominal dia Rate in figure: Rate in word:	Rmt	60		
b	25mm nominal dia Rate in figure: Rate in word:	Rmt	12		
2	Supplying, erecting and commissioning of Landing Hydrants comprising of the following in the Fire duct;etc.complete as per direction of Engineer-in-charge.				

Sl.No	Description	Unit	Qty.	Rate	Amount
a	Hose reel drum of swinging type with 19mm dia Rubber braided hose of 36.5M. length with ball valve (on upstream) and Shut off nozzle, complete. Rate in figure: Rate in word:	Nos	6		
b	Fire duct Shutter fabricated out of M.S. sheet of 16 swg. Door shall be 900mm x 1200 mm x 150mm & fixed with 4 mm thick Glass, suitable Rubber beedibg and Locking arrangement. Quoted rate shall be includes all fasteners etc, and complete shutter shall be enamel painted of approved colour both inside and out side. Rate in figure: Rate in word:	Nos	6		
3	Supplying, installing and commissioning of fire brigade inlet inlet connection of 2 way with 2 nos. 63 mm dia. built - in Gun metal Non- return valves instantaneous coupling type arranged on 100 mm dia. Pipe manifold and connected to Fire water tank. Qouted rate shall be included with C.I, Butterfly valve, C.I. Non-return valve and M.S. cabinet of suitable size with mounting supports etc. complete for sprnkler risers. as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos.	2		
4	Supplying and fixing approved make 25mm dia. automatic air release valve with ball valve& unions etc. complete.as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos.	2		
5	Structural supports like MS angle, sheets, channel etc .complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Kgs	100		
B TOTAL FOR HYDRANT SYSTEM					
Rate in figure:					
Rate in word:					
C CIVIL WORKS					
1	Supply and construction of PCC (1:2:4) pedestals / supports for Under ground / above ground pipes. etc.complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	cum	2		

Sl.No	Description	Unit	Qty.	Rate	Amount
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C TOTAL FOR CIVIL WORKS

Rate in figure:

Rate in word:

TOTAL(A+B+C) _____

Rate in figure:

Rate in word:

|For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q
OF FIRE FIGHTING
BOYS HOSTEL-II
FOR
PROPOSED NATIONAL LAW UNIVERSITY ODISHA
AT NARAJ, CUTTACK

CONSULTANT :

M/s. RATH ARCHITECTONIC

PLOT NO. 104, MADHUSUDAN NAGAR

UNIT-IV, BHUBANESWAR-751001

Ph. No. (0674) 2390940, 2395340

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Sl.No	Description	Unit	Qty.	Rate	Amount
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ABSTRACT COST

1	FIRE FIGHTING				
				:	TOTAL Rs.
					TOTAL Rs.

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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**B.O.Q OF FIRE FIGHTING OF BOYS HOSTEL-II
FOR PROPOSED NATIONAL LAW UNIVERSITY ODISHA AT NARAJ, CUTTACK**

A DOWN COMER SYSTEM

1	Supply,erection,testing & commissioning of electrical motor driven Booster pump of monoblock type capable todeliver 450-LPMat 35MWC.The pump shall be coupled toTEFCmotor of suitable Hpwithspeed of 2900RPM and complete set shall mounted on common base frame.etc.complete as per direction of Engineer-in-charge.	Nos	1		
	Rate in figure:				
	Rate in word:				
2	Fabricating & Supply, installing, testing and commissioning of compartmentalized common control panel for Electrical motor driven booster pumps.etc.complete as per direction of Engineer-in-charge.	Nos	1		
	Rate in figure:				
	Rate in word:				
3	Supply, installation of push button station with on off indications for local control of booster pump with locking arrangement etc.complete as per direction of Engineer-in-charge.	Nos	1		
	Rate in figure:				
	Rate in word:				
4	1100 V GRADE POWER / CONTROL CABLES				
	Supplying, laying, testing & commissioning of FRLS.PVC outer sheathe, steel armoured, aluminium / copper conductor, 1100v grade power cables with glands etc.The cables shall be laid in tray on walls/ floor etc. as required. The minimum size of the cables shall as mentioned below,etc.complete as per direction of Engineer-in-charge.				
a	4 C x 16 Sq.mm aluminum for Booster pumps	Rmts	15		
	Rate in figure:				
	Rate in word:				
b	2C x 2.5 Sq. mm copper armoured for Instrumentation	Rmts	20		
	Rate in figure:				
	Rate in word:				
c	3C x 2.5 Sq. mm copper armoured for push button station	Rmts	30		
	Rate in figure:				
	Rate in word:				
5	Supplying and fixing of ladder type G.I.sheet cable tray with neccessary angle iron suspension supports, anchor fasteners etc. complete, to line and levels. Maximum height of suspension shall not exceed 500 mm.Size of the tray shall be 40x 150 x 40mm.etc.complete as per direction of Engineer-in-charge.	Rmts	45		
	Rate in figure:				
	Rate in word:				

Sl.No	Description	Unit	Qty.	Rate	Amount
6	G.I. Earthing strips of 25mm x 6mm thick, strip shall be run on floor / ceiling / walls, from the equipment to the nearest Earth pit with necessary accessories as required. (Earth pit shall be executed by other agencies).etc.complete as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Rmts	30		
7	Supplying, installing, testing and commissioning of G.I. Pipes conforming to IS 1239 Pt -1 Heavy(class C) grade with painting, suitable type of supports, anchor fasteners, bolts nuts (Galvanised), clamps, "U" bolts, malleable specials such as Reducers.Tees, elbows, flanges. Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc. complete. structural supports are measured as seperate line item etc.complete as per direction of Engineer-in-charge.				
a	100mm nominal dia Rate in figure: Rate in word:	Rmts	118		
b	25mm nominal dia Rate in figure: Rate in word:	Rmts	6		
8	Supplying, installing and commissioning C.I.flanged "Y" type Strainer with SS mesh.suitable flanges, nuts, bolts, gaskets etc. complete.as per direction of Engineer-in-charge.				
a	100mm nominal dia	Nos	1		
9	Supplying, installing, testing and commissioning of C.I. Non-return valves as per IS:5312(PN 16) Wafer type with required flanges, nuts, bolts and gaskets etc. complete.as per direction of Engineer-in-charge.				
a	100mm nominal dia Rate in figure: Rate in word:	Nos	1		
10	Supplying, Installing, testing and commissioning CI butterfly valves as per BS 5155 (PN 16) slim seal standard lever operated type with required flanges, nuts, bolts etc. complete.as per direction of Engineer-in-charge.				
a	100mm nominal dia Rate in figure: Rate in word:	Nos	4		
11	Supplying, installing, testing and commissioning of Gun metal chrome finished Ball valves with fittings of screwed end type.as per direction of Engineer-in-charge.				
a	15mm dia.	Nos	2		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in figure: Rate in word:				
b	25 mm dia Rate in figure: Rate in word:	Nos	2		
12	Supply and installation of Pressure switches of suitable range for pump sets Fittings like unions / collar / reducers etc.as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos	1		
13	Supply and installation of Pressure gauges of suitable range for pump sets siphon, Fittings like unions / colors / reducers etc. complete.as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos	1		
14	Structural supports like MS angle, sheets, channel etc. complete.as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Kgs	250		
15	Supply and construction of PCC (1:2:4) pedestals / supports for terrace level piping and booster pump. etc. complete.as per direction of Engineer-in-charge. Rate in figure: Rate in word:	cum	2		
A TOTAL FOR DOWN COMER SYSTEM					
	Rate in figure: Rate in word:				
B HYDRANT SYSTEM					
1	Supplying, installing, testing and commissioning of G.I. Pipes confirming to IS 1239 Pt -1 Heavy grade(C class) with painting, suitable type of supports like, anchor fasteners, bolts nuts, clamps, "U" bolts, malleable specials such as Reducers.Tees, elbows, flanges. Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc. complete. structural supports are measured as seperate line item etc. complete.as per direction of Engineer-in-charge.				
a	100mm nominal dia Rate in figure: Rate in word:	Rmt	60		
b	25mm nominal dia Rate in figure: Rate in word:	Rmt	12		
2	Supplying, erecting and commissioning of Landing Hydrants comprising of the following in the Fire duct; etc. complete.as per direction of Engineer-in-charge.				

Sl.No	Description	Unit	Qty.	Rate	Amount
a	Hose reel drum of swinging type with 19mm dia Rubber braided hose of 36.5M. length with ball valve (on upstream) and Shut off nozzle, complete. Rate in figure: Rate in word:	Nos	6		
b	Fire duct Shutter fabricated out of M.S. sheet of 16 swg. Door shall be 900mm x 1200 mm x 150mm & fixed with 4 mm thick Glass, suitable Rubber beedibg and Locking arrangement. Quoted rate shall be includes all fasteners etc, and complete shutter shall be enamel painted of approved colour both inside and out side. Rate in figure: Rate in word:	Nos	6		
3	Supplying, installing and commissioning of fire brigade inlet inlet connection of 2 way with 2 nos. 63 mm dia. built - in Gun metal Non- return valves instantaneous coupling type arranged on 100 mm dia. Pipe manifold and connected to Fire water tank. Qouted rate shall be included with C.I, Butterfly valve, C.I. Non-return valve and M.S. cabinet of suitable size with mounting supports etc. complete for sprnkler risers. etc. complete.as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos.	2		
4	Supplying and fixing approved make 25mm dia. automatic air release valve with ball valve& unions etc. complete. as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos.	2		
5	Structural supports like MS angle, sheets, channel etc.,complete.as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Kgs	100		
B TOTAL FOR HYDRANT SYSTEM					_____
Rate in figure:					
Rate in word:					
C CIVIL WORKS					
1	Supply and construction of PCC (1:2:4) pedestals / supports for Under ground / above ground pipes. etc. complete.as per direction of Engineer-in-charge. Rate in figure: Rate in word:	cum	2		
C TOTAL FOR CIVIL WORKS					_____
Rate in figure:					
Rate in word:					
Rate in figure:					
Rate in word:					
TOTAL(A+B+C)					_____

Sl.No	Description	Unit	Qty.	Rate	Amount
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B.O.Q
OF FIRE FIGHTING
GIRLS HOSTEL-I
FOR
PROPOSED NATIONAL LAW UNIVERSITY ODISHA
AT NARAJ, CUTTACK

CONSULTANT :

M/s. RATH ARCHITECTONIC

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E-mail : ratharchitectonic@rediffmail.com

Sl.No	Description	Unit	Qty.	Rate	Amount
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ABSTRACT COST

1 FIRE FIGHTING	:	TOTAL Rs.	-
		TOTAL Rs.	-

For M/s. RATH ARCHITECTONIC.

Sl.No	Description	Unit	Qty.	Rate	Amount
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**B.O.Q OF FIRE FIGHTING OF GIRLS HOSTEL-I
FOR PROPOSED NATIONAL LAW UNIVERSITY ODISHA AT NARAJ, CUTTACK**

A DOWN COMER SYSTEM

1	Supply,erection,testing & commissioning of electrical motor driven Booster pump of monoblock type capable todeliver 450-LPMat 35MWC.The pump shall be coupled toTEFCmotor of suitable Hpwithspeed of 2900RPM and complete set shall mounted on common base frame. etc. complete.as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos	1		
2	Fabricating & Supply, installing, testing and commissioning of compartmentalized common control panel for Electrical motor driven booster pumps. etc. complete.as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos	1		
3	Supply, installation of push button station with on off indications for local control of booster pump with locking arrangement etc. complete.as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Nos	1		
4	1100 V GRADE POWER / CONTROL CABLES Supplying, laying, testing & commissioning of FRLS.PVC outer sheathe, steel armoured, aluminium / copper conductor, 1100v grade power cables with glands etc.The cables shall be laid in tray on walls/ floor etc. as required. The minimum size of the cables shall as mentioned below, etc. complete.as per direction of Engineer-in-charge.				
a	4 C x 16 Sq.mm aluminum for Booster pumps Rate in figure: Rate in word:	Rmts	15		
b	2C x 2.5 Sq. mm copper armoured for Instrumentation Rate in figure: Rate in word:	Rmts	20		
c	3C x 2.5 Sq. mm copper armoured for push button station Rate in figure: Rate in word:	Rmts	30		
5	Supplying and fixing of ladder type G.I.sheet cable tray with neccessary angle iron suspension supports, anchor fasteners etc. complete, to line and levels. Maximum height of suspension shall not exceed 500 mm.Size of the tray shall be 40x 150 x 40mm. etc. complete.as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Rmts	45		

Sl.No	Description	Unit	Qty.	Rate	Amount
6	G.I. Earthing strips of 25mm x 6mm thick, strip shall be run on floor / ceiling / walls, from the equipment to the nearest Earth pit with necessary accessories as required. (Earth pit shall be executed by other agencies). etc. complete.as per direction of Engineer-in-charge. Rate in figure: Rate in word:	Rmts	30		
7	Supplying, installing, testing and commissioning of G.I. Pipes conforming to IS 1239 Pt -1 Heavy(class C) grade with painting, suitable type of supports, anchor fasteners, bolts nuts (Galvanised), clamps, "U" bolts, malleable specials such as Reducers.Tees, elbows, flanges. Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc. complete. structural supports are measured as seperate line item etc. complete.as per direction of Engineer-in-charge.				
a	100mm nominal dia Rate in figure: Rate in word:	Rmts	118		
b	25mm nominal dia Rate in figure: Rate in word:	Rmts	6		
8	Supplying, installing and commissioning C.I.flanged "Y" type Strainer with SS mesh.suitable flanges, nuts, bolts, gaskets etc. complete.as per direction of Engineer-in-charge. Rate in figure: Rate in word:				
a	100mm nominal dia Rate in figure: Rate in word:	Nos	1		
9	Supplying, installing, testing and commissioning of C.I. Non-return valves as per IS:5312(PN 16) Wafer type with required flanges, nuts, bolts and gaskets etc. complete.as per direction of Engineer-in-charge.				
a	100mm nominal dia Rate in figure: Rate in word:	Nos	1		
10	Supplying, Installing, testing and commissioning CI butterfly valves as per BS 5155 (PN 16) slim seal standard lever operated type with required flanges, nuts, bolts etc. complete.as per direction of Engineer-in-charge.				
a	100mm nominal dia Rate in figure: Rate in word:	Nos	4		

Sl.No	Description	Unit	Qty.	Rate	Amount
11	Supplying, installing, testing and commissioning of Gun metal chrome finished Ball valves with fittings of screwed end type. etc. complete.as per direction of Engineer-in-charge.				
a	15mm dia. Rate in figure: Rate in word:	Nos	2		
b	25 mm dia Rate in figure: Rate in word:	Nos	2		
12	Supply and installation of Pressure switches of suitable range for pump sets Fittings like unions / collar / reducers etc. complete.as per direction of Engineer-in-charge.	Nos	1		
	Rate in figure: Rate in word:				
13	Supply and installation of Pressure gauges of suitable range for pump sets siphon, Fittings like unions / colors / reducers etc. complete.as per direction of Engineer-in-charge.	Nos	1		
	Rate in figure: Rate in word:				
14	Structural supports like MS angle, sheets, channel etc. complete.as per direction of Engineer-in-charge.	Kgs	250		
	Rate in figure: Rate in word:				
15	Supply and construction of PCC (1:2:4) pedestals / supports for terrace level piping and booster pump. etc. complete.as per direction of Engineer-in-charge.	cum	2		
	Rate in figure: Rate in word:				
A	TOTAL FOR DOWN COMER SYSTEM				
	Rate in figure: Rate in word:				
B	HYDRANT SYSTEM				
1	Supplying, installing, testing and commissioning of G.I. Pipes conforming to IS 1239 Pt -1 Heavy grade(C class) with painting, suitable type of supports like, anchor fasteners, bolts nuts, clamps, "U" bolts, malleable specials such as Reducers.Tees, elbows, flanges. Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc. complete. structural supports are measured as seperate line item etc. complete.as per direction of Engineer-in-charge.				
a	100mm nominal dia Rate in figure: Rate in word:	Rmt	60		
b	25mm nominal dia Rate in figure:	Rmt	12		

Sl.No	Description	Unit	Qty.	Rate	Amount
	Rate in word:				
2	Supplying, erecting and commissioning of Landing Hydrants comprising of the following in the Fire duct; etc. complete.as per direction of Engineer-in-charge.				
a	Hose reel drum of swinging type with 19mm dia Rubber braided hose of 36.5M. length with ball valve (on upstream) and Shut off nozzle, complete.	Nos	6		
	Rate in figure:				
	Rate in word:				
b	Fire duct Shutter fabricated out of M.S. sheet of 16 swg. Door shall be 900mm x 1200 mm x 150mm & fixed with 4 mm thick Glass, suitable Rubber beedibg and Locking arrangement. Quoted rate shall be includes all fasteners etc, and complete shutter shall be enamel painted of approved colour both inside and out side.	Nos	6		
	Rate in figure:				
	Rate in word:				
3	Supplying, installing and commissioning of fire brigade inlet inlet connection of 2 way with 2 nos. 63 mm dia. built - in Gun metal Non- return valves instantaneous coupling type arranged on 100 mm dia. Pipe manifold and connected to Fire water tank. Qouted rate shall be included with C.I, Butterfly valve, C.I. Non-return valve and M.S. cabinet of suitable size with mounting supports etc. complete for sprnkler risers. etc. complete.as per direction of Engineer-in-charge.	Nos.	2		
	Rate in figure:				
	Rate in word:				
4	Supplying and fixing approved make 25mm dia. automatic air release valve with ball valve& unions etc. complete.as per direction of Engineer-in-charge.	Nos.	2		
	Rate in figure:				
	Rate in word:				
5	Structural supports like MS angle, sheets, channel etc. complete.as per direction of Engineer-in-charge.	Kgs	100		
	Rate in figure:				
	Rate in word:				
B	TOTAL FOR HYDRANT SYSTEM				<hr/>
	Rate in figure:				
	Rate in word:				
C	CIVIL WORKS				
1	Supply and construction of PCC (1:2:4) pedestals / supports for Under ground / above ground pipes. etc. complete.as per direction of Engineer-in-charge.	cum	2		
	Rate in figure:				
	Rate in word:				

Sl.No	Description	Unit	Qty.	Rate	Amount
C	TOTAL FOR CIVIL WORKS				
	Rate in figure:				
	Rate in word:				
				TOTAL(A+B+C)	_____

Rate in figure:
Rate in word:

For M/s. RATH ARCHITECTONIC.