

**TENDER**

**FOR**

***CONSTRUCTION OF REGIONAL OFFICE BUILDING FOR  
HLL LIFECARE LIMITED, AT PALLIKARANAI, CHENNAI***

**PART-IV  
PRICE BID**

**TENDER NO. HLL/ID/ 15/23  
AUGUST 2015**



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## **1 COMMERCIAL CONDITIONS**

### **1.1.1 THE ABSTRACT OF BILL OF QUANTITIES IN THE PRICE BID SHALL BE INVARIABLY FILLED. THOSE WHO BIDDERS DO NOT FILL WILL BE NON-RESPONSIVE AND WILL BE DISQUALIFIED FROM EVALUATION AND WILL BE TREATED AS TECHNICALLY NOT QUALIFIED.**

1.1.2 The tendered rate shall inter alia be deemed to include for the provision of all materials, process, operation and special requirements detailed in the particular specification irrespective of whether these are mentioned in the description of equipment schedule and Bill of quantities or not. It is an express condition of the contract that the tendered rates for various items in the Bill of Quantities shall be deemed to include for the full, entire and final condition of the contractor respective items of the works in accordance with the provision of the contract.

1.1.3 The tendered rate shall include for all taxes, duties, etc. as applicable and shall be quoted on the works contract basis for **Construction of Regional office building for HLL Lifecare Limited at Pallikaranai, Chennai.**

1.1.4 The tendered rate shall remain firm and free from variation due to rise in the cost of materials/equipment, labour or any other reasons whatsoever during the contract period and valid extension on the case may be.

1.1.5 The quantum of excise duty included in the tendered price, the rate at which they were assumed etc. shall be indicated in the tender.

## **1.1 UNIT RATES**

1.11 Only approved work will be measured on completion and priced as per rates quoted against the respective items.

## **1.2 BRIEF DESCRIPTION OF PRICING**

1.2.1. Unforeseen difficulties for which provision has not been made in the tender will in no way relieve the successful tenderer from the full execution of the work.

1.2.2 The price quoted shall be the final amount for this finished work.

**1.2.3 The basic price is provided for items such as granite, tiles, paver blocks, paints, etc. For such materials (samples approved by HLL), any difference between actual purchase price (lower/ higher) during execution of the project and the basic price given in the tender document, the difference will be reimbursed / deducted on certification by the HLL Engineer in charge**

### **1.3 INCOME TAX**

Any payment to the contractor as per contract, will be made after deducting income tax as per the rules and regulations.

### **1.4 SALES TAX AND EXCISE DUTY**

The tenderer shall clearly indicate sales tax, Excise and other duties as applicable in his offer for carrying out this work.

### **1.5 SUBMISSION OF BILL**

1.5.1 The contractor shall from time to time prepare and submit interim bills of the work executed and on completion of the contract, he shall prepare and submit the final bill. The measurements sheets in support of the interim and final bills shall be prepared by the contractor on the basis of measurements taken by him jointly with the project engineer and the said measurement sheets shall be submitted by him with the relevant bill.

### **1.6 EXTRA ITEMS**

The contractor is bound to carry out any items of work necessary for the completion of the job even though such items may not have been included in the schedule of probable quantities or rates, such items being necessary or essential for completing the job. Variation order in respect of such additional items and their quantities will be issued in writing by the employer.

- 1.6.1 All shavings, cuttings and other rubbish as it accumulates from time to time during the progress of work and on completion including that of the sub-contractors and special tradesman and all materials condemned by the project engineer shall be cleared and removed from the site by the contractor without any extra charge.
- 1.6.2 All measuring steel taps, scaffolding, ladders instruments and tools that may be required for taking measurements shall be supplied by the contractor.

## **1.7 WORKING HOURS / OVER TIME WORK**

The working hours shall be as per the statutory norms as then prevalent and allowed by the local authorities. The contractor shall strictly abide by the statutory working hours regulations.

No works shall be carried out in the night hours except as permitted by the Engineer-in-charge/employer's representative under exceptional circumstances within allowable time period for construction as per the prevailing local norms.

Where night working is permitted, to facilitate the contractor's work operations, temporary lighting as per approved layout and as may be necessary to enable the work to proceed satisfactorily during the night shall be provided, installed, maintained for the duration of the contract and removed after completion of work by and at the expense of the contractor. HLL however, shall not entertain any claim for extra cost or charges on account of working during night hours

- 1.7.1. The contractor shall give full facilities to all other contractors working on site. He shall also arrange his programme of work so as not hinder the progress of other trades. The decision of the Engineer-in-charge on any point of dispute between the various parties shall be final and binding.
- 1.7.2. It is specifically pointed out that the contractor shall not be entitled to any compensation whatsoever on account of delay in procurement or supply of controlled materials and the rates quoted in the contract are fixed till the completion of the contract.
- 1.7.3. The contractor shall co-operate with other agencies appointed by the owners for the work to proceed smoothly with the least possible delay and to the satisfaction of the owners, architects and the consultants.

## **2 SPECIAL CONDITIONS**

### **2.1. EXECUTION WORK**

- 2.1.1. The whole of the work as described in the contract (including bills of materials, specification and all drawings pertaining thereto) and as advised by the Engineer-in-charge from time is to be carried out and completed in all parts to the entire satisfaction of the Employer. Any minor details of construction which are obviously and fairly intended, or which may not have been definitely referred to in this contract, but which are usual construction practice and essential to the work, shall be included in this contract.

### **2.2. CERTIFICATE OF COMPLETION**

- 2.2.1 The contractor shall intimate to the Engineer-in-charge in writing as and when the works are completed and put into beneficial use in order to enable the consultants to check certify to the owners to take over the plants.
- 2.2.2 The work shall not be considered as completed and put into beneficial use until the consultants have certified in writing that the same has been completed and put into beneficial use.
- 2.2.3 The defects liability period of one year shall commence from date of such completion or any specific date mentioned therein.

### **2.3. OTHER CONDITIONS**

- 2.3.1 The contractor has to do all liasoning works and obtain statutory approval from Electricity board, Electrical inspectorate and any another body if required for the successful energisation of electrical supply. No charges will be paid to the contractor in this regard. However, statutory fees if any will be paid by HLL. All necessary drawings and documents required for the same has to be prepared and submitted by the contractor with the concurrence and approval of the Engineer- in - charge.

### **LIST OF APPROVED MAKES**

#### **1. LIST OF APPROVED MAKES / AGENCIES FOR CIVIL & PLUMBING MATERIALS**

<b>S. No</b>	<b>Materials</b>	<b>Manufacturers / Agencies</b>
1	Ready mixed Concrete	L&T/RMC/RAMCO/ACC/Birla/Ultratech
2	Ordinary Portland Cement (Minimum 43 Grade)	ACC/UltraTech/India Cement/ Birla/Ramco
3	Reinforcement (Each LOT shall accompany manufacturer's Test Certificate)	SAIL/ TISCO( TATA)/ RINL/ VSP/ JINDAL
4	Stainless Steel	Salem Steel
5	Structural Steel	Conforming to BIS 2062 and approval of source by Engineer (TISCO/SAIL/VSP/JINDAL)
6	White Cement	JK Cement/ Birla White/Asian
7	Sand	Sand / M Sand ( Crushed aggregate) to comply with CPWD spec / relevent IS code spec.
8	Bricks, Stones slabs, Lime, Neeru Stone aggregate	Material / Sample to be got approved before use
9	Vitrified Tiles/Anti Skid Cermaic Tiles	Johnson, Nitco,Kajaria /RAK
10	Flush doors	Samrat, Kanchan Prima, Swastik (Kitply), Century/ Kutty/ Greenply/ Uniply/ Archid
11	FRP Doors	Fibrevent / Techno skills
12	Aluminium Fittings	Everite, Garnish,Crown Classic
13	Hydraulic floor Spring	Dorma
14	Aluminium Extruded Sections	Jindal/ NALCO/Hindalco/ Indalco
15	Aluminium Doors/Windows	As approved by E-IN-C
16	Paints/ Synthetic enamel Paint/ Distempers/ Acrylic emulsion/ Cement primer/ Deluxe multi surface paint	Asian, Nerolac, Berger
17	Glazing (high performance glass for DGU and SGU)	Saint Gobain / Asahi / Pilkington
18	Glass	Saint Gobain / Asahi / Modiguard
19	French Spirit Polishing	Sheenlac
20	ACP	Alucobond/Alcopla
21	Precast Cement Concrete Tiles	Eurocon/ Ultra make
22	Paver Block	As approved by Engineer In Charge
23	Water proofing Works	FOSROC/ SIKA / Pidilite / CICO/Penetron / Polyplus

24	Hydraulic Door Closers	Hardwyn, Everite, Garnish
25	Water Proofing Cement Paint	Snowcem India/ ICI/ Nerolac/ Berger/ asian
26	Ceramic / Glazed Floor Tiles	Nitco, Johnson,Kajaria, Somany
27	Super plasticizer	CICO, Roff / Pidilite
28	False Ceiling (a) Fibre (b) Galvanized Steel (c) Calcium Silicate	Armstrong / AMF Armstrong/Hunter Douglass Aerolite / Promat Armstrong
29	Stainless Steel Works	As approved by Engineer-in-charge
30	Curtain/Wall/Structural Glazing	Specialist Agency to be employed with Prior Approval of E-In-C
31	Adhesive	Pidilite, Araldite
32	Plastic Laminates	Formica, Greenlam, Bakelite HYLAM
33	Powder Coatings	Berger/Nerocoat/Jenson & Nicholson
34	Tile Joint Filler	Bal Adhesives & Grouts,"ROFFE" Rainbow Tile Mate, Silicon Sealnet of GE Bayer Silicon/ "Zentrival FM" of MC-Bauchemie (India) P Ltd
35	Resin Bonded Glass Wool	Crown Fibre Glass/Rock lloyd
36	MS Tubes	TATA / Lloyd/NSL
37	Roof Water Proofing	SIKA/Pidilite/Fosroc/ BASF
38	Silicon Sealant	Dow Corning
39	Anchor Fastener	Hilti, Bosch
40	Formwork Release Agent	Fosroc, MBT, MC Bauchemie CICO, ADO Conmat
41	EPOXY	FOSROC. SIKA
42	Cast Iron Pipe and Fittings (Soil Pipes)	BIC, HEP, NECO, Ajmera
43	CPVC FITTINGS	ASTRAL / ASHIRWAD
44	CPVC PIPES	ASTRAL / ASHIRWAD
45	Stoneware Pipes & Fittings	Dalmia, Parry
46	Cast Iron Pressure Pipes & Fittings	Tisco, BRM, KESORM
47	GI Pipes (ISI marked)	TATA, Zenith, Jindal, Gujarat Steel, ITC
48	GI Fittings (ISI marked)	'R' Brand KS/UNIK
49	PVC PIPES	SUPREME / PRINCE /ASTRAL
50	PVC FITTINGS	SUPREME / PRINCE /ASTRAL
51	PVC floor Trap	SUPREME / PRINCE
52	CP Brass Sanitary and water supply Fittings	Jaguar (Florentine)
53	Sanitaryware	Parryware/Hindware/Cera
54	Polyethylene/Polypropylene CISTERN	EVERLAST/FLUSHFLO/ESYFLO/ CHALLENGER/CHAMPION/COMMANDER, MARVEL
55	CI Fixtures	Ashok Iron Works/Bombay Iron Works/A



		Husainji / Ismaelji
56	Plywood Products, Parcticle Boards & Veneers	Duroply (Green Marked, BWR Century Plywood, Green Plywood Kitply, Mysore Boards
57	Water proofing System	SIKA/Pidilite/Fosroc/ BASF
58	CP Waste, Spreaders for Urinals	Jaguar / Orient / Parko
59	SFRC Manhole Covers	KK/SK & Precast Concrete
60	PVC Pipes/Fittings	SUPREME / PRINCE /ASTRAL / Finolex
61	SS Sink	Nirali, Hindware, Franke
62	Mirror	Modifloat/Saint Gobain

## 2. LIST OF APPROVED MAKES FOR ELECTRICAL AND SUBSTATION ITEMS

S. No	Materials	Manufacturers / Agencies
1	H.T.Panel	Crompton/ABB/Schneider/Siemens/L&T
2	Transformer	Crompton/kirloskar/ABB/BHEL/Schneider
3	RMU	Crompton/ABB/Schneider/Siemens
4	DG Engine	Caterpillar/Cummins/kirloskar/
5	Alternator	Stamford/Caterpillar/Crompton greaves
6	Bus trucking/Rising mains	(Along with all accessories) L&T / Schneider/ Legrand Control & Switchgear)
7	LT Panels	L&T/SIEMENS/SCHNEIDER/ ABB
8	APFC Panels	L&T/Sprague/EPCOS/INEL
9	ACBs	Same as in (4)
10	MCCBs	Same as in (4)
11	MCBs with DBs	Legrand/Schnider/Siemens/Havells
12	Accessories of HT/LT Panels	As per manufacturer's specified make
13	HT/LT UG cables	Torrent/Universal/Gloster/Havells/Polycab
14	Wiring cables – FRLS grade	Polycab/Havells/RR Cables/Finolex
15	Switches (SFU)	ABB/L&T/Siemens/Schneider
16	Modular Switches (SFU)	Legrand/Carbtree/Panasonic/MK
17	Piano Type switches and Boxes	Anchor/Leader
18	Cubicle Type Fuse Unit	Siemens /GE/L&T/Schneider
19	SFUs/Isolators	Siemens/GE/L&T/ABB/ SCHNEIDER
20	Starters / Contractor/Bi metal Relay	Siemens/L&T/ABB/Schneider
21	Push Button/Indicating Lamps (LED type)	Siemens/L&T/ABB/Schneider
22	CTs	Kappa/Intrans/PGR power/Indus/Kapco
23	Control Fuse Base with HRC fuse	GE/L&T/Siemens/Schneider
24	Cable trays	Profab/ Elcon/OBO Bettermann/Copper B line
25	Measuring Instruments	AE/Conserv/Rishab/ L&T

26	MS Conduit	Supreme /BEC/NIL /or any Other ISI marked
27	PVC Conduit	Precision/Avon Plast/Clipsal/Balco
28	Light Fittings	Philips/Wipro/Crompton/Havells
29	Capacitors	Siemens/L&T / Crompton greaves/Schnedider
30	Relays	GE/L&T/Siemens/Schneider
31	Digital Meters	Enercon/Alacrity/L&T
32	Jointing Kits	Rey Chem/3 Birla

<b>3. APPROVED MANUFACTURERS LIST - ELV SYSTEM</b>			
<b>Public Address system</b>			
Arm. shielded multi pair communication copper cable	Polycab	Finolex	Varsha
Ceiling mounted speaker	Bosch	Philips	Sony
Wall mounted speaker	Bosch	Philips	Sony
Amplifier	Bosch	Philips	Sony
Goose neck microphone	Bosch	Philips	Sony
Table top micro phone	Bosch	Philips	Sony
Call station cum voice alarm router	Bosch	Philips	Sony
Rack	Rittal	Netrack	APW
<b>Voice and Data system</b>			
PVC rigid/flexible conduits	Avone	Emjay	Precision
GI Back boxes	MK	Legrand	Eqt
6 core optic fiber cable	Legrand	Digi link	AMP
UTP Cat 5 / Cat 6 copper cable	Legrand	Digi link	AMP
Twisted pair multi core unarm. copper cable	RR cable	Finolex	Varsha
RJ 11 socket	Legrand	Digi link	AMP
Face plate	Legrand	Digi link	AMP
Patch cord - 1 mtr	Legrand	Digi link	AMP
Patch cord - 2 mtr	Legrand	Digi link	AMP
Terminal block for telephone	Krone	Connectwell	Eqt
Patch panel	Legrand	Digi link	AMP
Ethernet switch	Legrand	Digi link	AMP
Rack	Legrand	Rittal	APW
EPABX	Nortel	Avaya	Alcatel
<b>Audio Video System</b>			
Projector	Panasonic	Sanyo	Eqt
Speakers	Bosch	Philips	Toa
Amplifiers	Bosch	Philips	Toa
Projector screen	Draper	Liberty	Eqt
Rack	Rittal	Netrack	APW
Cables	Polycab	Finolex	Varsha

<b>CCTV system</b>			
Coaxial cable - CCTV system	RR cable	Finolex	Varsha
Indoor fixed type camera	Panasonic	LG	Honeywell
PTZ camera	Panasonic	LG	Honeywell
Digital Video Recorder	Panasonic	LG	Honeywell
Hard Disk	Thoshiba	Samsung	Seagate
LCD monitor	Panasonic	LG	Samsung
PTZ controller	Panasonic	LG	Honeywell
Power supply unit	MK	Eqt	Eqt
Rack	Rittal	Netrack	APW
Projector screen	Draper	Liberty	Eqt
Rack	Rittal	Netrack	APW
Cables	Polycab	Finolex	Varsha
<b>Access System</b>			
Cables	Polycab	Finolex	Varsha
Equipments	Cardkey	Honeywell	Eqt

#### **4. LIST OF APPROVED MAKES OF FIRE FIGHTING SYSTEM INSTALLATION**

<b>S. No.</b>	<b>Details of Materials / Equipment</b>	<b>Manufacturer's Name</b>
1.	Fire / Sprinkler Main Pump / Jockey	Kirloskar KSB Wilo - Mather & Platt Grundfos
2.	G.I. / M.S. Pipes (IS : 1239 / IS : 3589)	Jindal Prakash Tata Steel
3.	Standard M.S. Fittings	Seamless Fittings Pipeline Products
4.	DI / CI / Forged Steel Fittings	Jainsons Industries VS SS Fittings BM Fittings
5.	Double / Single Headed Landing Valve	New Age Safeguard Minimax
6.	Fire Hose	CRC Jayashree New Age Padmini

7.	First Aid Hose Reel (LPCB Approved)	Safeguard New Age Padmini Safeguard
8.	Branch Pipe	Minimax New Age Safeguard
9.	Fireman Axe	Minimax New Age Safeguard
10.	Installation Control Valve	Minimax Tyco Viking
11.	Fire Extinguishers	Victaulic Alert - Tyco Minimax Safefire
12.	Water Flow Switch	Safeguard Honeywell Rapid Control System Sensor
13.	Pipe clamp & supports	Spray Safe Chilly Euroclamp
14.	GM / Forged Brass Valves	Kanwal Danfoss RB Honeywell
15.	Butterfly Valve/ check valve	Zoloto Audco Danfoss Honeywell
16.	Air Release Valve	Arco OR RB Zoloto
17.	Anti-Vibration Mounting & Flexible Connections	Cori Dunlop Flexionics Kanwal Industrial Corporation
18.	Pressure Gauge	Resistoflex Emerald Fiebig H Guru Wika

19.	Welding Rods	ADOR Esab Advani
20.	Fastener	Fisher Hilti
21	Flexible hose for sprinkler	New Age Tyco

#### **5. LIST OF APPROVED MAKES OF FIRE DETECTION AND ALARM SYSTEM INSTALLATION**

<b>S. No.</b>	<b>Details of Materials / Equipment</b>	<b>Manufacturer's Name</b>
1.	Smoke / Multi criteria/Detectors	Notifier Edwards Honeywell (XLS-3000)
2.	Heat Detectors	Notifier Edwards Honeywell (XLS-3000)
3.	Control Modules / Monitor Modules / Fault Isolators	Notifier Edwards Honeywell (XLS-3000)
4.	Main Control Panel	Notifier Edwards Honeywell (XLS-3000)
5.	Manual Call Stations / Hooters /Speakers	Notifier Edwards Honeywell (XLS-3000)
6.	Sealed Maintenance free Batteries	Exide GS Batteries (Japan Storage Co. Ltd.) Hitachi
7.	PA System	Notifier BOSCH Ates Honeywell
8.	PVC insulated copper conductor FRLS cable	National Polycab Skytone

**6. LIST OF APPROVED MAKES FOR EQUIPMENT & MATERIALS**

<b><u>Sl. No.</u></b>	<b><u>Details of Materials / Equipment</u></b>	<b><u>Manufacturer's Name</u></b>
<b><u>I</u></b>	Elevators	OTIS Elevator Company Kone Elevators India Pvt. Ltd. Johnson lifts

**7. LIST OF APPROVED MAKES OF MATERIAL FOR STRUCTURAL GLAZING WORKS**

1	Aluminium Extrusions	Hindalco, Nalco, Indal, Jindal.
2	Stainless Steel	Salem Steel.
3	EPDM	AMEE Rubber Ind., Bohara Rubber.
4	Fiber Glass Wool	U. P. Twiga Fiberglass Ltd., Lloyds insulations or approved equivalent.
5	Rock Wool	Vetrotex Ind., Lloyds insulations or approved equivalent.
6	Aluminium Composite Panel	Alucobond, Alcopla, Alpolic, Reynobond.
7	Clear Float Glass	Shanghai Pilkington/ St. Gobain/ Modi/ Asahi
8	Coated Glass	Shanghai Pilkington / St.Gobain / Asahi.
9	Spider Fittings	Dorma,
10	Aluminium Solid sheet	Hindalco, Nalco, Indal, Jindal
11	Powder Coating	Jotun or approved equivalent
12	PVDF Coating	Duranar PPG or approved equivalent
13	Expansion Anchor Fasteners	Hilti, Fischer (SS Grade 316)
14	Screws, nuts bolts, washers rivets.	Kundan, Arrow (SS Grade 304)
15	Chemical Anchors	Hilti, Fischer
16	Door & Window Accessories	
	a. Lockset	Giesse, Hafele or approved equivalent
	b. S.S. Friction hinges	Seccuristyle, Hafele or approved equivalent
	c. Patch Fittings	Dorma
	d. Floor springs and Door Closers	Dorma

	<b>e. Door Handles</b>	<b>Dorma</b>
	<b>f. Panic Bars</b>	<b>Dorma</b>
<b>17</b>	<b>Structural Silicon Sealant</b>	<b>Dow Corning</b>
<b>18</b>	<b>Weather Silicon Sealant</b>	<b>Dow Corning</b>
<b>19</b>	<b>Spacer tapes</b>	<b>Norton or approved equivalent</b>
<b>20</b>	<b>Foam Spacers (Backer rods)</b>	<b>Norton or approved equivalent</b>

## **BILL OF QUANTITIES**

### **ABSTRACT**

**(ALL ROWS SHALL BE FILLED, THIS IS MANDATORY  
(IF NIL OR NA, THAT MAY ALSO BE SHOWN)**

<b>SL. NO.</b>	<b>Sub-Head</b>	<b>Amount (In Rs)</b>
<b>A</b>	<b>Sub head - Civil &amp; Plumbing</b>	
1	Civil Works	
2	Internal & External Plumbing & Sanitation Works ;	
	Pumps & Machineries works	
	Sub Total Subhead A (In Rs.)	
<b>B</b>	<b>Subhead - Electrical &amp; Allied Services</b>	
1	External & Internal Electrical Works	
2	Fire fighting Works	
3	HVAC Works	
4	Lifts	
5	UPS	
6	PA System	
7	CCTV System	
8	EPBAX	
	<b>Sub Total - B (In Rs.)</b>	
	<b>TOTAL (SUBHEAD A + SUBHEAD B) (In Rs.)</b>	
	Service tax component to be paid by the bidder	
	Service tax component to be directly paid by the HLL in case the bidder is a Proprietary firm	
	<b>GRAND TOTAL [INCLUDING 100% SERVICE TAX (a +b)]</b>	

Signature of the Bidder with date



## Civil Works

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
1	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30cm in depth. 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed:All kinds of soil	653	m3		
1b	Do do 1.5m to 3.0m do do	238	m3		
2	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50m.	185	m3		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
3	Filling with contractor's own earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m as per direction of engineer-in-charge	1040	m3		
4	Filling with contractor's own earth (excluding rock) in open areas in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m as per direction of site Engineer-in- charge	860	m3		
5	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations yard levelling etc., in layers not exceeding 20cm in depth: consolidating each deposited layer by ramming and watering etc complete, and form uniform level .	200	m3		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
6	Conveying and disposing off the excess earth from the site	290	m3		
7	Supplying and filling in plinth with sand (Zone III as per IS specification)confirming to under floors, including watering, ramming, consolidating and dressing complete.	158	m3		
8	Providing, driving and installing driven cast-in-situ reinforced cement concrete piles (in accordance with IS 2911 / CPWD specifications)of grade M-30 of specified diameter and length below the pile cap, to carry safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of shoe,pile chipping,muck removal and the length of pile to be embedded in the pile cap etc. all complete. (Length of pile for payment shall be measured from top of shoe to the bottom of pile cap).The minimum cement content to be considered is 340Kg/Cum :				

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	600 mm dia piles	832	M		
9	Boring, Providing and installing cast in situ single under reamed piles of specified diameter and length below pile cap in M-25 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 etc. all complete. (Length of pile for payment shall be measured upto to the bottom of pile cap) :The minimum cement content to be considered is 330Kg/Cum :				
	300 mm dia piles	126	M		

<b>Sl. no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
10	Vertical 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 & the direction of Structural consultant / Engineer in-charge. Single pile above 50 tonne and upto 100 tonne capacity:				
10.a	Initial test	1	Each		
10.b	Routine test.	1	Each		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
11	Providing & laying damp proof course 50mm thick with cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size).	57	m2		
12	Applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7 kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	57	m2		
13	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All works up to plinth level. :				

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
13.a	1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	85	m3		
13.b	1:5:10(1 cement : 5 coarse sand : 10 graded stone aggregate 40mm nominal size)	65	m3		
14	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All works up to floor V level. :1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size)	130	m3		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
15	Cement plaster 1:3 (1 cement: 3 coarse sand) finished with a floating coat of neat cement. 12 mm cement plaster	30	m2		
16	Providing and laying in position ready mixed M-30 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying , , excluding the cost of centering, shuttering finishing and reinforcement, including cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge.				



Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	(Note :-Minimum Cement content to be considered in this item is @ 340 kg/cum Excess/ less cement used as per design mix is payable/recoverable separately. ).	165	Cum		
17	Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying , excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge.				

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	(Note :- Minimum Cement content to be considered in this item is @ 330 kg/cum Excess/ less cement used as per design mix is payable/recoverable separately)				
	All work above plinth level up to floor V level -RCC work	910	m3		
17.a	Add for using extra cement in the items of design mix over and above the specified cement content therein.	840	Quintal		
18	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level :				

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
18.a	1:1:2 (1 cement : 1 coarse sand : 2 graded stone aggregate 20mm nominal size)	95	m3		
18.b	1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)	97	m3		
18.c	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	17	m3		
19	Centering and shuttering including strutting, propping etc., and removal of form for,				

<b>Sl. no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
19.a	Foundations, Footings, bases of columns,etc for mass concrete.	370	m2		
19.b	Walls any thickness including attached pilasters butteresses,Plinth and string courses etc.	480	m2		
19.c	Suspended floors, roofs, landings, Balconies and access platform	2890	m2		

<b>Sl. no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
19.d	Lintel,beams,plinth beams,girders,bressumers and cantilevers	2170	m2		
19.e	Columns and Pillars, Piers, Abutments, Posts and Struts.	1640	m2		
19.e	Stairs(excluding landings) except spiral-staircases.	100	m2		
19.g	Weather shade, chajjas, corbels etc. including edges	215	m2		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
20	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto Plinth level & above. Term – Mechanically Treated Bars	180780	kg		
21	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete. 40 mm thick with 20 mm nominal size stone aggregate	512	m2		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
22	Providing and fixing stainless steel ( Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge (as per architect's design and detail), (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	810	Kg		
23	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	200	Kg		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
24	Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying : a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm. This layer will be allowed to air cure for 4 hours. b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.	90	m2		



Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
25	<p>Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs,balconies, terraces etc consisting of following operations: a) Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300 mm height including cleaning the surface before treatment. b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand ) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs c) After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge. d) Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep. e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. All above operations to be done in order and as directed and specified by the Engineer-in-Charge :</p>	550	m2		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
26	Supply and applying water proofing (Fosroc or approved equivalent) on wall and horizontal surface with required surface preparation as per manufacturers technical data and specifications. Above that Mixing and applying water proofing material(Nitocote CM 210 or approved equivalent) in proportion recommended by the manufacturer in 1:3 cement plaster ( 1 cement: 3coarse sand ) 20mm Thick finished with a floating coat of neat cement.	166	m2		
27	Providing and injecting chemical emulsion chlorophyriphos 20 % emulsifiable concentrates with 1% concentration or Lindane 20 % emulsifiable concentrates with 1 % concentration pre-constructional anti - termite treatment as per IS 6313 part-2 (2001) or latest eddition and creating a contineous chemical barrier under and alround the column pits, wall trenches, basements excavation, top surface of plinth filling, junction of wall and floor along the external perimeter of the of the building, expansion joints over the top surface of consolidated earth on which apron is to be laid, surroundings of pipes and conduits etc. complete . The work shall be carried out by approved specialised agency and shall carry a performance guarantee on stamp paper for 10 years by the bidder (Plinth area shall be measured for payment )	540	m2		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
28	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS: 1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	15	Each		
29	Making soak pit 2.5 m diameter 3.0 metre deep with 45 x 45 cm dry brick honey comb shaft with bricks and S.W. drain pipe 100 mm diameter, 1.8 m long complete as per standard design. With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	1	Each		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
30	SFRC Cover and frame (heavy duty HD-20 grade designation) 560 mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg. fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete.	10	Each		
	<b>BRICK WORK</b>				
31	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 5.0 in foundation and plinth in: Cement mortar 1:6 (1 cement : 6 coarse sand). Cost to include fixing and removal of necessary scaffolding.	35	m3		
32	Brick work with F.P.S bricks of class designation 5.0 in superstructure above plinth level up to floor v level in all shapes an sizes in: Cement mortar 1: 6 (1 cement :6 coarse sand) .Cost to include fixing and removal of necessary scaffolding.	40	m3		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
33	Half brick masonry with F.P.S brick of class designation 7.5 in superstructure above floor V level up to floor IX level : CM 1:3 (1 cement : 3 coarse sand). Cost to include fixing and removal of necessary scaffolding.	200	m2		
34	Providing and fixing up to floor five level precast cement concrete solid block, including hoisting and setting in position with cement mortar 1:3 (1cement : 3 coarse sand), cost of required centering, shuttering complete (200mm thk and 100mm thk) :				
34.a	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	402	cum		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
35	Extra for providing and placing in position 2 Nos 6mm dia. M.S. bars at every third course of half brick masonry.	200	sqm		
	<b>WOOD WORK</b>				
36	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length ( hold fast lugs or dash fastener shall be paid for separately). Second class teak wood	3	m3		
37	Providing and fixing aluminium die cast body tubular type universal hydraulic door closer ( of Everite make having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 35 kg and door width upto 700 mm), with necessary accessories and screws etc. complete.	28	Each		

<b>Sl. no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
38	Providing and fixing stainless steel of 304 grade handles 450 mm length & with patch fitted lock with necessary screws etc complete (lock with 3 keys fixed) at floor level	10	Each		
39	Providing and fixing double action hydraulic floor spring of approved brand and manufacture(Dorma) conforming to IS : 6315, having brand logo embossed on the body / plate with double spring mechanism and door weight upto 125 kg., for doors, including cost of cutting floors , embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge. With brass cover plate minimum 1.25 mm thickness	10	Each		

<b>Sl. no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
40	Providing and fixing 12 mm thick frameless toughened glass door shutter of approved brand and manufacture, including providing and fixing top & bottom pivot & spring type fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer-in-charge. Make shall be Saint gobain / Modi / Asahi	35	m2		
41	Providing and fixing of Glass in spider fitting for glass canopy. Laminated clear Toughfnd glass consisting of (6mm+1.52PVB+6mm) in SS spider fitting of Dorma make as per architect's design. Make of glass shall be Saint gobain / Modi / Asahi	22	m2		
42	Providing & fixing Steel Twisted Clutch cables made out of Twisted Steel wires stretched together in a strand of overall diameter 12mm fixed to the prefabricated steel canopy at one end & to the beab at the other end by means of nuts & bolts. The pre fabricated canopy to be hung by means of the abovementioned clutch cables.	20	m		



<b>Sl. no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
43	Providing and fixing Automatic sliding door without frame with 12mm toughned glass door shutters of approved brand & manufacturer & making necessary holes etc for fixing door fittings & stainless steel brackets (no framing profiles) controlled by automatic sensored operated sliding door with all the required accessories of DORMA make as per architects design and as per direction of Engineer-in-charge	1	Each		
44	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters.				
44.a	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	58	m2		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
45	Providing and fixing Fiber Glass Reinforced plastic (FRP) Door Frames of cross-section 90 mm x 45 mm having single rebate of 32 mm x 15 mm to receive shutter of 30 mm thickness .The laminate shall be moulded with fire resistant grade unsaturated polyester resin and chopped mat. Door frame laminate shall be 2 mm thick and shall be filled with suitable wooden block in all the three legs. The frame shall be covered with fiber glass from all sides. M.S. stay shall be provided at the bottom to steady] the frame.	113	m		
46	Providing and fixing to existing door frames.				
46.a	30 mm thick Fiberglass Reinforced Plastic (F.R.P.) flush door shutter in different plain and wood finish made with fire retardant grade unsaturated polyester resin, moulded to 3 mm thick FRP laminate all around, with suitable wooden blocks inside at required places for fixing of fittings and polyurethane foam (PUF)/ Polystyrene foam to be used as filler material throughout the hollow panel, casted monolithically with testing parameters of F.R.P. laminate conforming to table - 3 of IS: 14856, complete as per direction of Engineer-in-charge.	31	sqm		
47	French spirit polishing :				

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
47.a	Two or more coats on new works including a coat of wood filler	131	sqm		
48	Painting with synthetic enamel paint, having VOC (Volatile Organic Compound) content less than 150 grams/ litre, of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.				
48.a	Two coats	66	sqm		
	<b>FLOORING WORK</b>				

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
49	62 mm thick cement concrete flooring with concrete hardener topping, under layer 50 mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) and top layer 12mm thick cement hardener consisting of mix 1:2 (1 cement hardener mix : 2 graded stone aggregate, 6mm nominal size) by volume, hardening compound mixed @ 2 litre per 50 kg of cement or as per manufacture's specifications. This includes cost of cement slurry, but excluding the cost of nosing of steps etc. complete.	184	SQM		
50	Providing and fixing Ist quality glazed ceramic glazed wall tiles Kajaria, NITCO, Johnson conforming to IS : 15622 (thickness to be specified by the manufacture ) of approved make in all colours, shades of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados (2.8m high), over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete. Minimum size of tile 300mm X 450mm ( <b>Basic rate - Rs.850 per sqm</b> ). The quoted rate shall include PVC edge protection of matching colour	633	SQM		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
51	Providing and laying anti skid Ceramic glazed floor tiles of Kajaria, NITCO, Johnson in different sizes (thickness to be specified by the manufacturer), of 1st quality conforming to IS : 15622, of approved make, in all colours, shades, laid on 20 mm thick bed of cement mortar 1:4 (1 Cement : 4 Coarse sand), including pointing the joints with white cement and matching pigments etc., complete. Minimum size of tile 300mm X 300mm <b>(Basic Rate Rs.700 per sqm)</b>	301	SQM		
52	Providing and laying polished scratch resistant fully vitrified floor tiles of Kajaria, NITCO, Johnson in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), including grouting the joints with cementitious water repellant tile joint filler of matching colour and pigments etc., complete. Minimum size of tile 600mm X 600mm <b>(Basic Rate - Rs.1200 per sqft)</b>	1400	SQM		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
53	Providing and laying polished scratch resistant vitrified floor tiles of Kajaria, NITCO, Johnson in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622, in all colours and shades in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joints with cementitious water repellant tile joint filler of matching colour and pigments etc., complete. <b>(Basic Rate - Rs.1200 per sqm)</b>	35	SQM		
54	Providing and laying factory made 80mm thick chamfered edge Cement Concrete paver blocks of grade equal to or higher than M50 with required strength, thickness & approved colour, design, size/shape, made by table vibratory method, to attain superior smooth finish using PU or equivalent moulds, laid in required colour & pattern over 50mm thick compacted bed of coarse sand, compacting and proper embedding / laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with fine sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand in footpath, parks, lawns, drive ways or light traffic parking etc. all complete as per approved manufacturer's specifications & direction of Engineer -in-Charge: <b>(Basic cost of paver block shall not be less than Rs.800 / m<sup>2</sup>)</b>	592	SQM		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
55	Providing and laying at or near ground level factory made kerb stone of M- 25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge). <b>(Basic cost of kerb stone of size 300x450x150mm - Rs.250/- per piece)</b>	11	cum		
56	Providing & laying Granite stone flooring with 18mm thick granite stone of approved colour,size,shade and texture laid with approved pattern provided by the architect with one or more type of granite laid over 20mm(average) thick base of cement mortar 1:4 (1 cement :4 coarse sand) and with joints treated with matching colour sealant epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels. Area of slab over 0.50 sqm.: Basic rate not less than Rs. 2750.00/m2 (Granite to be approved by the Architect / Engineer in charge )	305	SQM		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
57	Providing and fixing 18mm thick gang saw cut mirror polished premoulded and prepolished) machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size of approved shade, size, colour and texture laid over 20mm thick base cement mortar 1:4 (1 cement : 4 coarse sand) with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels. Granite of any colour and shade: Area of slab over 0.50 sqm.: <b>Basic rate not less than Rs. 2750.00/m2</b> ( Granite to be selected by the Engineer in charge)	50	SQM		
58	Stone cladding work for wall lining upto 10m height with special adhesive over 12mm thick bed of cement mortar 1:3 (1cement : 3coarse sand) including pointing in white cement with an admixture of pigment to match the stone shade. Granite stone 18mm thick of any size, colour and shade. <b>Lowest retail price not less than Rs. 2750.00/m2</b> (Granite to be approved by the Engineer in charge). The size shall be as per architect's drawing.	160	SQM		



Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
59	Mirror polishing on marble work/Granite stone work where ever required to give high gloss finish complete.	160	SQM		
60	Extra for prviding opening of required size and shape for wash basins/kitchen sink in kitchen platform, vanity counters and similar location in granite stone work including necessary holes for pillar taps etc.including rubbing and polishing of cut edges etc.complete.	25	Each		
61	Providing and fixing stone slab table rubbed, edges rounded and polished of size 75x50 cm deep and 1.8 cm thick fixed in urinal partitions by cutting a chase of appropriate width with chase cutter and embedding the stone in the chase with epoxy grout or with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6 mm nominal size) as per direction of Engineer-in-charge and finished smooth. Granite Stone of approved shade Basic rate not less than Rs. 2750.00/m2	5	SQM		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
62	Extra for pre finished nosing to treads of steps of Granite / Marble / kota stone.	162	METRE		
63	Extra for granite stone flooring in treads of steps and risers using single length up to 2.00 metre.	153	sqm		
64	Providing and fixing precast factory made CC tiles of approved shade or colour and design pattern of 30mm thick in footpath and courtyard on 20mm thick bed of CM 1:4 (Basic rate of tile is Rs.800/- per sqm) of Eurocon / Ultra make	525	SQM		
	<b>ROOFING WORK</b>				

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
65	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 1mx1mx400micron, finished with 12mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	30	EACH		
66	Providing and fixing to the inlet mouth of rain water pipe PTMT (an Engineering Thermoplastic) grating square (Slit) 150 mm square with a height of 8 mm and weighing not less than 100 gms.	30	EACH		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
67	Providing and Fixing 15 mm thick densified tegular edged eco friendly light weight calcium silicate false ceiling tiles of approved texture spintone /cosmos / Hexa or equivalent of size 595 x 595 mm in true horizontal level suspended on inter locking metal grid of hot dipped galvanised steel Sections (galvanising @ 120 grams per sqm including both side) consisting of main 'T' runner suitably spaced at joints to get required length and of size 24x38mm made from 0.33 mm thick (minimum) sheet, spaced 1200mm centre to centre, and cross "T" of size 24x28mm made out of 0.33mm (Minimum) sheet, 1200mm long spaced between main "T" at 600mm centre to centre to form a grid of 1200x600mm and secondary cross "T" of length 600mm and size 24 x28mm made of 0.33mm thick (Minimum) sheet to be inter locked at middle of the 1200x 600mm panel to form grid of size 600x600mm, resting on periphery walls /partitions on a Perimeter wall angle pre-coated steel of size(24x24X3000 mm made of 0.40 mm thick (minimum) sheet with the help of rawl plugs at				

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	450mm centre to centre with 25mm long dry wall screws @ 230mm interval and laying 15mm thick densified edges calicum silicate ceiling tiles of approved texture (Spintone / Cosmos/hexa) in the grid including, cutting/ making opening for services like diffusers, grills,light fittings, fixtures, smoke detectors etc., wherever required, Main 'T' runners to be suspended from ceiling using G.I. slotted cleats of size 25x35x1.6mm fixed to ceiling with 12.5 mm dia and 50mm long dash fasteners, 4mm G.I. adjustable rods with galvanised steel level clips of size 85 x 30 x 0.8 mm, spaced at 1200mm centre to centre along main 'T' , bottom exposed with 24mm of all T-sections shall be pre-painted with polyster baked paint, for all heights, as per specifications, drawings and as directed by engineer-in-charge.Note :- Only calcium silicate false ceiling area will be measured from wall to wall. No deduction shall be made for exposed frames/opening (cut outs) having area less than 0.30 sqm.The calcium silicate ceiling tile shall have NRC. value of 0.50(Minimum), light reflection > 85%, non - combustibile as per B.S. 476 part IV, 100% humidity resistance and also having thermal conductivity<0.043 w/m 0 KC.	1922	SQM		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
68	Providing and fixing ½” thk. Gypsum India board false ceiling at all levels as per architect's drg. From FFL. Rate shall be inclusive of all Gypsum India components contained G.I. perimeter channels of size 0.55 thick having one flange of 20mm and another flange of 30mm and a web of 27mm alongwith perimeter of ceiling, screw fixed to brickwall/partition with the help of nylon sleeves and screws, at 610mm centres. The suspending G.I.intermediate channels of size 45mm, 0.9mm thick with two flanges of 15mm each from the soffit at 1220mm centres with ceiling angle of width 25mm x 10mm x 0.55 thick fixed to soffit with G.I. cleat and steel expansion fastners at every 610mm c/c. Ceiling sections of 0.55mm thickness having knurled web of 51.5mm and two flanges of 26mm each with lips of 10.5mm are then fixed to intermediate channel with the help of connecting clip and in direction perpendicular to the intermediate channel at 457mm centres. 12.5mm tapered edge Gypboard is then screw fixed to ceiling section with 25mm				

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	drywall screws driver or drilling machine with suitable attachment. The boards are to be jointed and finished so as to have a flush look which includes filling and finishing the tapered and square edge of the boards with jointing compound & joint paper tape. Rate shall be inclusive of any vertical ceiling drops, facias, bands, cut outs for spot, tube light, A. C. Grills, fire and security systems cut outs, All Sections should adhere to the manufacturers guidelines and contractor has to submit the Gypsum India certificate on using the India Gypsum sections & boards. Work shall be carried out as per Architect's design and details. Cost to include that for necessary jointing tape & compound as per manufacturers specifications, complete as per drawings & directions. Cost to include the hidden measurement. Cost to include necessary scaffolding, surface preparation and applying 2 coats of approved premium acrylic emulsion paint of interior grade of Asian / Berger / Nerolac.	346	Sqmt		
	<b>FINISHING WORK</b>				
69	15 mm cement plaster on the rough side of single or half brick wall of mix: (Cost to include fixing and removal of necessary scaffolding).				

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
69.a	1:4(1 Cement : 4 Fine Sand).	2610	SQM		
70	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.(Cost to include fixing and removal of necessary scaffolding)	2700	SQM		
71	Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound ) content less than 50 grams/ litre of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour. (Basic Cost of paint Rs.300 per litre). (Cost to include fixing and removal of necessary scaffolding)				



Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
71.a	Two coats	2910	SQM		
72	12 mm cement plaster 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement (Cost to include fixing and removal of necessary scaffolding)	1130	SQM		
73	6 mm cement plaster of mix : 1:3 (1 cement : 3 fine sand) (Cost to include fixing and removal of necessary scaffolding)	2735	SQM		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
74	18 mm cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement: 5 coarse sand) and a top layer 6 mm thick cement plaster 1:3 (1 cement : 3 coarse sand) finished rough with sponge. (Cost to include fixing and removal of necessary scaffolding)	2491	SQM		
75	Extra for providing and mixing water proofing material in cement plaster work in proportion recommended by the manufacturers.	405	Per bag of 50 kg cement used in the mix		
76	Applying one coat of water thinnable cement primer of approved brand and manufacture on wall surface : (Cost to include fixing and removal of necessary scaffolding)				

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
76.a	Water thinnable cement primer	5137	SQM		
77	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade : (Cost to include fixing and removal of necessary scaffolding)				
77.a	New work (Two or more coats applied @ 1.43 ltr/ 10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm) - Basic rate Rs.240 per litre	2491	SQM		
78	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade : (Cost to include fixing and removal of necessary scaffolding)				

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
78.a	New work (two or more coats) over and including water tinnable priming coat with cement primer	488	SQM		
79	Forming groove of uniform size in the top layer of washed stone grit plaster as per approved pattern using wooden battens, nailed to the under layer, including removal of wooden battens, repair to the edges of panels and finishing the groove complete as per specifications and direction of the Engineer-in-charge : (Cost to include fixing and removal of necessary scaffolding)				
79.a	15 mm wide and 15 mm deep groove	400	M		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
80	Painting Steel work with Deluxe Multi Surface Paint to give an even shade. Two or more coat applied @ 0.90 ltr/ 10 sqm over an under coat of primer applied @ 0.80 ltr/ 10 sqm of approved brand and manufacture ( Basic rate of Multi surface paint - Rs.290 per ltr) (Cost to include fixing and removal of necessary scaffolding)	190	sqm		
	<b>ALUMINIUM WORK (Cost to include fixing and removal of necessary scaffolding)</b>				
81	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :				

<b>Sl. no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
	For fixed portion				
81.a	Powder coated aluminium (minimum thickness of powder coating 50 micron)	105	Kg		
81.a.1	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)				
81.b	Powder coated aluminium (minimum thickness of powder coating 50 micron)	105	Kg		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
82	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge.(Cost of aluminium snap beading shall be paid in basic item):				
82.a	With float glass panes of 8 mm thickness	32	sqm		
83	Filling the gap in between aluminium frame & adjacent RCC/ Brick/ Stone work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete.				
83.a	Upto 5mm depth and 5 mm width	200	m		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	<b>STRUCTURAL GLAZING AND ALUMINIUM COMPOSITE PANEL (Cost to include fixing and removal of necessary scaffolding). Silicone - Dow corning make</b>				
84	Providing and supplying aluminium extruded tubular and other aluminium sections as per the architectural drawings and approved shop drawings, the aluminium quality as per grade 6063 T5 or T6 as per BS 1474,including super durable powder coating of 60-80 microns conforming to AAMA 2604 of required colour and shade as approved by the Engineer-in-Charge. (The item includes cost of material such as cleats, sleeves, screws etc. necessary for fabrication of extruded aluminium frame work. Nothing extra shall be paid on this account).	6011	Kg		



Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
85	Designing, fabricating, testing, protection, installing and fixing in position semi (grid) unitized system of structural glazing (with open joints) for linear as well as curvilinear portions of the building for all heights and all levels, including:a) Structural analysis & design and preparation of shop drawings for the specified design loads conforming to IS 875 part III (the system must passed the proof test at 1.5 times design wind ressure without any failure), including functional design of the aluminum sections for fixing glazing panels of various thicknesses, aluminium cleats, sleeves and splice plates etc. gaskets, screws, toggles, nuts, bolts, clamps etc., structural and weather silicone sealants, flashings, fire stop (barrier)- cum-smoke seals, microwave cured EPDM gaskets for water tightness, pressure equalisation & drainage and protection against fire hazard including: b) Fabricating and supplying serrated M.S. hot dip galvanised / Aluminium alloy of 6005 T5 brackets of required sizes, sections and profiles etc. to accommodate 3 Dimentional movement for achieving perfect verticality and fixing structural glazing system rigidly to the RCC/ masonry/structural steel framework of building structure using stainless steel anchor fasteners/ bolts, nylon seperator to prevent bimetallic contacts with nuts and washers etc. of stainless steel grade 316, of the required capacity and in required numbers.	931	SQM		

<b>Sl. no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
	c) Providing and filling, two part pump filled, structural silicone sealant and one part weather silicone sealant compatible with the structural silicone sealant of required bite size in a clean and controlled factory / work shop environment , including double sided spacer tape, setting blocks and backer rod, all of approved grade, brand and manufacture, as per the approved sealant design, within and all around the perimeter for holding glass.d) Providing and fixing in position flashings of solid aluminium sheet 1 mm thick and of sizes, shapes and profiles, as required as per the site conditions, to seal the gap between the building structure and all its interfaces with curtain glazing to make it watertight.				
	e) Making provision for drainage of moisture/ water that enters the curtain glazing system to make it watertight, by incorporating principles of pressure equalization, providing suitable gutter profiles at bottom (if required), making necessary holes of required sizes and of required numbers etc. complete. This item includes cost of all inputs of designing, labour for fabricating and installation of aluminium grid,				

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	<p>installation of glazed units, T&amp;P, scaffolding and other incidental charges including wastages etc., enabling temporary structures and services, cranes or cradles etc. as described above and as specified. The item includes the cost of getting all the structural and functional design including shop drawings checked by a structural designer, dully approved by Engineer-in-charge. The item also includes the cost of all mock ups at site, cost of all samples of the individual components for testing in an approved laboratory, field tests on the assembled working structural glazing as specified, cleaning and protection till the handing over of the building for occupation. In the end, the Contractor shall provide a water tight structural glazing having all the performance characteristics etc. all complete as required, as per the architectural drawings, as per item description, as specified, as per the approved shop drawings and as directed by the Engineerin-Charge.</p>				

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	<p>Note:- 1. The cost of providing extruded aluminium frames, shadow boxes, extruded aluminium section capping for fixing in the grooves of the curtain glazing and vermin proof stainless steel wire mesh shall be paid for separately under relevant items under this subhead. However, for the purpose of payment, only the actual area of structural glazing (including width of grooves ) on the external face shall be measured in sqm. up to two decimal places. Note:-2. The following performance test are to be conducted on structural glazing system if area of structural glazing exceeds 2500 Sqm from the certified laboratories accredited by NABL(National Accreditation Board for Testing and Calibration Laboratories), Department of Science &amp; Technologies, India. Cost of testing is payable separately. The NIT approving authority will decide the necessity of testing on the basis of cost of the work, cost of the test and importance of the work. Performance Testing of Structural glazing system Tests to be conducted in the NBL Certified laboratories 1. Performance Laboratory Test for Air Leakage Test (-50pa to – 300pa) &amp; (+50pa to +300pa) as per ASTM E-283-04 testing method for a range of testing limit 1 to 200 mVhr” 2. Static Water Penetration Test. (50pa to 1500pa) as per ASTM E- 331-09 testing method for a range up to 2000 ml.”</p>				

<b>Sl. no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
	3. Dynamic Water Penetration (50pa to 1500pa) as per AAMA 501.01- 05 testing method for a range upto 2000 ml”4. Structural Performance Deflection and deformation by static air pressure test (1.5 times desing wind pressure without any failure) as per ASTM E-330-10 testing method for a range upto 50 mm”5. Seismic Movement Test (upto 30 mm) as per AAMA 501.4-09 testing method for Qualitative test” Tests to be conducted on site 6. OnsiteTest for Water Leakage for a pressure range 50 kpa to 240 kpa (35psi) upto 2000ml”				

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
86	Providing, assembling and supplying vision glass panels (IGUs) comprising of hermetically-sealed 6-12- 6 mm insulated glass (double glazed) vision panel units of size and shape as required and specified, comprising of an outer heat strengthened float glass 6mm thick, of approved colour and shade with reflective soft coating on surface # 2 of approved colour and shade, an inner Heat strengthened clear float glass 6mm thick, spacer tube 12mm wide, dessicants, including primary seal and secondary seal (structural silicone sealant) etc. all complete for the required performances, as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineer-in-Charge. The IGUs shall be assembled in the factory/ workshop of the glass processor. (Payment for fixing of IGU Panels in the curtain glazing is included in cost of item No.26.2) For payment, only the actual area of glass on face # 1 of the glass panels (excluding the areas of the grooves and weather silicone sealant) provided and fixed in position, shall be measured in sqm.	931	sqm		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	(i) Coloured tinted float glass 6mm thick substrate with reflective soft coating on face # 2, + 12mm Airgap + 6mm Heat Strengthened clear Glass of approved make having properties as visible Light transmittance (VLT) of 25 to 35 %, Light reflection internal 10 to 15%, light reflection external 10 to 20 %, shading coefficient (0.25- 0.28) and U value of 3.0 to 3.3 W/m2 degree K etc. The properties of performance glass shall be decided by technical sanctioning authority as per the site requirement.				
87	Extra for openable side / top hung vision glass panels (IGUs) including providing and supplying at site all accessories and hardwares for the openable panels as specified and of the approved make such as heavy duty stainless steel friction hinges, min 4 -point cremone locking sets with stainless steel plates, handles, buffers etc. including necessary stainless steel screws/ fasteners, nuts, bolts, washers etc. all complete as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineerin- Charge.	93	SQM		

<b>Sl. no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
88	Providing, fabricating and supplying shadow box of required size and shape, for fixing in the spandrel portion of the structural glazing, in linear as well as curvilinear portions of the building by providing semi - rigid, inorganic, non-combustible fibre glass wool insulation 50 mm thick, conforming to IS: 8183 and BS: 3958 Part 5. The insulation layer shall have facing (factory bonded on surface # 1 of the fibre glass insulation layer), of black nonwoven fibre glass tissue of nominal thickness 0.5 mm and nominal mass not less than 60 gm / sqm, made of randomly oriented glass fibres distributed in a binder by a wet-lay process including fixing 1.5 mm thick solid aluminum sheet backing using, 6 mm thick cement board including SS rivets, nuts, bolts, washers etc complete.	285	SQM		



Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
89	<p>Providing and supplying Spandrel Glass Panels comprising of 6 mm thick heat strengthened monolithic float glass of approved colour and shade with reflective soft coating on surface # 2 of approved colour and shade so as to match the colour and shade of the IGUs in the vision panels etc. ,all complete for the required performances as specified, as per the Architectural drawings, as per the approved shop drawings, as specified, and as directed by the Engineer- in-Charge. For payment, only the actual area of glass on face # 1 of the glass panels (but excluding the area of grooves and weather silicone sealant) provided and fixed in position, shall be measured in sqm.(Payment for fixing of Spandrel Glass Panels in the curtain glazing is included in cost of relevent Item*). (i) Coloured tinted float glass 6mm thick substrate with reflective soft coating on face # 2, having properties as visible Light transmittance (VLT) of 25 to 35%, Light reflection internal 10 to 15%, light reflection external 10 to 20%, shading coefficient (0.25- 0.28) and U value of 3.0 to 3.3 W/m2 degree K etc. The properties of performance glass shall be decided by technical sanctioning authority as per the site requirement.</p>	285	SQM		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
90	Designing, fabricating, testing, installing and fixing in position Curtain Wall with Aluminium Composite Panel Cladding, with open grooves for linear as well as curvilinear portions of the building, for all heights and all levels etc. including: a) Structural analysis & design and preparation of shop drawings for pressure equalisation or rain screen principle as required, proper drainage of water to make it watertight including checking of all the structural and functional design. b) Providing, fabricating and supplying and fixing panels of aluminium composite panel cladding in pan shape in metallic colour of approved shades made out of 4mm thick aluminium composite panel material consisting of 3mm thick FR grade mineral core sandwiched between two Aluminium sheets (each 0.5mm thick). The aluminium composite panel cladding sheet shall be coil coated, with Kynar 500 based PVDF / Lumiflon based fluoropolymer resin coating of approved colour and shade on face # 1 and polymer (Service) coating on face # 2 as specified using stainless steel screws, nuts, bolts, washers, cleats, weather silicone sealant, backer rods etc. c) The fastening brackets of Aluminium alloy 6005 T5 / MS with Hot Dip Galvanised with serrations and serrated washers to	1023	SQM		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	<p>Nylon separators to prevent bi-metallic contacts all complete required to perform as per specification and drawing The item includes cost of all material &amp; labour component, the cost of all mock ups at site, cost of all samples of the individual components for testing in an approved laboratory, field tests on the assembled working curtain wall with aluminium composite panel cladding, cleaning and protection of the curtain wall with aluminium composite panel cladding till the handing over of the building for occupation. Base frame work for ACP cladding is payable under the relevant aluminium item.s The Contractor shall provide curtain wall with aluminium composite panel cladding, having all the performance characteristics all complete , as per the Architectural drawings, as per item description, as specified, as per the approved shop drawings and as directed by the Engineer-in-Charge. However, for the purpose of payment, only the actual area on the external face of the curtain wall with Aluminum Composite Panel Cladding (including width of groove) shall be measured in sqm. up to two decimal places.</p>				

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
91	<p>“Design supply &amp; installation of suspended Spider Glozing system designed to withstand the wind pressure as pr IS 875 (Part-III). The Suspended System held with Spider Fittings of SS-316 Grade Steel of approved manufacturer with glass panel having 12 mm thick clear toughened glass held together with SS- 316 Grade Stainless steel Spider &amp; bolt assembly with laminated glass fins 21 mm thick. The Glass fins and glass panel assembly shall be connected to Slab/beams by means of SS- 316 Grade stainless steel brackets &amp; Anchor bolts and at the bottom using SS channel of 50x25x2mm using fastener &amp; anchor bolts, non staining weather sealants of approved make, Teflon/ nylon bushes and separators to prevent bi-metallic contacts, all complete to perform as per specification and approved drawings. The complete system to be designed to accommodate thermal expansion &amp; seismic movements etc. The joints between glass panels (6 to 8 mm) and gaps at the perimeter &amp; in U channel of the assembly to be filled with non staining weather sealant, so as to make the entire system fully water proof &amp; dust proof.</p>	50	SQM		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	The rate shall include all design, Engineering and shop drawing including approval from structural designer, labour, T&P, scaffolding, other incidental charges including wastage, enabling temporary services all fitting fixers nut bolts, washer, Buffer plates, fastener, anchors, SS channel laminated glass etc. all complete. For the purpose of payment, actual elevation area of Glazing including thickness of joints and the portion of Glass panel inside the SS channel shall be measured. “				
	<b>Aluminium Louvers</b>				
92	Providing and fixing Aerofoil / Z - Louver as described below and to be designed to with stand the design wind pressure of 125 Kg/sqm and the louvered system shall be made out of heavy duty aluminium anodised storm Louver / Aerofoil Profile extruded as of approved equivalent and anodised extruded louver blades having 2 mm thick and to profile and shape as per drawing. The blades shall be fixed at 45/30 deg angle with a pitch as specified below and the louver blades to be set in aluminium box frame plate of size as per drawing and direction of Engineer-in-charge. The louver shall be fixed on to the aluminium box frame as per approved drawings including fixing the Box frame into wall/RC surface using SS anchor fastners of approved make.	97	SQM		

<b>Sl. no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
	All aluminium sections shall be 63400 (H9) grade conforming to IS 8147, finished with AC25 grade Architectural quality electrolytic colour anodic coating conforming to IS 1868 of approved colour. The louver should be fitted into the aluminium box using SS screws including necessary accessories etc.complete as per direction of the Engineer in charge. Rate shall include for providing and fixing Aluminium anodised angle of size 25x 25 mm around frame to protect the system from rain water entry through the sides, materials and labour involved to execute the work as described.If any sub structural support is necessiated to fix the louver system/assembly, the contractor shall provide on prior approval of the Engineer-in-charge and it shall be measured under respective item. Rate shall include for providing GI Flashing - 2mm thick bent to profile and to be provided around the openings and between the gap of frame and wall.				
	Support system to fix the Louver:Quote rate for complete system having colour anodised aluminium box rame, aluminium base plate and aluminium angles and support as specified above and the rate shall include fixing the frame with necessary structural supports.				
	Providing and fixing Aerofoil shape specially extruded Louver made out of extruded aluminium with anodosed finish and as specified above and to be fixed with a pitch not less than 75 mm and as shown in the drawing.				

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	<b>Rubber Guard</b>				
93	Providing and fixing rubber corner guard for edge protection on the column edges in stilt floor of size 900*75*75mm ; with black and yellow reflective stickers ; 4 reflective tape	88	Each		
	<b>Core Cutting</b>				
94	Cutting holes in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including finishing complete so as to make it leak proof.				
	400 dia	40	Each		
	100 dia	16	Each		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	80 dia	16	Each		
95	Providing and fixing up to floor five level precast cement concrete string or lacing courses, copings, bed plates, anchor blocks, plain window sills, shelves, louvers, steps, stair cases, etc., including hoisting and setting in position with cement mortar 1:3 (1 Cement : 3 coarse sand), cost of required centering complete. (Cost to include fixing and removal of necessary scaffolding)				
95.a	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	5	Cum		
96	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.(Cost to include fixing and removal of necessary scaffolding)				



<b>Sl. no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
96.a	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	1930	Kg		
97	Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 – part 1 and M.S. top cover of required thickness for rolling shutters: 80x1.25mm M.S. laths with 1.25 mm thick top cover.	17	SQM		
98	Providing and fixing ball bearing for rolling shutters.	4	Each		

Sl. no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
99	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete.(Cost to include fixing and removal of necessary scaffolding)				
99.a	Fixed to openings /wooden frames with rawl plugs screws etc.	6930	Kg		
	<b>Total - CIVIL WORKS</b>				

## INTERNAL PLUMBING AND SANITATION WORKS

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
1	Providing and fixing 50% colour vitreous china <b>Wall Mounted type water closet</b> (European type W.C.pan) with seat and lid, 3/6 litre low level vitreous Dual Flushing cistern (50% colour) and C.P flush bend with fitting and C.I brackets, 40mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete including painting of fittings and brackets, cutting and making good the walls and floors wherever required. Make: Parryware, Hindware, Cera. WC pan with ISI marked solid plastic seat and lid (Lowest retail price not less than 10,000/each. Materials to be selected by the Engineer in charge)	17	Nos.		
2	Providing and fixing of 50% colour, make and model vitreous china Urinals with GI rag bilts, 15 mm dia CP pillar cock 32mm dia CP waste coupling with plug and chain and including PVC connecting pipe, 32mm dia CP brass bottle trap, one no of 15mm dia CP angle stop cock with wall flange. The works shall include cutting in wall and making good the walls & floors. Make: Parryware, Hindware, Cera.	16	Nos		

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
3	Providing and fixing wash basin (counter type) with CI / MS brackets, 15mm CP brass <b>Pillar taps of quarter turn with foam flow</b> , 32mm CP brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever required.: 50% colour Vitreous China Wash basin size 630 x 450mm with a single 15mm C.P brass pillar tap. Make: Hindware, Cera, Jaquar, Parryware (Lowest retail price of basin not less than Rs. 3500/each and Pillar tap not less than Rs. 2000/each. Materials to be selected by the Engineer in charge): RECTANGULAR/OVAL/CIRCULAR	17	Nos.		
4	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS 13983 with C.I. brackets and stainless steel plug 40 mm including painting of fittings and brackets, cutting and making good the walls wherever required : Kitchen sink with drain board :510x1040 mm bowl depth 250mm. (Franki/Nirali/Hindware)	5	Nos		
5	Providing and fixing C.P. brass <b>bib cock</b> - quarter turn of approved quality conforming to IS:8931. Make:Jaquar ( FLORENTINE) etc., 15 mm nominal bore. (Lowest retail price not less than 1200/each. Materials to be selected by the Engineer in charge)with necessary flange	17	Nos.		

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
6	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931: 15 mm nominal bore.Make:Jaquar	10	Nos.		
7	Providing and fixing CP <b>Waste coupling</b> for wash basin and sink of approved quality, colour and make. Waste coupling 31mm of 79mm length and 62mm breadth, weighing not less than 45 gms. Make:Jaquar	2	Nos.		
8	Providing and fixing <b>PVC Waste pipe</b> for sink or wash basin including PVC waste fittings complete.:Semi rigid pipe 32mm diaA.Make: ASTRAL / ASHIRWAD	21	Nos		

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
9	Providing and fixing PTMT Bottle Trap for Wash basin and sink. Bottle trap 38mm single piece moulded with height of 270mm, effective length of tail pipe 260mm from the centre of the waste coupling 77mm breadth with 25mm minimum water seal, weighing not less than 263gms. Make: Jaquar	38	Nos		
10	Providing and fixing SS soap Dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements. Weighing not less than 106 gms. Make: Hindware, Cera, Jaquar	17	Nos.		
11	Providing and fixing <b>Toilet paper holder</b> . Make: Hindware, Cera, Jaquar : C.P Brass	17	Nos.		

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
12	Providing and fixing <b>bevelled edge mirror (appropriate 1000mm x 600mm)</b> of superior glass (of approved quality) complete with 6mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete. (Lowest retail price not less than 1500/each). Make: Saint Gobian, Modi guard	17	Nos.		
13	Providing and fixing SS towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fitting arrangement of approved quality and colour. 600mm long towel rail with total length of 645mm, width 78mm and effective height of 88mm, weighing not less than 190gms.Make:Hindware,Cera,Jaquar	17	Nos.		
14	Providing & fixing of CP <b>Health faucet. Hand operated spray unit (instand type)</b> .Make: Jaquar etc..., (Lowest retail price not less than 1200/each. Materials to be selected by the Engineer in charge)	17	Set		

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
15	Providing and fixing <b>Chlorinated Polyvinyl Chloride</b> (CPVC) pipes, having thermal stability for Hot and Cold water supply including all CPVC plain and brass threaded fittings including fixing the pipe with clamps at 1.00m spacing. This includes jointing of pipes and fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in charge. Make: Supreme,Finolex,Astral,Ashirvad.				
	<b>Internal Work - Exposed on wall</b>				
15.a	20mm nominal outer dia.Pipes	10	Mtr.		
15.b	25mm nominal outer dia.Pipes	10	Mtr.		
15.c	32mm nominal outer dia.Pipes	10	Mtr.		



Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
15.d	50mm nominal outer dia.Pipes	10	Mtr.		
16	Providing and fixing <b>Chlorinated Polyvinyl Chloride (CPVC)</b> pipes, having thermal stability for Hot and Cold water supply including all CPVC plain and brass threaded fittings including fixing the pipe with clamps at 1.00m spacing. This includes jointing of pipes and 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. Make:Supreme,Finolex,Astral,Ashirvad.				
	<b>Concealed work including cutting chases and making good the wall etc.</b>				
16.a	20mm nominal outer dia.Pipes	160	Mtr.		

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
16.b	25mm nominal outer dia.Pipes	40	Mtr.		
17	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings. This includes jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer-in-Charge.( <b>EXTERNAL EXPOSED WORK</b> )Make: SUPREME / PRINCE / ASTRAL / ASHIRWAAD				
17.a	20mm nominal outer dia.Pipes	25	Mtr.		
17.b	25mm nominal outer dia.Pipes	50	Mtr.		

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
17.c	32mm nominal outer dia.Pipes	60	Mtr.		
17.d	50mm nominal outer dia.Pipes	40	Mtr.		
18	Providing and fixing PVC pipes for water supply arrangements including cost pipes, fittings, solvent cement,testing of pipes, labour charges etc complete : <b>Exposed on wall</b>				
18.a	20mm dia. PVC pipe (12kg/cm2)	10	Mtr.		

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
18.b	25mm dia. PVC pipe (12kg/cm2)	10	Mtr.		
18.c	32mm dia. PVC pipe (10kg/cm2)	10	Mtr.		
18.d	50mm dia. PVC pipe (8kg/cm2)	10	Mtr.		
19	Providing and fixing PVC pipes for water supply arrangements including cost pipes, fittings, solvent cement, testing of pipes, labour charges etc complete : <b>Concealed work including cutting chases and making good the wall etc</b>				

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
19.a	20mm dia. PVC pipe (12kg/cm2)	10	Mtr.		
19.b	25mm dia. PVC pipe (12kg/cm2)	10	Mtr.		
19.c	32mm dia. PVC pipe (10kf/cm2)	10	Mtr.		
20	Providing and fixing testing and commissioning of CPVC ball valves , lever operated (RB / TBS / Cimbrio make) and tested to 20kg / sq.cm.				

<b>Sl. No.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
	Rate Quoted shall be inclusive of cost of cement, sand and other consumables like hockscrow blade, oil, cotton thread etc.				
20.a	20 mm dia consiled stop cock	8	Nos.		
20.b	25 mm dia	4	Nos.		
20.c	25 mm dia Float Valve	1	Nos.		

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
20.d	50 mm dia	2	Nos.		
21	Providing & fixing testing and commissioning of spring loaded gun metal Pressure Reducing Valve tested to 20 kg/sq.cm with necessary GI special like union hex nipple etc., complete. Make: HAWK / RB / TBS				
	Rate Quoted shall be inclusive of cost of cement, sand and other consumables like hockscrow blade, oil, cotton thread etc.				
	25mm dia	2	Nos.		

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
22	Providing and fixing <b>Gun metal gate valve</b> with C.I. wheel of approved quality (screwed end). Make: Lehry, Supreme, Finolex, Prince etc.				
22.a	25 mm dia nominal bore	2	Nos.		
22.b	32 mm dia nominal bore	2	Nos.		
22.c	50 mm nominal bore	2	Nos.		



Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
23	Providing, fixing, testing and commissioning of brass body nickel plated automatic air release valves with brass spindle, NBR and infraniteelastomer,staniless steel spring polypropylenic float at the top most points of watersupply distribution ringmain. Make: RB / TBS / Cimbrio.				
	20 mm/ 15 mm dia	2	Nos		
24	Providing and fixing to the Inlet mouth of rain water pipe S.S grating 110mm diameter and weighing not less than 440 grams.	5	Nos		

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
25	Providing ,fixing, testing and commissioning of PVC Rain Water pipe confirming to IS 13592 of SWR quality 4 kg / sq.cm pressure rated 10mm, including all fittings, like Bends, Tees, Elbows, Collars, junction, inspection doors, cowls, offsets, access pipes, jointing with rubber ring / solvent cement followed by application of leak proof adhesive like FRP paste, fixed to wall with properly fabricated MS bracket of suitable size, GI 'U' clamps with bolts, nuts and GI washers complete, for rain water pipe lines laid in vertical shafts. Make: Supreme / Finolex / Prince				
	<b>Notes:</b>				
	Rate Quoted shall be inclusive of cost of cement, sand and other consumables like hacksaw blade etc.				

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	110 mm dia (4kg / sq.cm)(for Terrace)	60	m		
	160 mm dia (4kg / sq.cm)(for Terrace)	120	m		
26	Providing and fixing PVC pipes for external works including all specials and fittings, solvent cementearth work excavation for trenches, refilling and after laying pipes ect complete.Make: SUPREME / PRINCE /ASTRAL				
26.a	20mm dia PVC pipes, 12kg/cm2 for water supply connection from the existing line	100	Mtr.		

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
26.b	25mm dia PVC pipes, 12kg/cm <sup>2</sup> for water supply connection from the existing line	50	Mtr.		
27	Providing, fixing, testing and commissioning of PVC soil, waste and vent pipe conforming to IS 13592 of SWR quality 4 kg / sq.cm pressure rated including all fittings, like Bends, Tees, Elbows, Collars, junction, inspection doors, cowls, offsets, access pipes, jointing with solvent cement followed by application of leak proof adhesive like FRP paste & laid on floors inside the toilets kitchen and utility to the required slope including making necessary bores in walls / foundations / concrete slab as applicable, making good the bores with CM 1:3 or cement concrete as applicable, curing etc., complete. Make: Supreme / Finolex / Prince				
	Notes:				

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	Wall chasing shall be done with chasing machine to required lines and levels				
	Rate Quoted shall be inclusive of cost of cement, sand and other consumables like hacksaw blade etc.				
	INTERNAL AND DUCT				
27.a	32mm dia	40	M		

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
27.b	75mm dia	80	M		
27.c	110mm dia	60	M		
28	Providing ,fixing, testing and commissioning of PVC sewer line Pipe of prince / supreme make confirming to IS 4985 of Agricultural series - 6 kgs / sq.cm pressure rated, for underground drainage laid under the soil from chamber to chamber outside the building, to the required slopes, jointing with solvent cement followed by application leak proof adhesives of FRP paste, including haunching / covering only the joints with cement concrete 1:3:6 at all the joints with and testing of joints with water column etc. complete.				
	Notes:				
	Rate is excluding for earthwork and backfilling. It shall be measured separate and paid for.				

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	Rate Quoted shall be inclusive of cost of cement, sand and other consumables like hacksaw blade etc				
	160 mm dia (6kg / sq.cm)	25			
29	Providing, fixing, testing and commissioning of PVC multi inlet floor trap of self cleansing design moulded or fabricated, if not available in size mentioned below, with or without vent arm jointing with rubber ring / solvent cement followed by application of leak proof adhesive like FRP paste including encasing all round fixing the floor trap in cement concrete 1:2:4 ratio of size 300 x 300 mm x 250 mm height (approx) and making good the floors.Make: SUPREME / PRINCE				
	110mm x 75mm x 75mm	15	each		
30	Providing and fixing <b>CP grating</b> of 6mm thick with rim including setting in floor with white cement mortar and making good the floor (Chilli make)				

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
30.a	125mm dia	15	Nos.		
31	Constructing brick masonry manhole in cement mortar 1:4 ( 1 cement : 4 coarse sand ) with R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size), inside plastering 12mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement complete as per standard design :				
31.a	Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) : With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	6	Nos.		



Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
32	Extra for depth for manholes				
32.a	Size 90x80 cm: With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	5	m		
33	Providing and fixing square – mouth <b>PVC. Gully trap</b> grade “A” complete with CI grating brick masonry chamber with water tight tight CI cover with frame of 300 x 300mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design				
33.a	150 x 100mm size P type with common burnt clay F.P.S. (non modular) bricks of class designation 7.5	2	each		

<b>Sl. No.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
34	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m :All Kinds of soil				
	Pipes, cables etc, not exceeding 80 mm dia.	60	m		
35	Supplying, conveying and fixing Heavy duty CI Mh cover and frame 560 mm internal diameter, total weight of cover and frame to be not less than 208 kg (weight of cover 108 kg and weight of frame 100 kg) :	2	Each		

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
36	Construction of brick masonry <b>Catch Basin</b> of internal clear dimension as mentioned below by using first class table moulded modular bricks 230 mm thick wall in cement mortar joints in 1:4, over CC 1:4:8 bed 150 mm thick including providing precast RCC top slab in 1:2:4 Mix (1 cement: 2 coarse sand: 8 graded stone aggregate), with angle iron frame, inside plastering 15mm				
	thick with CM 1:3 (1 cement::3 fine sand) finished very smooth with floating coat of neat cement & making benching and channelling in cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 gradedstone aggregate) neatly finished complete as per standard design and as per drawing and specifications. (The rate shall include necessary earth work excavation in all types of soil excluding soft and hard rock, back filling including consolidation disposing the excess earth to all leads curing, finishing etc., and back filling and completion)				
	Inside size of 6000 x 600mm & depth not exceeding 600mm including providing 600 x 600mm RCC cover with MS l angle frame of size 50 x 50 x 6 mm thick.	7	Each		

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
37	Construction of <b>percolation well / rain water harvest pit</b> of 2 m dia and 3m deep with precast RCC rings, covering the top with RCC slab including supply and fixing 600 x 600 RCC MH cover CI / MS rungs etc. The quoted rate shall include earth work excavation, back filling, removing excess earth and making good the floor. The percolation well harvest pit shall be constructed as per the detail drawings and specification shall consist of:				
	Allernate layers of brick bats, activated charcoal, gravel, pebbles and topped with fine sand for good infiltration.				
	5 Nos. bore holes of 160 mm dia from the bottom of percolation pit for a depth of 6m, drilled by using auger manually.				
	Bore hole to be filled with medium sized pebbles to provide meehamical strength to the holes and enhance infiltration.				

Sl. No.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	Rate quoted shall be inclusive of earthwork excavation, back filling, removing of excess earth as per the instructions of engineer - in charge.	2	each		
	<b>TOTAL PLUMBING WORKS</b>				

**NOTE:** In all cases of procurements, the contractor shall submit his proposal of procurement of materials in the form of submittal with material specification and product brochures, samples etc and the final decision on a particular make shall vest with the Engineer in charge. In case specific makes are not mentioned in the tender, contractor shall submit his proposal for reputed make of materials matching CPWD specifications. No procurement shall be made and no material shall be brought to site without prior approval of Engineer in Charge.

### Electrical works

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
1	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable etc. as required.				
1a	Group A	200	Point		
1b	Group B	15	Point		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
1c	Group C	15	Point		
2	Wiring for twin control light point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, 2 way modular switch, modular plate,suitable GI box and earthing the point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable etc. as required.	6	Point		
3	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit alongwith 1 No 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	250	Metre		
4	Wiring for light/ power plug with 4X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit alongwith 2 Nos 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	270	Metre		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
5	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required				
5a	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	350	Metre		
5b	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	350	Metre		
5c	4 X 6 sq. mm + 2 X 6 sq. mm earth wire	100	Metre		



Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
5d	4 X 10 sq. mm + 2 X 10 sq. mm earth wire	200	Metre		
5e	4 X 16 sq. mm + 2 X 16 sq. mm earth wire	200	Metre		
6	Supplying and drawing following pair 0.5 mm dia FRLS PVC insulated annealed copper conductor, unarmored telephone cable in the existing surface/ recessed steel/ PVC conduit as required.				
6a	2 Pair	100	Metre		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
6b	4 Pair	100	Metre		
7	Supplying and drawing co-axial TV cable RG-6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/ recessed steel/ PVC conduit as required.	100	Metre		
8	Supplying and fixing of following sizes of steel conduit along with accessories in surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.				
8a	20 mm	100	Metre		

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
9	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.				
9a	20 mm	300	Metre		
10	Supplying and fixing following modular switch/socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.				
10a	Telephone socket outlet	10	Each		
10b	TV antenna socket outlet	2	Each		

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
11	Supplying and fixing stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	5	Each		
12	Supplying and fixing following Modular base & cover plate on existing modular metal boxes etc. as required.				
12a	1 or 2 Module	10	Each		
12b	3 Module	2	Each		
13	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 amps modular socket outlet and 5/6 amps modular switch, connection etc. as required. (For light plugs to be used in non residential buildings).	45	Each		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
14	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 amps modular socket outlet and 15/16 amps modular switch, connection etc. as required.	25	Each		
15	Supplying and fixing following way prewired TP&N MCB distribution board of steel sheet for 415 volts on surface/ recess complete with loose wire box, terminal connectors for all incoming and outgoing circuits, duly prewired with suitable size FRLS PVC insulated copper conductor up to terminal blocks, tinned copper bus bar, neutral link, earth bar, din bar, detachable gland plate, interconnections, powder painted including earthing etc. As required.(But without MCB/ RCCB/ Isolator)				
15a	8 way (4 + 24), Double door	10	Each		

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
16	Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
16a	Single pole	240	Each		
16b	Single pole and neutral	5	Each		
16c	Double pole	5	Each		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
16d	Triple pole	5	Each		
16e	Triple pole and neutral	5	Each		
17	Supplying and fixing following rating, four pole, 415 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
17a	40 amps	5	Each		

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
17b	63 amps	5	Each		
18	Supplying and fixing following rating, four pole, (three phase and neutral), 415 volts, residual current circuit breaker (RCCB), having a sensitivity current upto 300 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
18a	40 amps	5	Each		
18b	63 amps	5	Each		



<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
19	Supplying and fixing TP sheet steel enclosure on surface/ recess along with 16/25/32amps 415 volts "C" curve TP MCB complete with connections, testing and commissioning etc. as required.	25	Each		
20	Supplying and fixing 20 amps, 240 volts, SPN industrial type, socket outlet, with 2 pole and earth, metal enclosed plug top alongwith 20 amps "C" curve, SP, MCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	3	Each		
21.a	Supplying and fixing 20 amps, 415 volts, TPN industrial type, socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 20 amps "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	3	Each		
21.b	Supplying and fixing 30 amps, 415 volts, TPN industrial type, socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 30 amps "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	3	Each		

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
22	Supplying and installing following size of perforated pre-painted M.S. cable trays with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.				
22a	150 mm width X 50 mm depth X 1.6 mm thickness	60	Metre		
22b	300 mm width X 50 mm depth X 1.6 mm thickness	60	Metre		
22c	450 mm width X 50 mm depth X 2.0 mm thickness	60	Metre		
	Earthing				

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
23	Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required.	5	Each		
24	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	6	Set		
25	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	6	Set		

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
26	Supplying and laying 25 mm X 5 mm copper strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of brass nut bolt & spring washer spaced at 50mm)	60	Metre		
27	Supplying and laying 25 mm X 5 mm G.I strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with G.I. nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of G.I. nut bolt & spring washer spaced at 50mm)	30	Metre		
28	Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I. pipe on earth electrode including connection with G.I. nut, bolt, spring, washer excavation and re-filling etc. as required.	50	Metre		

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
29	Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required.	50	Metre		
30	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	50	Metre		
31	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing as required.	50	Metre		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
32	Providing and fixing earth bus of 50 mm X 5 mm copper strip on surface for connections etc. as required.	80	Metre		
	LIGHTNING CONDUCTOR				
33	Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, copper tube, having single prong at top, with 85 mm dia 3 mm thick copper base plate including holes etc. complete as required.	5	Each		
34	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required. (For horizontal run)	160	Metre		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
35	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required. (For vertical run)	100	Metre		
	MV CABLE JOINTING & END TERMINATION				
36	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.				
36a	3 X 185 sq. mm (57mm)	6	Each		

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
36b	3½ X 25 sq. mm (28mm)	26	Each		
36c	3½ X 50 sq. mm (35mm)	4	Each		
36d	3½ X 120 sq. mm (45mm)	4	Each		
36e	3½ X 150 sq. mm (50mm)	2	Each		



Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
36f	3½ X 240 sq. mm (62mm)	8	Each		
36g	4 X 16 sq. mm (28mm)	4	Each		
37	Supplying and making outdoor end termination with cast resin compound including aluminium lugs and other jointing materials for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.				

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
37a	3 X 185 sq. mm	6	Each		
37b	3½ X 240 sq. mm	8	Each		
	<b>HT PANEL</b>				
38	<b>EB RMG</b>				
	Supply, receiving, storing, erection, testing & commissioning of compact out door type 11 KV RMU comprising of 2 incoming and 1 outgoing vacuum circuit breakers.				
	Incomer: Incomer should be 2 Nos. 630A TP, 350 MVA, fixed type manually operated LBS with				
	1- Set - ON/OFF mechanical indicator.				
	Outgoing:1 No. 630A, TP, 350 MVA, fixed type VCB with;				

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	1- Manually charged spring closing mechanism.				
	1-Set of mechanical close/trip knobs.				
	1 set - mechanical on/off indicator				
	1-mechanical spring charged / free indicator.				
	2- O/C & 1 E/F microprosser based self powered relay withsuitable ring type CT				
	Provision for mounting 1 no.I/D type terminating kit suitable for 3 corex95 Sq mm, XLPE 11kv cable.				
	BUSBAR : 630A TP Cu busbar housed in SF6 insulated tank				
	METERING CUBICLE				
	11 KV Meter Cubicle and accessories consisting of 11 KV/110 Volts, 3 phase, class 0.5, 15 VA PT, Electronic Trivectormeter with KVA indicator, Maximum demand indicator, KVAH and KWH recorders. The cubicle shall be the part of RMU.	1	JOB		
39	<b>HT BREAKER</b>				
	Supply, receiving, storing, errection, testing & commissioning of outdoor HT panel comprising of 11 KV electricially operated , draw out Type vacuum circuit breaker with				
	1- Manually charged spring closing mechanism.				

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	1-Set of mechanical close/trip knobs.				
	1 set - mechanical on/off indicator				
	1-mechanical spring charged / free indicator.				
	2- O/C & 1 E/F microprosers based self powered relay with suitable ring type CT				
	1 set. of N/O & N/C contactors shall be provided for BMS monitoring of the breaker status (on, off, trip).				
	Provision for mounting 1 no.I/D type terminating kit suitable for 3 core x 185 Sq mm, XLPE 11kv cable.	1	JOB		
40	<b>TRANSFORMER</b>				
40a	Supply, Installation, Testing and Commissioning of of <b>315 KVA</b> 11KV /433V copper wound Outdoor distribution Transformers complete with MANUAL ON LOAD TAP CHANGER + 5% -15% in steps of 1.25 each.	1	JOB		
41	<b>DG SET &amp; ALLIED WORKS</b>				
41a	<b>DG SET</b>				

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
	Supply,Erection, testing and commissioning of factory assembled Prime Duty Diesel Generating set as per CPCB II norms comprising of 1500 RPM, 415 Volts , 50 Hz 0.8 Power Factor Alternator Coupled to Radiator cooled Diesel Engine of following capacity with Micro Processor based DG Control panel complete with remote auto start.				
	Base Frame Made of MS Channel including painting.				
	Vibration isolation with Spring Isolators .				
	Daily service tank of 990 Litres Capacity made of 3 mm thick Sheet Steel complete with Level Indicators,Fuel piping with MS B Class pipe, Valves and other necessary accessories as per specification including first fill of Diesel Oil.including necessary valves etc.				
	Dry Exhaust manifold with Residential Grade silencer and catalytic converter and stainless steel flexible connectors				
	12/24 Volt starting system comprising of Starter Motor, Voltage Regulator, charged Lead Acid batteries of suitable ampere hour as per manufacturer's standard				
	Acoustic and Weather proof enclosure with arrangement for fresh air intake for cooling of Engine & Alternator, extraction and discharge hot air to atmosphere as per detailed specification.				

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	380 KVA	1	Each		
42	Supply and installation of MS Exhaust piping of following sizes thermally insulated with 50 mm thick Fibre Glass Insulation with chicken mesh lagging and 24 SWG Aluminium Cladding inclusive of MS supports and hardwares etc. Complete as per specification.				
42a	125 mm-2.6 mm thick	25	Mtrs		
43	<b>LT PANELS</b>				

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	<p>Supply, Installation, Testing and Commissioning compartmentalised, cubicle panel, fabricated out of 2mm thick sheet steel, free standing totally enclosed, dust and vermin proof, suitable for 3PH 415 Volts, with incoming and outgoings, meters, connections, interconnections with suitable size cables, complete with terminating arrangements with lugs, painting, earthing etc, with cable chamber, bus bar chamber etc. Cable Termination for feeders shall be as specified in Single Line Diagram. Wherever Metering other than Indicating Lamps is specified the cost of metering shall include 3 nos wire wound, Cast Resin CTs of CI 1.0, 15 VA of feeder rating A / 1 or 5 A even if not specified. All ACBs shall have RYB LED, ON/Off, Trip LED Indicating Lamps. All Outgoing MCCBs above 100 A rating shall have Micro Processor based variable overload and Short Circuit Protection, Spreaders and Terminal Shrouds, Rotary Handles. Below 100A MCCB can be with Fixed Thermal overload and magnetic shortcircuit setting. All Digital Meters shall be atleast 96 x 96 sqmm.</p>				
43a	<b>ISOLATION PANEL</b>				
	1 No 630 Amps 35 KA TPN MCCB.				

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	Metering:				
	DIGITAL type flush mounting Ammeter and Voltmeter Cl 1.0 accuracy with Sets of CT 630A/5 or 1 A,15 VA Cl 1.0 accuracy.				
	RYB/ON/OFF/Trip/Healthy Indication.				
	Protection:				
	Integral Microprocessor based Over load and Earth Fault Relay with 3 sets of CTs of Cl 5 P 10 5VA ratio 630 A/ 1 A				
	1 No. - Manually operatd Drawout type, Micro Processor based IDMT earth fault relay with settings from 20-80%	1	NO		
43b	<b>MV PANEL</b>				
	Incomers				
	Incomer1 for EB				
	1 no 630 A FOUR Pole 35 KA Micro Processor Based motorised MCCB with Variable Over Load & Variable short circuit setting.				
	Metering:				



<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
	DIGITAL type flush mounting Multi Function Meter with LED display for Current, Voltage, KW,KWhr, Power factor, Frequency, THD V & I of Cl 1.0 Accuracy and 3 Sets of CT 630 A/ 5 or 1 A 15 VA Cl 1.0 accuracy.				
	RYB/ON/OFF/Trip/Healthy 22 mm LED Indicator.				
	Protection				
	Integral Microprocessor based Over load and Earth Fault Relay				
	1 No Micro Processor Based Earth Fault Relay with 1 no 630 A/1 A 5 VA Class 5P10 Resin Cast CT mounted on Genset Neutral Earth.				
	Micro Processor based AMF module with Battery charger,Indicating Lamps, Push Buttons etc.				
	Incomer2 for 380 KVA DG				
	1 no 630 A Four Pole 35 KA Micro Processor Based motorised MCCB with Variable Over Load & Variable short circuit testing.				
	Metering:				
	DIGITAL type flush mounting Multi Function Meter with display for Current, Voltage, KW,KWhr, Power factor, Frequency, THD V & I of Cl 1.0 Accuracy and 3 Sets of CT 630 A/ 5 or 1 A 15 VA Cl 1.0 accuracy.				
	RYB/ON/OFF/Trip/Healthy 22 mm LED Indicator.				
	Protection				

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	Integral Microprocessor based Over load and Earth Fault Relay				
	1 No Micro Processor Based Earth Fault Relay with 1 no 630 A/1 A 5 VA Class 5P10 Resin Cast CT mounted on Genset Neutral Earth.				
	Micro Processor based AMF module with Battery charger, Indicating Lamps, Push Buttons etc.				
	Busbar				
	1 set of 750 A TPN Aluminium Bus Bar				
	Outgoings				
	4 nos 200 Amps 4P MCCB				
	3 nos 160 Amps 4P MCCB				
	6 nos 63 Amps 4P MCB	1	NO		
43c	<b>LDP(LIGHTING DISTRIBUTION PANEL)</b>				
	Incomer				
	1 No 160 Amps TPN MCCB				
	Busbar				
	1 set of 150 A TPN Aluminium Bus Bar				
	Outgoings				

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	7 nos 63 Amps TPN MCB	1	NO		
43 D	<b>PDP(POWER DISTRIBUTION PANEL)</b>				
	Incomer				
	1 No 160 Amps TPN MCCB				
	Busbar				
	1 set of 150 A TPN Aluminium Bus Bar				
	Outgoings				
	6 nos 63 Amps TPN MCB	1	NO		
43 E	<b>APFCR PANEL WITH HARMONIC FILTER</b>				
	Incomer				
	1 No 200 Amps TPN MCCB				

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
	Busbar				
	1 set of 200 A TPN Aluminium Bus Bar				
	Outgoings				
	3 set of 25 KVAR MPP Gas filled type capacitors, 440 Volts, 'ISI' marked of ,100 A, TPN, MCCB with rotary handle,Current limiting type TP contactors suitable for capacitor duty,ON/OFF indicating lamp				
	2 sets of 10 KVAR MPP Gas filled type capacitors, 440 Volts, 'ISI' marked of ,32 A, TPN, MCCB with rotary handle,Current limiting type TP contactors suitable for capacitor duty,ON/OFF indicating lamp complete with control wiring from APFCR				
	1 sets of 5 KVAR MPP Gas filled type capacitors, 440 Volts, 'ISI' marked of ,25 A, TPN, MCCB with rotary handle,Current limiting type TP contactors suitable for capacitor duty,ON/OFF indicating lamp complete with control wiring from APFCR				
	Numeric Automatic Power Power Factor relay with display for Amp,Voltage,PF and KVAR as per specifications.				
	Auto manual selector switch with facility for manual control capacitor bank in the event automatic operation not functioning.				

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	Fan (with thermostat) for cooling of panel	1	NO		
43F	<b>LIFT PANEL</b>				
	Incomer				
	1 No 63 Amps TPN MCCB				
	Busbar				
	1 set of 100 A TPN Aluminium Bus Bar				
	Outgoings				
	1 nos 63 Amps TPN ELMCB				
	1 nos 20 Amps TPN MCB				
	2 nos 16 Amps TPN MCB	2	NO		
43 G	<b>MCC1 - PUMP CONTROL PANEL</b>				
	Incomer				
	1 No 63 Amps TPN MCCB				

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
	Busbar				
	1 set of 100 A TPN Aluminium Bus Bar				
	Outgoings				
	6 nos 32 Amps TPN MCB	1	NO		
43H	<b>AC PANEL</b>				
	Incomer				
	1 No 200 Amps 4P MCCB				
	Busbar				
	1 set of 250 A TPN Aluminium Bus Bar				
	Outgoings				
	3 nos 63 Amps TPN MCB	2	NO		
	<b>CABLING</b>				

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
44	Supply, testing and commissioning of following sizes of XLPE Insulated, cores laid up, PVC tape/Extruded Inner sheathed,galvanised steel strip armoured, Extruded PVC Type ST2 Sheathed, Aluminium conductor 1.1 kv grade cable as per IS 7098(Part 1) 1988 on wall/ceiling/ cable tray / masonry duct/pipes with suitable MS Clamps wherever required as per specification.				
44a	11 KV HT 3 Core 240 sq.mm	25	M		
44b	11 KV HT 3 Core 185 sq.mm	25	M		
44c	1.1 KV 3 <sup>1</sup> / <sub>2</sub> Core 240 sq.mm	55	M		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
44d	1.1 KV 3 1/2 Core 150 sq.mm	10	M		
44e	1.1 KV 3 1/2 Core 120 sq.mm	70	M		
44f	1.1 KV 3 1/2 Core 50 sq.mm	20	M		
44g	1.1 KV 3 1/2 Core 25 sq.mm	420	M		



<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
44h	1.1 KV 4 Core 16 sq.mm	50	M		
45	Supply, testing and commissioning of following sizes of XLPE Insulated, cores laid up, PVC tape/Extruded Inner sheathed,galvanised steel strip armoured, Extruded PVC Type ST2 Sheathed, Copper conductor 1.1 kv grade cable as per IS 7098(Part 1) 1988 on wall/ceiling/ cable tray / masonry duct/pipes with suitable MS Clamps wherever required as per specification.				
45a	1.1 KV 4 Core 2.5 sq.mm	350	M		
46	LOW CURRENT WIRING				
46a	Supplying and fixing of 500 pair tag block enclosed in an MS box and mounted on the wall.	1	NO		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
46b	Supplying and fixing of 100 pair tag block enclosed in an MS box and mounted on the wall.	4	NO		
46c	Supplying and laying 500 pair 0.5 Sq.mm. PVC insulated armoured telephone cables.	25	Meter		
46d	Supplying and laying 100 pair 0.5 Sq.mm. PVC insulated armoured telephone cables.	35	Meter		
	<b>INTERNAL LIGHT &amp; POWER WIRING</b>				

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
47	Wiring for Lift Well Light Point and socket outlet with 2 x 1.5 sqmm PVC insulated Stranded Copper Conductor wire along with 1 x 1.5 sqmm PVC insulated Stranded copper conductor wire as earth wire in surface with PVC conduit including providing and fixing Galvanised / Cadmium plated MS switch box, 2 no 6A Single Way Modular Switch for (controlling light point and socket Outlet) , 1 No 6 A 5 Pin shuttered modular socket outlet with modular switch plate and making necessary connections etc., as per specification.(Cost of circuit wiring from DB shall be included in cost of point wiring)	10	Point		
<b>48</b>	<b>LIGHTING FIXTURES &amp; FANS</b>				
	Supplying, installation, testing and commissioning of the following luminaries on surface / wall/ false ceiling with Necessary accessories for illumination. the cost shall include fixtures, luminarie, fixing accessories, required support structures, terminationetc. complete.				
48a	Supply, installation testing and commissioning of canopy LED light fitting with luminaire similar to GE Evolve™ LED Recessed Canopy Light - ECRA/ Philips/Wipro/Bajaj with Die -cast aluminum housing Integral heat sink for maximum heat transferMeets 1.5G vibration standards per ANSI C136.31-2010 inclusive of all accessories complete etc.	2	Nos.		

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
48b	Supply, installation testing and commissioning Low-depth'SLEEK- SQ' Slek square recess mounting LED downlight with luminaire of 15 W Similar to Bajaj BGSLO SLEEK 15 WH SQ/Philips / Wipro for lobby areas	31	NO		
48c	Supply & fixing surface mounted 4 feet 40W LED batten suitable for surface and pendant mounting. CRCA body with acrylic diffuser for installing at stilt parking, lift machine room, electrical room, staircase including making connection etc as required. Similar to Bajaj Flexitron VIVA LED batten 40W (4ft) / Philips / GE	35	NO		
48d	Supply & fixing of 12W LED SQUARE SURFACE PANEL suitable surface mounting fitting with luminaire at toilets including making connection etc as required. (Wipro Garnet Slim D831627 16-Watt Square Panel Light/ Philips / GE)	45	NO		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
48e	Supply & fixing Mirror light fittings with 7W LED at toilets including making connection etc as required. (WIPRO MAGMA P07005 / Philips / GE).	16	NO		
48f	Supply & fixing bulk head LED fittings with luminaire with metal guard complete with all accessories at lift well including making connection etc as required. (Bajaj FXC-101 PHILIPS / GE / Wipro )	24	NO		
48g	Supply of 1200 mm sweep min three star rated ceiling fan complete with motor, double ball bearing, blades, canopy, 30 cm down rod and without speed regulator suitable for 230 V 50 HZ, AC supply confirms to IS 374/1979 as required complete. (Make Usha Technix / Bajaj / Crompton).	5	NO		
48h	Supply of 300mm sweep exhaust fan, metal blades with safety guard suitable for single phase 230 volt, 50Hz AC supply complete with motor, capacitor and all accessories as required complete. (Make : Usha Turbo/ Bajaj / Crompton)	2	NO		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
48i	Supply, installation of 2 x 2 feet square type LED light fitting with luminaire similar to bajaj 'DOMINTO' Sleek suspended / recess mounting LED 2x2 luminaire / Philips / GE / Wipro at office space	40	No		
48j	Supply, installation Garnet 7W White Round LED light fitting with luminaire similar to WIPRO Garnet 7W White Round LED // Philips / GE at office space	20	NO		
48k	Supply and fixing of Flexi LED strip in the decorative false ceiling approximately 5 mtr roll inclusive of connections and all accessories etc. complete similar to Bajaj Flexi LED strip - 5W/mtr, IP20, 5mtr roll (IP20 driver included)	20	Nos.		
49	<b><u>EXTERNAL WORKS</u></b>				

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
49a	Supply , Installation, Testing and commissioning of street light LED luminaire on compound wall suitable for primary roads with specification 102W of Pressure die-cast aluminium housing with pure polyester powder coating Clear, UV stabilized, injection moulded Polycarbonate diffuser Highly efficient, specially designed, faceted specular aluminium reflector systemHigh power high efficiency Chip On Board (COB) LEDs LED chips directly mounted on housing using thermal paste for effective heat transfer. The rate shall include all necessary like pole, LED fixtures ,Installations, cable termination and other essential accesories etc. complete: WIPRO SCAI LED/ Philips Green line LED / GE	15	No		
49b	Supply,erection,testing & commissioning of Post of lantern LED luminaire of 45 W LED post with die cast aluminium body and with white powder coated aluminium reflector and IP-65 protection Similar to BajajBRIL 45W LED WH/ WIPRO/GE	4	NO		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
49c	Supply, erection, testing and commissioning of Outdoor decorative bollard LED luminaire, complete with all accessories High power 3 W LEDs 1 LED per luminaireIP 44 integral luminaireCompact, robust, non-corrosive housing RoHS compliance including with supporting structure complete and all accessories etc complete.				
	WIPRO kolors LED Bollard/GE / Philips/Bajaj	15	Each		
50	<b>MISCELLANEOUS WORKS</b>				
50a	Charges for preparation of drawings for HV & MV installations and obtaining approval of drawings, arranging inspection and obtaining safety certificate from Electrical Inspectorate including Generator & Lift installation also excluding receiptable fee payable to them .	1	LS		
50b	Charges for Liaisoning with supply authorities for obtaining load sanction and required power for the project excluding receiptable fee payable to them .	1	LS		



Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
50c	Supply & Providing first aid box of approved IS Make inthe MV panel / Generator room/Electrical room	3	Sets		
50d	Supply & providing first aid chart duly framed and fixed in proper manner in MV panel room / Generator room/Electrical room	3	Sets		
50e	Supply & providing Co2 5Kg (Dry chemical ) Fire extinguisher with necessary mounting bracket and fixed neatly in MV panel room / Generator	2	Nos.		
50f	Supply & providing fire buckets stand with 4 Nos. of fire bukets in the stand duly filled with sand. The stand shall be fabricated in the approved manner of the appropriate authorities and located outside MV panel and Generator room.	2	Sets		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
50g	Supply of 11KV tested hand gloves.	3	Pair		
50h	Supply & laying ISI marked electrical grade chequered type rubber mat of size 2m x 1m x 6 mm suitable for 415V power supply.	2	Sets		
51	Supplying and laying of following sizes of NP3 hume pipes incuing excavation and refilling connecting to walls and making the good etc complete				
51.a	300 mm dia hume pipe	30	Rmts		
51.b	450 mm dia hume pipe	30	Rmts		
	<b>Total - ELECTRICAL WORKS</b>				

## FIRE SYSTEMS

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	<b>PORTABLE CHEMICAL FIRE EXTINGUISHER</b>				
1	Supply, installation, testing and commissioning of following types of extinguisher with provision of wall bracket (fixed with anchor fastner).				
2	ISI marked (IS:940) portable chemical fire extinguisher, water (gas pressure) type capacity 9 litres with gun metal cap and nozzle and complete in all respects including initial fill and wall suspension brackets	5	Nos		
3	ISI marked (IS:2171) Co2 water type fire extinguishers Fire Extinguisher with Gun Metal cap and nozzle and complete in all respects including initial fill and wall suspension bracket				
	4.5 Kg	5	Nos		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
4	Providing and fixing in position ABC type fire extinguishers of 5 liters capacity each.	5	Nos		
5	Supplying and installing at approved location approved make fire buckets of 24 gauge galvanized steel sheet, standard 9 litre capacity and of round bottom shape, painted white inside and red outside and black on the bottom, inscribed with letters "FIRE" in black and gold. Cost shall be inclusive of providing MS stand duly painted over a coat of primer.	1	Nos		
	<b>SMOKE DETECTION &amp; FIRE ALARM SYSTEM (ADDRESSABLE)</b>				
6	Supply, Installation & Testing of GE / Morley/Honey well make addressable Photoelectric type Smoke detector for below/above false ceiling with base plate.	30	Nos		

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
7	Supply, Installation & Testing of GE / Morley/honeywell make addressable photoelectric type Heat detector with base plate	15	Nos		
8	Supply, Installation & Testing of Response Indicator	7	Nos		
9	Supply, Installation & Testing of Addressable type Electronic Hooter complete with line matching transformer & connected to the main control panel amplifier to produce alter / evacuation tone for public	5	Nos		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
10	Supply, Installation & Testing of Addressable type Manual Call Point with a glass cover marked " IN CASE OF FIRE PRESS"	5	Nos		
11	Supply, Installation, Testing & commissioning of Fault Isolator module	5	Nos		
12	Supply of Cable (2cx 1.5 Sq mm cu Ar Cable) (Black and Red colour only) with necessary accessories and hardware etc inclusive of PVC).	300	Rmt		
13	Supply, Installation, Testing & commissioning of Two Loop non - expandable addressable type Fire Alarm Panel with Battery backup with capacity for 99 addressable devices including event logging facility, printing facility, interface feature & including all necessary hardware & accessories, etc. complete as required. ( GE / Morley)	1	Nos		
	<b>FIRE PUMPS AND EQUIPMENTS</b>				

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
14	Supply, Installation, testiing and commissioning of Monoblock <b>Booster Pump</b> capacity <b>900 LPM</b> . The complete unit shall be mounted on a common structural steel base frame and shall include accessories such as foundation bolts etc.	1	No		
15	Supply and installing heavy class MS ERW suction & delivery headers of required length conforming to IS 1239 with welded joints standard MS fittings and with end flanges connections having inlet & outlets flanged connections including GI supports from wall, floors & ceiling complete as required. Cost should be inclusive of all supports / clamps / brackets. anchor fastner etc.				
15a	25 mm dia	10	Mtrs		
15b	80 mm dia	8	Mtrs		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	100 mm dia	10	Mtrs		
16	Supplying, installation of CI Non Rising sluice valve PN (10) with required flanges, nuts, bolts and gaskets etc.				
16a	100 mm dia	2	Nos		
17	Supplying, instalation of C.I. <b>Non-return valves</b> as per IS:5312( PN 10) Dual Plate C&G Make type with required flanges, nuts, bolts and gaskets etc.				
17a	80 mm dia	1	Nos.		



Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
17b	100 mm dia	2	Nos.		
18	Supply, installing and commissioning of CI 'Y' <b>strainer</b> with bronze perforated sheet brasket including rubber gasket flanges, nuts, bolts and washers etc complete as required.				
18a	80 mm dia	1	Nos.		
18b	100 mm dia	2	Nos.		
19	Supplying, instalation of <b>Butterfly valves</b> as per IS:5312( PN 10) swing check type with required flanges, nuts, bolts and gaskets etc. ( C G Make)				

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
19a	80 mm dia	1	Nos.		
19b	100 mm dia	2	Nos.		
	<b>FIRE HYDRANT SYSTEM</b>				
20	Supply, Installing, jointing, testing and commissioning of following sizes of <b>MS/GI EWR Heavy 'C' Class pipes</b> conforming to IS 1239 with painting (Tata / Jindal make)				
	For wet riser system - MS ERW "C" heavy class pipe				
20a	100 mm dia	20	Mtrs.		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
21	Supply, Installing, jointing, testing in trenches the following sizes of MS / GI ERW class "C" (heavy class) pipes conforming to IS 1239 (Tata / Jindal make) with Wrapping & coating				
21a	100 mm dia	50	Mtrs.		
22	Providing & fixing of <b>butterfly valve</b> (suitable for test pressure of 15 kg / sqm) with flanges, nut bolts, gaskets and necessary pad locking arrangement complete required.				
22a	100 mm dia	2	No.		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
23	Providing & fixing gun metal <b>Fire Hydrant single landing valve</b> with 80 mm N.B. flanged inlet, brass spindle controlled 63 mm dia female instantaneous outlet type. G.M. coupling, blank cap, chain, twist release type lug & all accessories conforming to IS:5290. Including fixing with anchor fastener and flanged tapping from wet riser and providing pressure gauge with gun metal ball valve complete as required.	5	Nos.		
24	Providing and fixing in position 2 nos. <b>flexible canvass rubber lined hose reels</b> 63 mm dia with adapter, branch pipe and nozzle and storing them in metal cabinets with lockable glass shutters and fixing the metal cabinet at ground level in a location where it can be easily spotted including painting etc. complete. (as per IS 636)				
24a	7.5 m length (Mid landing)	5	Nos.		
25	Supply & installing 63 mm dia instantaneous pattern branch <b>short gunmetal pipe</b> , 20 mm dia nozzle conforming to IS 903, suitable for inter connection to hose pipe coupling complete as required.	5	Nos.		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
26	Providing & fixing indoor type <b>hose lockable cabinet frames</b> fabricated from 40 x 40 x 5 angle iron sections and 16 gauge MS sheet with full front glass door and locking arrangement, suitable to accommodate landing valves, 15 m long hoses, first-aid hose reel and branch pipe nozzle & fire mans' axe. The cabinet frame shall be painted with one coat of primer and two or more coats of synthetic enamel paint of approved make and shade of as required (Approx 2.1 m (high) x 0.9 m (wide) x 0.6 m (deep) ). The item shall be complete of MS housing with front door.	5	Nos.		
	(Cost shall be inclusive of providing break glass box containing key for the cabinet along with hammer).				
27	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 cabinet shall be painted with paint of P.O. Red and marked on the front as " FIRE HOSE"	4	Nos.		
	(Cost shall be inclusive of providing break glass box containing key for the cabinet along with hammer).				

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
28	Providing and fixing standard <b>fireman's axe</b> with heavy rubber handle.	5	Nos.		
29	Providing & fixing swinging type <b>First Aid hose reel</b> in red colour drum with 36 mts long and 20 mm dia heavy duty "DUNLOP"rubber water hose, 20 mm dia globe valve stop cock, terminating with G.M. coupling & nozzle of 6mm outlet with shut off valve confirming to IS 8090 - 1976 complete with MS socket for tap-off, drum and brackets (including painting) for fixing on wall with anchor fastener, bolts & nuts conforming to IS:884-1969 complete as required.	5	Nos.		
30	Supply & installing gun metal fire brigade connection (suction collecting head) consisting of 4 nos. 63 mm dia instantaneous type male coupling with built-in check valves, 1 no. 150 mm dia sluice valve, 1 no. 150 mm dia non-return valve and 150 mm dia flanged outlet complete with bolts, nuts and rubber insertins as required and as per IS 904 1963	1	No.		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
31	Supply & installing gun-metal Fire brigade suction hose coupling (draw-out connection) with nut for female coupling as per IS 902-1974 complete with 100 mm dia GI suction pipe and 100 mm dia foot valve (to be connected to static tank). Provision of GI drop pipe and foot valve shall be made in all the fire water static storage tank (4 nos) (GI pipe to be paid separately through appropriate item while cost of foot valve to be included.)	1	No.		
	<b>TOTAL- FIRE SYSTEMS</b>				

## HVAC SYSTEMS

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	<b>VRV SYSTEMS</b>				
	<b>EQUIPMENTS(VRV)</b>				
1	Supply, installation, testing & commissioning of Modular type outdoor units with top discharge fans, equipped with highly efficient scroll/rotary compressors with inverter type compressor (s) , special acryl precoated, error auto address setting, with multiple outdoor units of capacities and quantities as mentioned below . Cost shall include pressure testing, vacuumizing, gas charging(R-410A),electrical wiring etc, all complete as required				
1.1	28 HP For Stilt and First floor				
1.1.a	Supply	1	Nos		



Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
1.1.b	Installation	1	Nos		
1.2	24 HP For Typical floors				
1.2.a	Supply	3	Nos		
1.2.b	Installation	3	Nos		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
2	Supply, installation, testing & commissioning of <b>VRV CASSETTE TYPE</b> (4 Way) indoor unit complete with cooling coil, washable type filter, multispeed fan motor, electronic expansion valve, drain pump arrangement with necessary supporting arrangement, controls, decorative panel all complete as required. The blower shall be dynamically balanced and designed for silent operation, The cost shall include power wiring from nearest power socket and control wiring from indoor unit to out door unit. Actual cooling capacity at designed operating conditions				
2.1	1.5TR Cassette unit				
2.1.a	Supply	3	Nos		
2.1.b	Installation	3	Nos		

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
2.2	2 TR Cassette unit				
2.2.a	Supply	40	Nos		
2.2.b	Installation	40	Nos		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
3	Supply, installation, testing & commissioning of <b>VRV High Wall</b> indoor unit complete with cooling coil, washable type filter, multispeed fan motor, electronic expansion valve, drain pump arrangement with necessary supporting arrangement, controls, decorative panel all complete as required. The blower shall be dynamically balanced and designed for silent operation The cost shall include power wiring from nearest power socket and control wiring from indoor unit to out door unit Actual cooling capacity at designed operating conditions				
3.1	1 TR High wall Unit				
3.1.a	Supply	16	Nos		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
3.1.b	Installation	16	Nos		
4	Supply and fixing of chorded remote for High wall unit/cassette units	59	Nos		
5	Supply, installation, testing & commissioning of Refrigerant piping with Nitrile Rubber Tubular insulation of necessary thickness and Refnet joints / Branch Distributors for Indoor & Outdoor units Note: bidder to consider the quantity as per tender drawing/site condition Note: No extra claim is allowed. a) Costs should include MS support for copper piping. b) Wherever the copper piping is running in the shafts, consider plastic wire wrapping. c) Wherever the copper piping is running exposed to atmosphere , consider PVC pipes for protection. (Approximate 600rmt)	1	Lot		

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
6	Supply and fixing of Touch Screen type Central Controller System Unit capable of controlling the Indoor and outdoor units (atleast 100 numbers) with interface modules connecting each outdoor unit. The cost should include the control wiring (of 600 Rmt) from outdoor , indoor units to the central controller through conduits(Cost shall include conduit cost).The cost shall include commissioning of the system / ensuring connectivity with all the units. Complete controll features of this unit to be furnished, Memory in control unit, software necessary to connect PC and other necessary data to filled up with quotation.Should have emergency stop function with simple contact interface,should have power distribution report and all necessary as required.	1	Nos		
	<b>EQUIPMENTS(DX) For Room Treated fresh Air</b>				

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
7	Supply, installation, testing and commissioning of ceiling suspended air cooled ductable split air-conditioning unit consisting: Outdoor unit - the hermetically sealed scroll compressor with necessary safety devices, condensor fan of adequate capacity connected to adequate capacity motor.All mounted on M.S frame and enclosed with all weather type enclosure to protect the electrical circuit, and fan winding.Installation to include copper refrigerant piping as per site condition, from multiple outdoor unit to AHU with all necessary fittings and accessories ,breaking walls for refregerating piping and making good walls all necessary as required.Following are the capacity of units.				
7.1	a. 5.5 TR , ODU for All the Office area TFA unit				
7.1.a	Suplly	4	Nos.		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
7.1.b	Installation	4	Nos.		
8	Supplying installing, testing and commissioning of draw through type sectionalised construction. DOUBLE SKIN AHU complete with filter section with 10micron filter, DX cooling coil of copper tube aluminum fin construction, with SS304 insulated drain pan, squirrel cage induction TEFC motor, Kruger / Nicotra fans , belt drive and vibration isolators connected to DX outdoor unit. All air handling unit shall be suitable for 415+/- 10% volts, 50 cycles, 3 phase power supply. Coil shall be selected on a maximum face velocity of 2.5m/s.Minimum 6 Row deep coil to be considered, however coil selection should be furnished before supplying the unit.The starter to be Star-Delta / DOL Starter complete with SPP & O/L relay. Upto 5.5 KW DOL & beyond 5.5KW Star-Delta starters to be included in the cost.				
8.1	a. 5.5 TR , 700 cfm, TS 40mm Rooms TFA (For all 4 floors )				



Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
8.1.a	Supply	4	Nos.		
8.1.b	Installation	4	Nos.		
9	Supply and installation of Refrigerant Copper piping insulated with Nitrile Rubber Tubular insulation and covered with polyshield Note: Contractor to specify quantity considered as per tender drawing Note: bidder to consider the quantity as per tender drawing / site condition Note: No extra claim is allowed (Approximate 200rmt)	1	Lot		
	<b>INSULATION</b>				

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
10	Supply and fixing of under deck insulation with 50 mm thick TF quality EPS insulating material. The insulation shall be suitably secured to 50 mm wide GI grid frame and laced with GI wire using GI washers, Screws	350	Sqm		
	<b>VENTILATION FAN</b>				
11	Supplying installing, testing and commissioning of axial flow fan direct driven type for exhaust application. Complete with double flanged casing of MS / GI, with totally enclosed class F motor to a min. IP54 protection, fans of Nicotra / Kruger make , and vibration isolators. All units shall be suitable for 415+/- 10% volts, 50 cycles, 3 phase power supply. Fan shall be selected for maximum 1000 rpm. All complete as required. The inline fan shall have aluminium casted hub with provision to vary the blade pitch angle at site. All blades should be non-metallic construction, however for kitchen exhaust application blades to be metallic construction. Air moving capacity shall be as follows:				
	First floor to fourth floor				

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
11.a	200 cfm , TS - 20mm WC(Exhaust)	8	Nos.		
	First floor to fourth floor				
11.b	500 cfm , TS - 20mm WC(Exhaust)	5	Nos.		
	<b>MISCELLANEOUS</b>				
12	Electrical work shall include inter connecting the outdoor unit with indoor units( VRV, DX and Ventilation units). The compressor panel shall house adequate capacity, contactor to start and stop the unit through remote switch. The cost shall also include works like cabling, earthing etc (Approximate 750rmt)	1	Lot		
13	CONDENSING DRAIN PIPES: Providing and fixing in position the following size of PVC (UPVC quality) pipes, cut in required lengths and joined with PVC cement and also providing and fixing in position the necessary "U" trap elbows, tees, and reducers				

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
13a	a. 20mm dia pipe (NB)	450	Mtrs		
13b	b. 25mm dia pipe (NB)	150	Mtrs		
	<b>MAKE FOR VRV SYSTEM: DAIKIN, MITSUBISHI AND TOSHIBA</b>				
	<b>GRAND TOTAL - HVAC</b>				

### CENTRALISED UPS SYSTEM (POWER BACK UP SYSTEM)

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
1	Supply, Installation, Testing & Commissioning of 60 KVA DSP based Online UPS with IGBT rectifier, IGBT inverter , nominal input voltage of 480V, 4 wired with 3 pole breaker and output nominal voltage 480V , 60KVA power output with 93% full load capacity with multifunction LCD status console , Emergency power off operating at temperature of 0-40 degress.Make (APC, EATON/EMERSON)	1	Set		
	Double Conversion Technology with Static Bypass For 90 minute backup to the stated load complete with all necessary hardware & accessories, etc. complete as required.				
2	Required number of VRLA/SMF Battery - 12 V for <b>Battery backup upto 90 minutes</b> With Battery cabinets and Cables along with necessary hardware, accessories - Battery Breaker, Racks, Linkset & Battery to UPS Cablesetc. complete as required. (Make of batteries- Exide / Amaron / Amco)	1	Set		
	Network management card (OC WAP Card) for the UPS to connect to the server. (If required.)				

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
3	Delivery & Installation charges	1	Set		
	Full set as above				
	EATON/APC/EMERSON				
	<b>Total -UPS SYSTEMS</b>				

**LIFT - 10 passenger - 2 nos**

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
1	Supply, installation, testing & commissioning of electric traction type elevator of following capacity and type suitable for operation on 415 V, 3 phase, 50 Hz AC supply, having AC variable voltage and variable frequency type traction control, with machine room, speed of 1.25 Mtr/sec, electromagnetic brake system, simple operations, operating control panel with luminous buttons, overload warning indicator, battery operated alarm bell, LED type emergency light, intercom suitable for hook up to EPABX, infrared ray sensing door protection for full height, reverse phase relay on controller, fireman's switch at ground floor, digital car positions indicator in car and at all positions indicator in car and at all floors with Up/DOWN direction, all signal fixtures in stainless steel faceplates, light fixtures, ventilation fan, etc complete with all accessories including automatic rescue device in the event of power failure etc., as required.	2	SET		

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
	The traction motor placed directly above the hoistway in Machine Room and elevator shall be of gearless type with travel height of 15mtrs (approx to G+4). complete as per technical specification, simplex full collective operation with/without attendant. Car/Hoistway Entrance, protected by glass doors and clear side(telescopic) opening of 1200mm x 2000mm height( as per requirement). Complete with necessary scaffolding, electrical panel, logic control panel and shaft lighting etc required for the erection of the elevators				
	10 passengers (Minimum) capacity elevator 5 stops & 5 openings with reqd Height, Inside dimensions and entrance at front side on all the serving floors, provided with matt finish stainless steel panel on all four side, stainless steel mirror finish ceiling, stainless steel hand rail on three sides and toughned glass door in the car opening and front landing at each floor with lift synchronisation complete as per specifications.				
	MAKE: KONE/JOHNSON/OTIS				
	<b>Total ( LIFT)</b>				



## PUBLIC ADDRESSING SYSTEM

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
1	Supply, Installation, Testing, Commissioning of point wiring for music - cum PA system comprising of 2x 1.0 sqmm stranded , copper conductor , flexible PVC insulated and PVC Sheathed wire pulled through 20 mm dia. PVC heavy gauge conduits and looped from one speaker to other and to the volume control switch wherever applicable and finally terminated an tagblock Make (KEI, Polycab, Anchor, Finolex , Powerflex)	18	Nos		
2	Supply, Installation, Testing, Commissioning of of 6" dia music speakers to be flushed mounted on false ceiling similar to BOSCH / SONY make. All speakers to be equipped with matching transformer for direct connection to 100v output line with all accessories complete etc.	18	Nos		
3	Supply, Installation, Testing, Commissioning of volume control - cum - ON - OFF switch flush mounted on wall along with other electrical switches .The size and plate of the regulating knob should match with other switches nearby.	11	Nos		

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
4	Supply, Installation & Testing of Microphone of Ahuja / CAD GXL2200 Cardioid Condenser Microphone/Equivalent make with cord etc. complete	1	Nos		
5	Supply, Installation & Testing of Amplifier for Public Address System suitable to operate on 230V A.C. / 12V D.C. supply with two low impedance microphone input, tone control including voice alarm controller and voice call back system, protection circuit complete for the speakers output lines. Make : Behringer / Bosch / Sony	1	Nos		
6	Supply, Installation & Testing commissioning of Voice alarm call station with six zone for voice call back alarm	5	Nos		

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
7	Supply and laying of cat 5 cable in suitable PVC conduit from pre amplifier to voice all back alarm	150	Mts		
8	Supply, Installation & Testing of Music system (but cost of the player not more than Rs. 7500/-), the system to be of Philips/Sony or equivalent approved make. The system to comprise of MP3 compatible discs, FM radio, Audio cassette, etc. complete with all necessary hardware & accessories, etc. Make Sony BDP S480 - 3D Blu-ray Disc™ Player with Wireless LAN Ready / Bosch	1	Nos		
	<b>Total - PUBLIC ADDRESSING SYSTEM</b>				

## PUMPS AND MACHINERIES

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
1	Supply, Installation, Testing and commissioning of three phase 2HP Electrical coupled submersible sump of stainless steel body suitable to pump a head of 60 mts height and 15 mts horizontal to pump from borewell to UG sump Kirloskar/grundfos make (one main and other as stand by pump) including all accessories with DOL starter (wiring from pump to control panel)etc. complete	1	set		
2	Supply, Installation, Testing and commissioning of three phase 3 HP Electrical coupled submersible sump of stainless steel body suitable to pump a head of 15 mts above for domestic tank Kirloskar/grundfos make (one main and other as stand by pump) including all accessories(wiring from pump to control panel)etc. complete	2	set		
3	Supply, installation testing and commissioning of Control panel to operate the two submersible pump with automatic switching, auto water level controller with floats both for UG sump and the over head tank(inclusive of control wiring of the float for water level controller) Padmansa DPM 5HP TTC2D control panel including all accessories etc. complete.	1	set		

<b>Item no.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (In Rs) In Figures and In Words</b>	<b>Amount (In Rs) In Figures and In Words</b>
4	Supply installation testing of plumbing work with suitable dia CPVC pipes both for suction and delivery upto overhead tanks including of bends and joints, CI impellers, NR valves, valve and fitting etc complete for pumping water from UG sump to overhead tank as required to commission the above said system in automatic on /off using water level controller including all accessories etc. complete	1	set		
5	Supply, Installation, Testing and commissioning single phase of 1HP Electrical coupled submersible sump with stainless steel body suitable to pump a head of 4 mts above for gardening (Make: Grundfos/ kirloskar/ Flowchem) (one in rainwater tank and another in sullage tank including all accessories(wiring from pump to control panel)etc complete	2	Set		
6	Supply, installation testing and commissioning of Control panel to operate the submersible pump manually in rainwater tank and sullage tank respectively including all accessories etc. complete.	2	set		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
7	Supply installation testing of plumbing work with suitable dia CPVC pipes both for suction and delivery including of bends and joints, CI impellers, NR valves, valve, digging the earth and refilling etc connecting to 5 nos of SS valve operated taps located inside the premises of the building at stilt floor level for gardening. The rates shall include ss valve operated taps with structure support under the ground. ( the plumbing shall include 2 suction one from rainwater tank and other from sullage tank with valve separator and single delivery to the gardening)	1	Set		
	<b>TOTAL- PUMPS</b>				

## CCTV SYSTEM

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
1	Supply, Installation, Testing and Commissioning of CP UNC TP 10 L3C-V2-CPPlus Make 1.3 Megapixel IP IR DOME Camera With 3,6mm Lense, 25 Mts Coverage with all fittings for Lift lobby&Stair case, CP Plus make or equivalent	6.00	Nos		
2	Supply, Installation, Testing and Commissioning of CP UNC TP 10 L3C-V2-CPPlus High Make 1.3 Megapixel IP IR PTZ Camera With 6 Lense, 30-40 Mts Coverage with all fittings for gate entry exit ,run way ..etc, CP Plus make or equivalent	5.00	Nos		
3	Supply, Installation, Testing and Commissioning of Dlink Switch 16 Port POE Switch (rate should be inclusive of all necessary accessories)	1.00	Nos		
4	Supply, Installation, Testing and Commissioning of 24" LED Display monitor screen with HDMI/VGA port( Sony or equivalent)	1.00	Nos		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
5	Supply, Installation, Testing and Commissioning of CP UNR-416T2-P16 model CPPLUS make NVR 16Ch@D1/720p/1080p/3MP/5MP 2*4TB SATA HDD Capacity, CP Plus make or equivalent	1.00	Nos		
6	Supply, Installation, Testing and Commissioning of Hard Disk 2TB-SATA (rate should be inclusive of all necessary accessories)	1.00	Nos		
7	Supply, Installation, Testing and Commissioning of 1 KVA UPS for power supply(rate should be inclusive of all necessary accessories)	1.00	Nos		
8	Supplying and laying of E CAT-6 cable drawn in 3/4" PVC conduit for CCTV (rate should be inclusive of all necessary accessories)	485.00	Mtrs		
	<b>TOTAL -CCTV SYSTEM</b>				



## EPABX SYSTEM

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
1	Supply, Installation testing and commissioning of TEC Approved DIGITAL ISDN EPABX System based on Intel 32 bit Microprocessor Digital EPABX system, Model: SIGMA INDX series equipped for : (MAKE : BPL, TATA, PANASONIC)				
	200 - ANALOG LINES WITH CLI				
	16 - TRUNK LINES WITH CLI				
	01- ISDN PRI LINE				
	Expandable upto: 984 ports				
	With Hotstandby for control cards				
	DC - POWER SUPPLY UNIT				
	- 100% Non-blocking Architecture				
	- Appointment reminder				
	- Automatic time based Class of Service				
	- Budgeting				
	- CO line protection				
	- Conference facility (8 PARTY)				
	- DISA facility				
	- DOSA facility with timer				
	- DTMF facility				
	- Emergency reporting				
	- Faulty trunk isolation				
	- Multi level padlock (ISD/STD/LOCAL)				

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
	- Multi level priority				
	- Multizone paging interface				
	- Music on hold (built-in)				
	- Paging interface				
	Caller ID on analog Extension				
	Remote programming				
	- SMDR				
	- Serial call				
	- Substitution Facility				
	- Toll restriction				
	Operator Console (4 Nos)				
	- Universal slot management	1	Nos		
2	300 PAIR MDF WITH KRONE MODULE AND IPM FOR TRUNK Lines	1	Nos		

Item no.	Item Description	Quantity	Unit	Rate (In Rs) In Figures and In Words	Amount (In Rs) In Figures and In Words
3	Float cum Boost Charger, Current Rating: 25A, Voltage Rating : 48V (Dyna) With 4 Batteries(27AH*4)	1	Nos		
4	Installation & Commissioning charges	1	LS		
	<b>TOTAL - EPABX</b>				