

**Annexure A****INVENTORY (FIXTURES & FITTINGS)****1. DETAILS OF UTILITIES IN THE DST COMPLEX****a) STP**

The capacity of the Sewage treatment plant is 110 KLD.

The details of major equipment installed are given below:

<b>Description</b>	<b>No.s</b>	<b>Power/Head/Capacity</b>	<b>Make</b>
Sewage transfer pump for sewage transfer from equalisation tank to SBR reactor	1 set	Head: 8-10 m	Wilo
Transfer of sludge to Sludge holding tank and recirculation to SBR Reactor	1 set	Head: 8-10 m	Wilo
Rotary air blowers (For air supply to equalization tank/sludge holding tank/SBR reactor)	1 set		
Coarse bubble diffuser		3-5 cfm of air with oxygen transfer efficiency of 3-4% per / meter water depth	EDI/Rehau/Bharat
Fine bubble diffuser			EDI/Rehau/Bharat
Motorized moving decanter for SBR tank with MOC SS-304	1	Size: 150NB	B S Enviro
Horizontal centrifugal non clog water pumps (Filter Feed Pump)	1 set	Head :25Mtr	Wilo
Horizontal centrifugal non clog water pumps (Treated/Irrigation Water Transfer Pump)	1 set	Head :20Mtr	Wilo
Non clog Submersible type Plant room sump pumps	1 set	Head: 10-12mtr	Wilo
Vertical multi grade sand filter (Pressure Sand Filter)	1	Flow rate: 7m3/hr	BS Enviro
Vertical multi grade sand filter (Activated Carbon Filter)	1	Flow rate: 7m3/hr	BS Enviro
Dosing system	1	100 lts	E-Dose
Ozon generator system	1	Flow Rate:7 m3/Hr	
Sludge Feed Pumps Screw type pump (For feed of sludge to filter press)	1	Head : 40mtr	
PLC based control panel with interlocking arrangement with suction pumps, modulating or shut-off valves including necessary wiring, magnetic switches and sensors complete to make the system functional with following interlocking	1		

Electrical Panel for pumps	1		
SBR Reactor	1	Capacity: 4.0m X 4.0m X 4.5m +FB	
Chlorine Contact Tank	1	Capacity: 2.0m X 2.0m X 3.0m + FB	
Sludge Holding Tank	1	Capacity: 2.0m X .2m X 3.5m +FB	

**b) Electrical Systems at Site including ESS/ Block-1/2/3**

NS Item	Description	Unit	Qty	Make	Location
NS-51	HT VCB Panel	Nos	1	Adlac	Electrical Sub-station
NS-52	Transformer (1600 Kva)	Nos	2	Kirlosker	Electrical Sub-station
NS-53	Diesel Generator Set (1500 KVA)	Nos	2	Cummins (Sudhir Power)	Electrical Sub-station
NS-60	Main LT Panel	Nos	1	Precision System Control	Electrical Sub-station
NS-61	Capacitor Panel (APFC Panel)	Nos	2	Epcos	Electrical Sub-station
NS-62	Main Lift Panel	Nos	1	Precision System Control	Electrical Sub-station
NS-63	External Lighting Panel	Nos	1	Precision System Control	
NS-64	LT Cable	Mtr			
NS-65	HT Cable	Mtr			
3.13	Bus Duct	Mtr			
4.1	Cable Tray	Mtr			
NS-13	UPS -100 KVA	Nos	1	Eaton	Block-01 Ground Floor Electrical Room
NS-14	UPS -60 KVA	Nos	1	Eaton	Block-02 Ground Floor UPS Room
NS-15	UPS -15 KVA	Nos	1	Eaton	Block-01 Ground Floor MTNL Room
NS-16	Block-01 Main Distribution Board	Nos	1	Precision System Control	Block-01 Ground Floor Electrical Room
NS-17	Lower and Upper Basement floor panel Block-01	Nos	1		
NS-18	GROUND FLOOR LIGHT & POWER PANEL 1 (BLOCK 1)	Nos	1	Precision System Control	Block-01 Ground Floor Near 3 Lifts
NS-19	GROUND FLOOR LIGHT & POWER PANEL 2 (BLOCK 1)	Nos	1	Precision System Control	Block-01 Ground Floor Electrical Room
NS-20	FIRST FLOOR LIGHT & POWER PANEL 1 (BLOCK 1)	Nos	1	Precision System Control	Block-01 First Floor Near 3 Lifts
NS-21	FIRST FLOOR LIGHT & POWER PANEL 2 (BLOCK 1)	Nos	1	Precision System Control	Block-01 First Floor Electrical Room
NS-22	SECOND FLOOR LIGHT & POWER PANEL 1 (BLOCK 1)	Nos	1	Precision System Control	Block-01 Second Floor Near 3 Lifts
NS-23	SECOND FLOOR LIGHT & POWER PANEL 2 (BLOCK 1)	Nos	1	Precision System Control	Block-01 Second Floor Electrical Room
NS-22	THIRD FLOOR LIGHT & POWER PANEL 1 (BLOCK 1)	Nos	1	Precision System Control	Block-01 Third Floor Near 3 Lifts
NS-23	THIRD FLOOR LIGHT &	Nos	1	Precision System Control	Block-01 Third Floor

	POWER PANEL 2 (BLOCK 1)				Electrical Room
NS-22	FOURTH FLOOR LIGHT & POWER PANEL 1 (BLOCK 1)	Nos	1	Precision System Control	Block-01 Fourth Floor Near 3 Lifts
NS-23	FOURTH FLOOR LIGHT & POWER PANEL 2 (BLOCK 1)	Nos	1	Precision System Control	Block-01 Fourth Floor Electrical Room
NS-22	FIFTH FLOOR LIGHT & POWER PANEL 1 (BLOCK 1)	Nos	1	Precision System Control	Block-01 Fifth Floor Near 3 Lifts
NS-23	FIFTH FLOOR LIGHT & POWER PANEL 2 (BLOCK 1)	Nos	1	Precision System Control	Block-01 Fifth Floor Electrical Room
NS-24	UPS INPUT PANEL - BLOCK 1	Nos	1		Block-01 Ground Floor Electrical Room
NS-25	UPS OUTPUT PANEL - BLOCK 1	Nos	1		Block-01 Ground Floor Electrical Room
NS-27	GROUND FLOOR UPS PANEL 1 (BLOCK 1)	Nos	1		Block-01 Ground Floor Near 3 Lifts
NS-28	GROUND FLOOR UPS PANEL 2 (BLOCK 1)				
NS-29	FIRST FLOOR UPS PANEL 1 (BLOCK 1)	Nos	1	Precision System Control	Block-01 First Floor Near 3 Lifts
NS-30	FIRST FLOOR UPS PANEL 2 (BLOCK 1)	Nos	1	Precision System Control	Block-01 First Floor Electrical Room
NS-29	SECOND FLOOR UPS PANEL 1 (BLOCK 1)	Nos	1	Precision System Control	Block-01 Second Floor Near 3 Lifts
NS-30	SECOND FLOOR UPS PANEL 2 (BLOCK 1)	Nos	1	Precision System Control	Block-01 Second Floor Electrical Room
NS-29	THIRD FLOOR UPS PANEL 1 (BLOCK 1)	Nos	1	Precision System Control	Block-01 Third Floor Near 3 Lifts
NS-30	THIRD FLOOR UPS PANEL 2 (BLOCK 1)	Nos	1	Precision System Control	Block-01 Third Floor Electrical Room
NS-29	FOURTH FLOOR UPS PANEL 1 (BLOCK 1)	Nos	1	Precision System Control	Block-01 Fourth Floor Near 3 Lifts
NS-30	FOURTH FLOOR UPS PANEL 2 (BLOCK 1)	Nos	1	Precision System Control	Block-01 Fourth Floor Electrical Room
NS-29	FIFTH FLOOR UPS PANEL 1 (BLOCK 1)	Nos	1	Precision System Control	Block-01 Fifth Floor Near 3 Lifts
NS-30	FIFTH FLOOR UPS PANEL 2 (BLOCK 1)	Nos	1	Precision System Control	Block-01 Fifth Floor Electrical Room
NS-31	LIFT PANEL BLOCK 1	Nos	1	Precision System Control	Block-01 Ground Floor Electrical Room
	BLOCK 2 FLOOR PANELS				
NS-32	BLOCK 2 MAIN DISTRIBUTION BOARD	Nos	1	Precision System Control	Block-02 Ground Floor stair Case
NS-34	GROUND FLOOR LIGHT & POWER PANEL (BLOCK 2)	Nos	1	Precision System Control	Block-02 Ground Floor Electrical Room
NS-34	FIRST FLOOR LIGHT & POWER PANEL (BLOCK 2)	Nos	1	Precision System Control	Block-02 First Floor Electrical Room
NS-34	SECOND FLOOR LIGHT & POWER PANEL (BLOCK 2)	Nos	1	Precision System Control	Block-021 Second Floor Electrical Room
NS-34	THIRD FLOOR LIGHT & POWER PANEL (BLOCK 2)	Nos	1	Precision System Control	Block-02 Third Floor Electrical Room
NS-34	FOURTH FLOOR LIGHT & POWER PANEL (BLOCK 2)	Nos	1	Precision System Control	Block-02 Fourth Floor Electrical Room
NS-34	FIFTH FLOOR LIGHT & POWER PANEL (BLOCK 2)	Nos	1	Precision System Control	Block-02 Fifth Floor Electrical Room
NS-35	UPS PANEL - BLOCK 2	Nos	1	Precision System Control	Block-02 Ground Floor UPS Room
NS-36	GROUND FLOOR UPS PANEL (BLOCK 2)	Nos	1	Precision System Control	Block-02 Ground Floor Electrical Room
NS-36	FIRST FLOOR UPS PANEL (BLOCK 2)	Nos	1	Precision System Control	Block-02 First Floor Electrical Room

NS-36	SECOND FLOOR UPS ANEL (BLOCK 2 )	Nos	1	Precision System Control	Block-02 Second Floor Electrical Roon
NS-36	THIRD FLOOR UPS PANEL (BLOCK 2)	Nos	1	Precision System Control	Block-02 Third Floor Electrical Roon
NS-36	FOURTH FLOOR UPS PANEL (BLOCK 2)	Nos	1	Precision System Control	Block-02 Fourth Floor Electrical Roon
NS-36	FIFTH FLOOR UPS PANEL (BLOCK 2)	Nos	1	Precision System Control	Block-02 Fifth Floor Electrical Roon

**c) Firefighting Systems at site including Block-1/2/3**

Sr. No.	Location:	NS 3 (a)	NS 4(a)	NS 4(b)	NS 4(c)	NS 4(d)	NS 4(e)	NS 5 (a)	Extra Item	NS -6	NS 7
	<b>Name of Floor :-</b>	25 mm dia Gun metal ball valve	50 mm dia butterfly valve	65 mm dia butterfly valve	80 mm dia butterfly valve	100 mm dia butterfly valve	150 mm dia butterfly valve	150 mm dia check valve	100 mm dia NRV valve	150 mm dia `Y`strainer	Gun metal single head fire hydrant valve
1	Block-01 Ground floor		2				4				4
2	Block-01 First Floor		2				4				4
3	Block-01 Second Floor		2				4				4
4	Block-01 Third Floor		2				4				4
5	Block-01 Fourth Floor		2				4				4
6	Block-01 Fifth Floor		2				4				4
7	Block-01 Terrace Floor		3		6	0	5	0	1		4
<b>A</b>	<b>Total Installation Qty At site for Block -1</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>29</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>28</b>
1	Block-02 Ground floor	2	2			2					3
2	Block-02 First Floor	2	2			2					3
3	Block-02 Second Floor	2	2			2					3

4	Block-02 Third Floor	2	2			2					3
5	Block-02 Fourth Floor	2	2			2					3
6	Block-02 Fifth Floor	2	2			2					3
7	Block-02 Terrace Floor	2			5	1	5		1		3
<b>B</b>	<b>Total Installation Qty At site for Block -2</b>	<b>14</b>	<b>12</b>	<b>0</b>	<b>5</b>	<b>13</b>	<b>5</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>21</b>
1	Block-03 Ground floor										2
2	Block-03 First Floor										2
3	Block-03 Second Floor										2
4	Block-03 Terrace Floor						2				
5	External area		3		8		9				
<b>C</b>	<b>Total Installation Qty At site for Block -3 and External</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>11</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>6</b>
<b>D</b>	<b>Sub-Total Site (A+B+C)</b>	<b>14</b>	<b>30</b>	<b>0</b>	<b>19</b>	<b>13</b>	<b>45</b>	<b>6</b>	<b>2</b>	<b>0</b>	<b>55</b>

Sr. No.	Location:	NS 8	NS 9	NS 10	NS 11	NS 12	NS 13 (a)	NS 13 (b)	NS 13 (c)	NS 14 (a)	NS 14 (b)
	<b>Name of Floor :-</b>	First Aid hose reel drum	Hose pipe, 63 mm dia	branch short gunmetal pipe,	firemans axe	Fire hose cabinet (1.2 x 2.1x0.6) M	CO2 gas nozzle type - 9 Litre Fire Extinguishers	Mechanical Foam gas cartridge type. 9 Kg	ABC dry powder stored pressure type 6 kg	Pendant type sprinklers	Side wall type sprinklers
1	Block-01 Ground floor	4	8	4	4	4	4	4	4	195	43
2	Block-01 First Floor	4	8	4	4	4	4	4	4	140	45
3	Block-01 Second Floor	4	8	4	4	4	4	4	4	140	45

4	Block-01 Third Floor	4	8	4	4	4	4	4	4	142	70
5	Block-01 Fourth Floor	4	8	4	4	4	4	4	4	192	59
6	Block-01 Fifth Floor	4	8	4	4	4	4	4	4	219	71
7	Block-01 Terrace Floor	4	8	4	4	4	4	4	4		
<b>A</b>	<b>Total Installation Qty At site for Block -1</b>	<b>28</b>	<b>56</b>	<b>28</b>	<b>28</b>	<b>28</b>	<b>28</b>	<b>28</b>	<b>28</b>	<b>1028</b>	<b>333</b>
1	Block-02 Ground floor	3	6	3	3	3	3	3	3	102	51
2	Block-02 First Floor	3	6	3	3	3	3	3	3	97	39
3	Block-02 Second Floor	3	6	3	3	3	3	3	3	91	34
4	Block-02 Third Floor	3	6	3	3	3	3	3	3	144	27
5	Block-02 Fourth Floor	3	6	3	3	3	3	3	3	104	40
6	Block-02 Fifth Floor	3	6	3	3	3	3	3	3	127	34
7	Block-02 Terrace Floor	3	6	3	3	3	3	3	3	0	0
<b>B</b>	<b>Total Installation Qty At site for Block -2</b>	<b>21</b>	<b>42</b>	<b>21</b>	<b>21</b>	<b>21</b>	<b>21</b>	<b>21</b>	<b>21</b>	<b>665</b>	<b>225</b>
<b>1</b>	Block-03 Ground floor	2	4	2	2	2	2	2	2		
<b>2</b>	Block-03 First Floor	2	4	2	2	2	2	2	2		
<b>3</b>	Block-03 Second Floor	2	4	2	2	2	2	2	2		
	Block-03 Terrace Floor										
<b>C</b>	<b>Total Installation Qty At site for Block -3 &amp; External</b>	<b>6</b>	<b>12</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>0</b>	<b>0</b>
<b>D</b>	<b>Sub-Total Site (A+B+C)</b>	<b>55</b>	<b>110</b>	<b>55</b>	<b>55</b>	<b>55</b>	<b>55</b>	<b>55</b>	<b>55</b>	<b>1693</b>	<b>558</b>

Sr. No.	Location:	NS 14(c)	NS 15	NS 16	NS 17 (a)	NS 17 (b)	NS 19	NS 22	NS 23
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	Block-03 Terrace Floor			2				1	1
	External			5					
<b>C</b>	<b>Total Installation Qty At site for Block -3 and external</b>	<b>0</b>	<b>1</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>
<b>D</b>	<b>Sub-Total Site (A+B+C)</b>	<b>511</b>	<b>0</b>	<b>18</b>	<b>1630</b>	<b>651</b>	<b>24</b>	<b>3</b>	<b>3</b>

**d) HVAC Works at Block-1/2/3**

Sr.No	NS Item	Description	Unit	Qty	Make
1	NS-1	Outdoor unitsVRF system	HP	830	DAIKIN
2	NS-2				
3	NS-3	Ceiling Mounted Cassette Units (Multi Flow 4 way Type)			
	f	Ceiling Mounted Cassette Type : 2.8 TR	Nos	11	DAIKIN
	g	Ceiling Mounted Cassette Type : 3.2 TR	Nos	4	DAIKIN
4	NS 4	Hi-Wall Unit with Remote			
	b	1.3 TR Hi Wall Type VRV Indoor Unit	Nos	2	DAIKIN
5	NS 6	Ductable Unit			
	b	3.0 TR Ductable Type VRV Indoor Unit	Nos	2	DAIKIN
	c	4.0 TR Ductable Type VRV Indoor Unit	Nos	5	DAIKIN
	d	5.0 TR Ductable Type VRV Indoor Unit	Nos	1	DAIKIN
	e	6.0 TR Ductable Type VRV Indoor Unit	Nos	5	DAIKIN
	f	8.0 TR Ductable Type VRV Indoor Unit	Nos	3	DAIKIN
7	NS 7	Y-joints Including all Taxes & Duties, Freight, Insurance etc.	Nos	537	Rajco
	a	Corded Self Diagnostic Type Remote	Nos	455	DAIKIN
8	NS 10	Wall Mounted Split Air-Conditioning unit,each comprising of an outdoor unit and a single slim indoor unit.			
	a	1.5 TR	Nos	2	Voltas
	b	2.0 TR	Nos	2	Voltas
9	NS 12	high pressure copper refrigerant piping work suitable for refrigerant			



		R 410A			
	a	41.3 mm O.D.	Mtr	450	Rajco
	b	34.9 mm O.D.	Mtr	300	Rajco
	c	28.6 mm O.D.	Mtr	1377.83	Rajco
	d	22.2 mm O.D.	Mtr	670.4	Rajco
	e	19.1 mm O.D.	Mtr	687.2	Rajco
	f	15.9 mm O.D.	Mtr	1849.9	Rajco
	g	12.7 mm O.D.	Mtr	2237.6	Rajco
	h	9.5 mm O.D.	Mtr	1678.9	Rajco
	i	6.4 mm O.D.	Mtr	1861.69	Rajco
10	NS 13	PVC condensate drain piping min 15 kg density			
	a	25 mm dia pipe, Insulation Thickness - 6 mm	Mtr	3079.85	Suprem
	b	32 mm dia pipe, Insulation Thickness - 6 mm	Mtr	1151.8	Suprem
	c	40 mm dia pipe, Insulation Thickness - 6 mm	Mtr	336	Suprem
11	NS 14	control cum transmission wiring of copper between indoor and outdoor unit.			
	a	2C x 1.5 Sq mm	mtr	5516.8	Havelse
12	NS 15	site fabricated GSS sheet metal rectangular DUCT			
	a	24 G	Sqmt r	1906.61	TATA
	b	22 G	Sqmt r	1102.85	TATA
	c	20 G	Sqmt r	75.77	TATA
13	NS 16	f factory fabricated GSS sheet metal rectangular ducting			
	a	26 G	Sqmt r	3017.57	Jindal
	b	24 G	Sqmt r	866.89825	Jindal
	c	22 G	Sqmt r	696.817	Jindal
	d	20 G	Sqmt r		
14	NS 17	Double canvas (fire proof) flexible connection constructed of fire resistant material	Sqmt r	184.00	Adco
15	NS 18	External thermal insulation on ducts with Closed Cell Cross Linked Polyethylene Foam of density 33 + 3Kg/m <sup>3</sup> & thermal			
	a	XLPE - 9 mm	Sqmt r	596	Aflex
16	NS 19	Acoustic lining inside ducts using Non Fibrous fire retardant open cell cross-linked polyethylene foam of 30+/- 3 Kg/m <sup>3</sup>	Sqmt r	41.48	Aflex
17	NS 21	Powder coated Aluminium extruded grills / diffusers as			

	b	Powder coated extruded aluminium Supply / Return Air Grills as per specifications.	Sqmt r	50.98	Air Flow
18	NS 24	Floor mounted/Ceiling Suspended Tube Axial flow fans with adjustable pitch blade,			
	c	8000 CFM (20 mm static pressure)	Nos	7	
19	NS 26	Extract fans as per standard specifications and drawings.			
	a)	Duty : Basement Emergency Supply & Exhaust			
		Air Quantity : 9000 CFM	Nos	10	Air Flow
	b)	Duty : Floor Smoke Extraction			
		Air Quantity :2000 CFM	Nos	11	Air Flow
	c)	Duty : Floor Smoke Extraction			
		Air Quantity :3000 CFM	Nos	14	Air Flow
	d)	Duty : Floor Smoke Extraction			
		Air Quantity : 4000 CFM	Nos	12	Air Flow
	e)	Duty : Floor Smoke Extraction			
		Air Quantity : 5000 CFM	Nos	18	Air Flow
20	NS 27	Inline fans with motor			
	a	300 CFM (12mm static pressure, single phase)	Nos	12	Air Flow
	b	350 CFM (12mm static pressure, single phase)	Nos	22	Air Flow
	d	600 CFM (12mm static pressure, single phase)	Nos	13	Air Flow
21	NS 32	For AHU & Ventilation Fans (Up to 3.7 Kw Fan Motor)			
		32 A TPN MCB with 16-32 A Star Delta starter,	Nos	65	Adlac
22	NS 36	Power and control cabling as per specification given in the tender.			
	c	4C x 16 Sq. mm	Mtr	1638	Polycab
	d	4C x 10 Sq. mm	Mtr	696	Polycab
23	NS 37	Providing and fixing flexible power cable of 3 core x 1.5 sqmm copper between Indoor units and their power points	Mtr	1435.8	Polycab
24	NS 38	Providing and fixing flexible power cable of 3 core x 2.5 sqmm copper between Indoor units and their power points	Mtr	243.2	Polycab
25	NS 40	Perforated GI cable trays including bends.			
	a	100 mm x 50 mm x 1.6 mm	Mtr	151.20	CTM
	b	150 mm x 50 mm x 1.6 mm	Mtr	333.40	CTM
	c	300 mm x 50 mm x 1.6 mm	Mtr	1147.9	CTM
	d	450 mm x 50 mm x 2.0 mm	Mtr	108.2	CTM
	e	600 mm x 50 mm x 2.0 mm	Mtr	115.9	CTM

		Ceiling Mounted Corner Cassette Units			
26	a	Ceiling Mounted Corner Cassette Type : 2.02 TR	Nos	92	Daikin
27	b	Ceiling Mounted Corner Cassette Type : 1.6 TR	Nos	108	Daikin
28	c	Ceiling Mounted Corner Cassette Type : 1.3 TR	Nos	56	Daikin
29	d	Ceiling Mounted Corner Cassette Type : 1.1 TR	Nos	36	Daikin
30	e	Ceiling Mounted Corner Cassette Type : 0.8 TR	Nos	41	Daikin
31	f	Ceiling Mounted Corner Cassette Type : 0.63 TR	Nos	152	Daikin
32		SITC of HRV Units			
33	28a	2000 CFM Supply and 1800 Exhaust - 35mmwg SP	Nos	1	Zico
34	28b	1500 CFM Supply and 1400 Exhaust - 35mmwg SP	Nos	2	Zico
35	28c	1200 CFM Supply and 1100 Exhaust - 35mmwg SP	Nos	2	Zico
36	28d	1000 CFM Supply and 900 Exhaust - 35mmwg SP	Nos	1	Zico
37	28f	850 CFM Supply and 750 Exhaust - 35mmwg SP	Nos	2	Zico
38	28g	800 CFM Supply and 700 Exhaust - 35mmwg SP	Nos	2	Zico
39	28h	700 CFM Supply and 600 Exhaust - 35mmwg SP	Nos	1	Zico
40	28i	750 CFM Supply and 650 Exhaust - 35mmwg SP	Nos	1	Zico
41	28j	650 CFM Supply and 550 Exhaust - 35mmwg SP	Nos	3	Zico
42	28k	600 CFM Supply and 500 Exhaust - 35mmwg SP	Nos	2	Zico
43	28l	550 CFM Supply and 470 Exhaust - 35mmwg SP	Nos	1	Zico
44	28m	550 CFM Supply and 450 Exhaust - 35mmwg SP	Nos	2	Zico
45	28n	470 CFM Supply and 400 Exhaust - 35mmwg SP	Nos	4	Zico
46	28o	450 CFM Supply and 400 Exhaust - 35mmwg SP	Nos	2	Zico
47	28p	350 CFM Supply and 300 Exhaust - 35mmwg SP	Nos	1	Zico
48	28q	300 CFM Supply and 250 Exhaust - 35mmwg SP	Nos	1	Zico
49	28r	250 CFM Supply and 200 Exhaust - 35mmwg SP	Nos	2	Zico

**e) Cabin wise details of Block-1/2/3**

<b>Type of flooring, skirting, partition and False Ceiling in Block -1 &amp; Block -2</b>					
S.no.	Description	Flooring	Skirting	Wall/Columns finishes	False Ceiling
1	Entrance Lobby/Waitin	Italian Marble	Aluminium material	Calcium Silicate/WPCand Veneer	Aluminium Baffel & Glass Fibre

	g/Reception				Soundscape, Calcium Silicate board
2	Control Room/BMS Room	Vitrified floor Tiles	Aluminium material	Calcium Silicate/WPCand Veneer	Rockwool Tiles and Calcium Silicate board
3	Library	Vinyl Flooring	Aluminium material	Calcium Silicate/WPCand Veneer	Rockwool Tiles and Calcium Silicate board
9	Record Room/Storage Room	Vitrified floor Tiles	Aluminium material	Calcium Silicate/WPCand Veneer	GI Metal Ceiling/ Calcium Silicate and Rockwool Tiles
6	Conference Room/ Media Briefing Room	Vinyle Flooring and Carpet	Aluminium material	Calcium Silicate/WPCand Veneer Fabric cloth	Rockwool Tiles and Calcium Silicate board
4	Office Cabin 11 Sqm	Laminate flooring	Aluminium material	Calcium Silicate/WPCand Veneer	Rockwool Tiles and Calcium Silicate board
7	Office Cabin 22 Sqm	Engineering Wooden Flooring	Aluminium material	Calcium Silicate/WPCand Veneer	Rockwool Tiles and Calcium Silicate board
12	Office Cabin 33 Sqm	Engineering Wooden Flooring	Aluminium material	Calcium Silicate/WPCand Veneer	Rockwool Tiles and Calcium Silicate board
12	Office Cabin 50 Sqm	Engineering Wooden Flooring	Aluminium material	Calcium Silicate/WPCand Veneer	Rockwool Tiles and Calcium Silicate board
14	Lift Lobby	Italian Marble	Aluminium material	Calcium Silicate/WPCand Veneer/ Italian Marble/Fire Glass	Calcium Silicate board
15	Pantry	Italian Marble	Aluminium material	Italian Marble	Calcium Silicate board
16	LV room	Raised Flooring	NA	Emulsion Paint	GI Metal Ceiling
17	Electrical Room	Raised Flooring	NA	Emulsion Paint	GI Metal Ceiling
18	Water Cooler Area	Italian Marble	Aluminium material	Calcium Silicate/WPCand Veneer and Lacquared Glass	WPC board+ Veneer
19	Handicapped Toilet	Italian Marble	Aluminium material	Italian Marble	GI Metal Ceiling
20	Female Toilet	Italian Marble	Aluminium material	Italian Marble	GI Metal Ceiling
21	Male Toilet	Italian Marble	Aluminium material	Italian Marble	GI Metal Ceiling
22	Passage Area	Italian Marble	Aluminium material	Calcium Silicate/WPCand Veneer	Calcium Silicate board
22	Workstation Area	Vitrified Tiles	Aluminium material	Calcium Silicate/WPCand Veneer	Aluminium Baffel , Calcium Silicate board and Soundscape

**Details of facility/ cabins in Block -2**

S.N	nomenclature of Cabin/Area	Name of Floor and Numbers in each floor						Total
		Ground Floor	1st Floor	2nd Floor	3rd Floor	4th Floor	5th Floor	
1	11 SQM Cabin	4	4	12	10	0	22	52
2	22 SQM Cabin	3	12	6	0	12	3	36
3	33 SQM Cabin	1	2	4	0	0	1	8
4	50 SQM Cabin/Secretary Cabin					1		1
5	Conference Room	2	1	1	1	0	1	6
6	Pantry	1	1	1	1	1	1	6
7	LV Room	1	1	1	1	1	1	6
8	Electrical Room	1	1	1	1	1	1	6
9	Male Toilet	1	1	1	1	1	1	6
10	Female Toilet	1	1	1	1	1	1	6
11	Handicapped Toilet	1	1	1	1	1	1	6
12	Toilet attached with Cabin					1		1
13	Open Workstation Area	1	2	2	2	2	2	11
14	BMS room	1						1

**Details of facility/ cabins in Block -1**

S.N	nomenclature of Cabin/Area	Name of Floor and Numbers in each floor						Total
		Ground Floor	1st Floor	2nd Floor	3rd Floor	4th Floor	5th Floor	
1	11 SQM Cabin	3	40	40	39	1	17	140
2	22 SQM Cabin		10	10	2	11	16	49
3	33 SQM Cabin/JS Cabin					4	4	8
4	50 SQM Cabin/Secretary/Minister Cabin					2		2
5	Conference Room	1	1	1	1	2	1	7
6	Pantry	1	1	1	1	1	1	6
7	LV Room	1	2	2	2	2	2	11
8	Electrical Room	2	1	1	1	1	1	7
9	Male Toilet	2	2	2	2	2	2	12
10	Female Toilet	2	2	2	2	2	2	12

11	Handicapped Toilet	1	1	1	1	1	1	6
12	Toilet attached with Cabin	2				6		8
13	Open Workstation Area	2	4	4	4	2	4	20
14	BMS room	1						1
15	Library	1						1
16	NIC & NSDI Server room	2						2
17	Media briefing Room	1						1
18	MTNL Exchange	1						1

## f) Typical Furniture/Equipment/Inventory details of one cabins/area in Block-1/2/

Types of Cabins	Inventory of Cabins	Nos	Remark
Maintenance Room/BMS Room	Works Station	2	
	Chairs	2	
Entrance Lobby/waiting	Reception table	1	
	Chairs	2	
	Sofa -Three Seater	8	
	Coffee Table	6	
	Corner Table	6	
	LED	34 set	
	Sprinkler	37	
	AC vent	6	
	Fire Alarm	8	
	PA Speaker	6	
Male Toilet	WC	2	
	Wash basin	2	
	Soap Dispenser	2	
	Towel Rod	1	
	Tissue Paper Holder	2	
	Health Faucet	2	
	Hands Drier	1	
	LED Light	2	

	Swith-5A	2	
	Swith-socket	1	
	Smoke Deductor	2	
	PA Speaker	1	
Handicaped Toilet	WC	1	
	Wash basin	1	
	Soap Dispenser	1	
	Towel Rod	1	
	Tissue Paper Holder	1	
	Health Faucet	1	
	Hands Drier	1	
	Grab bar	1	
	LED Light	1	
	Swith-5A	1	
	Smoke Deductor	2	
Female Toilet	WC	3	
	Wash basin	3	
	Soap Dispenser	3	
	Towel Rod	2	
	Tissue Paper Holder	3	
	Health Faucet	3	
	Hands Drier	1	
	LED Light	2	
	Swith-5A	2	
	Swith-socket	1	
	Smoke Deductor	1	
	PA Speaker	1	
Male Toilet	WC	2	
	Wash basin	2	
	Soap Dispenser	2	
	Towel Rod	1	
	Tissue Paper Holder	2	
	Health Faucet	2	
	Hands Drier	1	
	LED Light	2	
	Swith-5A	2	
	Swith-socket	1	
	Smoke Deductor	1	
	PA Speaker	1	

Handicaped Toilet	WC	1	
	Wash basin	1	
	Soap Dispenser	1	
	Towel Rod	1	
	Tissue Paper Holder	1	
	Health Faucet	1	
	Hands Drier	1	
	Grab bar	1	
	LED Light	1	
	Swith-5A	1	
	Smoke Deductor	2	
Female Toilet	WC	3	
	Wash basin	3	
	Soap Dispenser	3	
	Towel Rod	2	
	Tissue Paper Holder	3	
	Health Faucet	3	
	Hands Drier	1	
	LED Light	2	
	Swith-5A	2	
	Swith-socket	1	
	Smoke Deductor	1	
	PA Speaker	1	
Electrical Room		NIL	
Library	Reception table	1	
	SLG	25	
	Sofa -Two Seater	6	
	Sofa -Three Seater	9	
	Coffee Table	4	
	Corner Table	17	
	work station	30	
	w/s chairs	30	
	Sprinkler	27	
	PA Speaker	8	
	Fire Alarm	9	
	LED	10 set	
Records Room			
Records Room			



E-Waste Storage Room			
VIP Entrance	Reception table	1	
	Chairs	0	
	Sprinkler	6	
	PA Speaker	1	
	Fire Alarm	1	
	LED	2-set	
	AC	1	
Care Taker Room	Sofa -Three Seater		
Drivers Room	Table	1	
	Chairs	6	
Multipurposes Hall	LED	4 set	
	Sprinkler	4	
	PA Speaker	4	
	Fire Alarm	4	
	6A Switch Socket	6	
	Poer Socket	2	
	AC	3	
N.S.D.I Staff	Work station	7	
	Chairs	10	
	Sofa -Three Seater	2	
	Sofa -one Seater	1	
	Cassatte AC	1	
	LED	1	
	Sprinkler	2	
	PA speaker	1	
	Fire Alarm	1	
N.S.D.I Sever Room	Split AC	1	
	Power Point	2	
	LED	2	
	Sprinkler	4	
	PA speaker	1	
	Fire Alarm	1	

NIC officer	Main Table	1	
	Side Table	1	
	Back Unit	2	
	Main Chair	1	
	Vistor chairs	3	
	Sliding Cabinet	1	
	Sofa -two Seater	1	
	Coffee Table	1	
	Corner Table	2	
	Split AC	1	
	Power Point	2	
	LED	1	
	Sprinkler	3	
	PA speaker	1	
	Fire Alarm	1	
N.I.C staff	Work station	8	
	Chairs	9	
	Cassatte AC	1	
	LED	2	
	Sprinkler	3	
NIC Server Room			
	Split AC	1	
	Power Point	8	
	LED	2	
	Sprinkler	4	
Conference Room	Table	1-set	
	Chair	43	
	LED	12	
	Sprinkler	12	
	Fire Alarm	6	
	Cassatte AC	8	
Media Briefing Room	Auditorium Chair	52	
	LED	3 set	
	Sprinkler	11	
	Fire Alarm	2	
	Cassatte AC	3	
	TV Socket	2	

	Power Socket	4	
	PA speaker	2	
<b>Office Cabin (11 Sqm)</b>	Main Table	1	
	Side Table	1	
	Back Unit	2	
	Main Chair	1	
	Vistor chairs	3	
	Sliding Cabinet	Nil	
	Linear Lights	1 Set	
	PA Speaker	1	
	Fire Alarm	1	
	Sprinkler	2	
	Data Point	3	
	Voice Point	1	
	Light Switch	1	
	Raw power	1	
	UPS Supply	1	
	AC remote	1	
	Speaker Volume regulator	1	
	Vertical Blinds	-	
<b>Office Cabin (22 Sqm)</b>	Main Table	1	
	Side Table	1	
	Back Unit	2	
	Main Chair	1	
	Visitor chairs	3	
	Sliding Cabinet	1	
	Lateral Cabinets	2	
	Sofa -Two Seater	1	
	Sofa -Three Seater	1	
	Coffee Table	1	
	Corner Table	3	
	Linear Lights	2 Set	
	PA Speaker	1	
	Fire Alarm	1	
	Sprinkler	2	
	Data Point	3	
	Voice Point	1	
	Light Switch	2	
	Raw power	1	
	UPS Supply	1	
	AC remote	1	

	Speaker Volume regulator	1	
	Vertical Blinds	2 Set	
Office Cabin (33 Sqm)	Main Table	1	
	Side Table	1	
	Main Chair	1	
	Visitor chairs	4	
	Sliding Cabinet (SLG)	1	
	Lateral Cabinets	2	
	Sofa -Two Seater	1	
	Sofa -Three Seater	1	
	Coffee Table	1	
	Corner Table	3	
	Linear Lights	1 Set	
	PA Speaker	1	
	Fire Alarm	1	
	Vertical Blinds	2 Set	
	Data Point	3	
	Voice Point	1	
	Light Point	1	
	Power Point	1	
	Raw power socket	2	
	UPS Supply	1	
	TV Switch/Socket	2	
	AC Remote	1	
	Automation Switch	2	
Secretary Room/Minister Room	Main Table	1	
	Side Table	1	
	Back Unit	1	
	Main Chair	1	
	Vistor chairs	4	
	Linear Lights	3 Set	
	PA Speaker	3	
	Fire Alarm	1	
	Sprinkler	4	
	Data Point	3	
	Voice Point	1	
	Light Point	1	
	Power Point	1	
	UPS Supply	1	
	TV point	2	
	AC remote	2	
	Vertical Blinds	3 Set	

	Volume regulator	1	
	2 Seater Sofas	3	
	Coffee Table	1	
	Corner table	3	
Secretary Meeting Room	Main table	1	
	Chairs	11	
	Data Point	11	
	Voice Point	11	
	Light Point	12	
	Power Point	7	
	UPS Supply	1	
	TV point	2	
	AC remote	4	
	Vertical Blinds	3 Set	
	Volume regulator	1	
Secretary Ante Room	3 Seater Sofas	2	
	Coffee Table	2	
	Corner table	2	
	Light Point	1	
	Vertical Blinds	1 Set	
	Automation switch (Blinds)	3	
J.S F.A Cabin	Main Table	1	
	Side Table	1	
	Back Unit	1	
	Main Chair	1	
	Vistor chairs	3	
	Linear Lights	1 Set	
	PA Speaker	2	
	Fire Alarm	2	
	Sprinkler	6	
	Data Point	4	
	Voice Point	1	
	Light Point	2	
	Power Point	2	
	UPS Supply	3	
	TV point	2	
	AC remote	3	
	Vertical Blinds	4 Set	
	Volume regulator	1	
	1 Seater Sofas	1	
	3 Seater Sofas	1	

	Coffee Table	1 nos.	
	Corner table	3 nos.	
	Meeting Table	1	
	Chairs	4	
Ante Room ( b )	2 Seater Sofas	3	
	Coffee Table	1 nos.	
	Corner table	2 nos.	
	Light point	1	
Toilet	WC	1	
	Wash basin	1	
	Soap Dispenser	1	
	Towel Rod	1	
	Tissue Paper Holder	1	
	Health Faucet	1	
	Hands Drier	1	
	LED Light	1	
J.S.F.A Waiting Area ( C )	2 Seater Sofas	2	
	Corner table	2	
	Coffee table	1	
	Light Point	1	
	AC remote	2	
<b>Works stations (40- nos)</b>	Workstation	790	Total Quantity for Block -1 & Block -2
	Pedestal	790	Total Quantity for Block -1 & Block -3
	Chairs	790	Total Quantity for Block -1 & Block -4

g) LV inventory

S.No	LAN & VOICE NETWORK DESCRIPTON	Unit	BOQ Qty	Model Number	Ground Floor		First Floor		Second Floor	
					LAN	Voice	LAN	Voice	LAN	Voice

1	Supplying & Fixing of Non- PCB based Information Outlet (I/O) RJ45, Tolless Termination TIA- 568C Category-6, Termination of Categyory-6 UTP Cable, UL listed ,Shall conform to Category-6 as per the EIA/TIA-568C.2,Shall support network line speeds up to 1 Gbps, Shall have RJ-45 type connector with bend limiting and strain relief boot for securing IDC contacts from external forces and for maintaining the bend radius of the cable, Shall have minimum durability of 950 or Above mating cycles and 200 termination cycles. Certified by independent labs like ETL/GHMT/3P for compliance to EIA/TIA-568C.2 complete in all respect.	Nos	2034.00	IG610-X	108	24	367	97	367	97
2	Supplying & Fixing of Single Faceplate Shall be Dual Port (RJ45) square plate, dimension as per commercially available modular office furniture.Shall have spring shuttered front access for preventing ingress of dust,Shall be supplied with Gang Box of the same size by System Integrator complete in all respect.	Nos	1020.00	HL186-P2W	54	24	184	97	184	97
3	Supplying & Fixing of UTP Jack Panel, loaded with 24 nos UTP ports for Non-PCB based IO Jacks (RJ45, TIA-568C Category-6, Shall have integrated bonding bar or other mechanism for grounding, Shall be loaded with individually replaceable 24 nos. Category-6 certification by Jacks complying with TIA-568.C.2 , Shall be having a 6 port module construction for better cable dressing at the rear, the jacks shall have RJ-45 type connector with bend limiting and strain relief boot for securing IDC contacts from external forces and for maintaining the bend radius of the cable complete in all respect.	Nos	88.00	JP-24	5	0	26	0	23	0

5	Supplying & Fixing of Category 6, UTP patch cords shall be constructed of 24-27 AWG unshielded twisted pair stranded copper cable with an enhanced performance modular plug at each end. Patch cord cable shall be offered in multiple colored UTP cable for design flexibility with a clear strain relief boot on each modular plug. All patch cords shall be compatible with both T568A and T568B wiring schemes. UTP Cable will be 1.0 mtr. complete in all respect. Jacket - LSZH	Nos	2028.00	UTPPC-63	108	24	367	97	367	97
6	Supplying & Fixing of Category 6 UTP patch cords shall be constructed of 24-27 AWG unshielded twisted pair stranded copper cable with an enhanced performance modular plug at each end. Patch cord cable shall be offered in multiple colored UTP cable for design flexibility with a clear strain relief boot on each modular plug. All patch cords shall be compatible with both T568A and T568B wiring schemes. Blue UTP Cable, 2 Meter complete in all respect. Jacket -LSZH	Nos	1047.00	UTPPC-67	108	24	367	97	367	97
8	Supplying & Fixing of Fiber Optic LC style fully loaded Patch Panel (FOPP), 19" Rack Mount ,Shall have all accessories including coupler plates pre loaded with 24 Nos of LC couplers (OM3) with all accessories complete in all respect. Pigtails Should Comply to ITU-G657.B-Bend insensitive fiber.	Nos	5.00	APZC-24F	1		1		1	
9	Supplying & Fixing of Fiber Optic Patch Cable (LC-LC), 3 Mtrs. Long, ISO/IEC-11801-OM3 50µ Duplex, LSZH,All patch cords shall conform to EIA/TIA-568C.3 and ISO/IEC-11801,Shall be Duplex Multi Mode Fiber Optic Patch Cords OM3 50µ,Shall support network line speeds up to 10 Gbps.Shall have LC-LC Connector connectors at the ends complete in all respect.	Nos	38.00	PCLC-03	150					



10	Supply & Fixing of OM3 50/125µ Type Pigtails of ISO/IEC-11801-OM3 Pigtails with LC Type Connectors,pigtails for terminating fibers on the FOPP complete in all respect.	Nos	228.00	TPL-12F	300				
14	Supplying, Installation, Testing & Commissioning of of 50 Port telephone Jack Panel Approved.	Each	20.00	Delton		2		3	4
15	Supplying, Installation, Testing & Commissioning of 48 port 10/100/1000BASE-T ports and four GbE/10GbE SFP/SFP+ uplink ports layer 3 from day1 having static & RIP , stackable upto 10 switches, should support external redundant power supply, each switch should be provided with stacking port/cable.	Nos	20.00	EX3400-48T	2		5		8
16	Supplying Installation testing and Commissioning of 24 port 10/100/1000BASE-T ports and four GbE/10GbE SFP/SFP+ uplink ports, layer 3 from day1 having static & RIP ,stackable upto 10 switches, should support external redundant power supply, certified , each switch should be provided with stacking port/cable complete in all respect	Nos	5.00	EX3400-24T	1		6		
16.1	POE Switch for CCTV 24 port	Nos		SG350-28P	1		1		1
18	Supplying Installation testing and Commissioning of SFP+ 10 Gigabit Ethernet Direct Attach Copper (twinax copper cable) 1m in length complete in all respect.	Nos	30.00	EX-SFP-10GE-DAC-1M	1		1		1
19	Supplying Installation testing and Commissioning of Small Form Factor Pluggable 1 Gigabit Ethernet (SFP+) SR Optics	Nos	38.00	EX-SFP-1GE-SX	32		2		2
20	Supplying Installation testing and Commissioning of 32 Port Fiber Switch 10/100/1000BASE-T ports, with up to 4X 10GbE uplinks and 2X 40GbE uplinks, Switch should support stacking bandwidth of minimum 160gbps, Modular operating system, 32 1 Gig SFP port with additional 4 no. of 10g SFP+PORT, redundant power supply, layer3	Nos	2.00	EX4300-32F	1				

	switch, each switch should be provided with stacking port/cable complete in all respect.									
21	Supplying Installation testing and Commissioning of SFP 1000Base-T 10/100/1000 Copper Transceiver Module for up to 100m transmission on Cat6 complete in all respect.	Nos	4.00	EX-SFP-1GE-T	2					
22	Supplying & Fixing of Floor Standing Network/Server Rack - 42U / 800w / 800d, with Heavy Duty Extruded Aluminium Frame for rigidity. Top cover with FHU provision. Top & Bottom cover with cable entry gland plates. Two pairs of 19" mounting angles with 'U' marking. Depth support channels - 3 pairs. With a Overall Weight Carrying Capacity of 500Kgs. Side Panels - 42U/800d Front MS Door Perforated honeycomb 42U/800w Rear MS Door Split Perforated honeycomb 42U/800w Fan 90CFM 230V AC, 4" dia Castors with Brake (set of 4) Vertical Cable manager 80mmW 42U Shelf, Stationery 700mm N/W PDU 12Sockets 5/15Amps with MCB Mounting Hardware (Pkt. Of 20) earthing Kit 150mmH Cable manager 1U MS with Loops complete in all respect.	Nos	2.00	HR-S	2	2	2	0	2	0
23	Supplying & Fixing of Floor Standing Network Rack - 22U / 600w / 800d, with Heavy Duty Extruded Aluminium Frame for rigidity. Top cover with FHU provision. Top & Bottom cover with cable entry gland plates. Two pairs of 19" mounting angles with 'U' marking. Depth support channels - 3 pairs. With a Overall Weight Carrying Capacity of 500Kgs. Side Panels - 22U/800d Front MS Door perforated honeycomb 22U/600w Rear MS Door (Fully Perforated - Mesh) 22U/600w Fan 90CFM 230V AC, 4" dia Castors with Brake (set of 4) Cable manager 1U MS with	Nos	15.00	HR-S	1	0	0	0	0	0

	Loops Shelf, Stationery 475mm N/W PDU 7Sockets 5Amps with MCB Mounting Hardware (Pkt. Of 20) Vertical Cable Channel 50mmW 22U complete in all respect.									
24	Supplying & Fixing of WALL MOUNT Network Rack - 12U / 600w / 600d, with Heavy Duty Extruded Aluminium Frame for rigidity. Top cover with FHU provision. Top & Bottom cover with cable entry gland plates. Two pairs of 19" mounting angles with 'U' marking. Depth support channels - 3 pairs. complete in all respect.	Nos	4.00	HR-S	1	0	1	0	1	0
	TOTAL - LAN & NETWORK									

LAN & VOICE NETWORK  DESCRIPTON	Unit	BOQ Qty	Model Number	Third Floor		Fourth Floor		Fifth Floor	
				LAN	Voice	LAN	Voice	LAN	Voice
Supplying & Fixing of Non-PCB based Information Outlet (I/O) RJ45, Tolless Termination TIA- 568C Category-6, Termination of Categy-6 UTP Cable, UL listed ,Shall conform to Category-6 as per the EIA/TIA-568C.2,Shall support network line speeds up to 1 Gbps, Shall have RJ-45 type connector with bend limiting and strain relief boot for securing IDC contacts from external forces and for maintaining the bend radius of the cable, Shall have minimum duraility of 950 or Above mating cycles and 200 termination cycles. Certified by independent labs like ETL/GHMT/3P for compliance to EIA/TIA-568C.2 complete in all respect.	Nos	2034.00	IG610-X	498	152	231	60	335	88
Supplying & Fixing of Single Faceplate Shall be Dual Port (RJ45) square plate, dimension as per commercially available modular office furniture.Shall have spring shuttered front access for preventing ingress of dust,Shall be supplied with Gang Box of the same size by System Integrator complete in all respect.	Nos	1020.00	HL186-P2W	250	152	116	60	170	88

Supplying & Fixing of UTP Jack Panel, loaded with 24 nos UTP ports for Non-PCB based IO Jacks (RJ45, TIA-568C Category-6, Shall have integrated bonding bar or other mechanism for grounding, Shall be loaded with individually replaceable 24 nos. Category-6 certification by Jacks complying with TIA-568.C.2 , Shall be having a 6 port module construction for better cable dressing at the rear, the jacks shall have RJ-45 type connector with bend limiting and strain relief boot for securing IDC contacts from external forces and for maintaining the bend radius of the cable complete in all respect.	Nos	88.00	JP-24	28	0	13	0	19	0
Supplying & Fixing of Category 6, UTP patch cords shall be constructed of 24-27 AWG unshielded twisted pair stranded copper cable with an enhanced performance modular plug at each end. Patch cord cable shall be offered in multiple colored UTP cable for design flexibility with a clear strain relief boot on each modular plug. All patch cords shall be compatible with both T568A and T568B wiring schemes. UTP Cable will be 1.0 mtr. complete in all respect. Jacket - LSZH	Nos	2028.00	UTPPC-63	498	152	231	60	335	88
Supplying & Fixing of Category 6 UTP patch cords shall be constructed of 24-27 AWG unshielded twisted pair stranded copper cable with an enhanced performance modular plug at each end. Patch cord cable shall be offered in multiple colored UTP cable for design flexibility with a clear strain relief boot on each modular plug. All patch cords shall be compatible with both T568A and T568B wiring schemes. Blue UTP Cable, 2 Meter complete in all respect. Jacket -LSZH	Nos	1047.00	UTPPC-67	498	152	231	60	335	88
Supplying & Fixing of Fiber Optic LC style fully loaded Patch Panel (FOPP), 19" Rack Mount, shall have all accessories including coupler plates pre loaded with 24 Nos of LC couplers (OM3) with all accessories complete in all respect. Pigtailed Should Comply to ITU-G657.B-Bend insensitive fiber.	Nos	5.00	APZC-24F	1		1		1	

Supplying & Fixing of Fiber Optic Patch Cable (LC-LC), 3 Mtrs. Long, ISO/IEC-11801-OM3 50µ Duplex, LSZH, All patch cords shall conform to EIA/TIA-568C.3 and ISO/IEC-11801, Shall be Duplex Multi Mode Fiber Optic Patch Cords OM3 50µ, Shall support network line speeds up to 10 Gbps. Shall have LC-LC Connector connectors at the ends complete in all respect.	Nos	38.00	PCLC-03						
Supply & Fixing of OM3 50/125µ Type Pigtailed of ISO/IEC-11801-OM3 Pigtailed with LC Type Connectors, pigtailed for terminating fibers on the FOPP complete in all respect.	Nos	228.00	TPL-12F						
Supplying, Installation, Testing & Commissioning of 50 Port telephone Jack Panel Approved.	Each	20.00	Delton		4		3		4
Supplying, Installation, Testing & Commissioning of 48 port 10/100/1000BASE-T ports and four GbE/10GbE SFP/SFP+ uplink ports layer 3 from day1 having static & RIP , stackable upto 10 switches, should support external redundant power supply, each switch should be provided with stacking port/cable.	Nos	20.00	EX3400-48T	10		5		4	
Supplying Installation testing and Commissioning of 24 port 10/100/1000BASE-T ports and four GbE/10GbE SFP/SFP+ uplink ports, layer 3 from day1 having static & RIP , stackable upto 10 switches, should support external redundant power supply, certified , each switch should be provided with stacking port/cable complete in all respect	Nos	5.00	EX3400-24T	1		1			
POE Switch for CCTV 24 port	Nos		SG350-28P	1		1		1	
Supplying Installation testing and Commissioning of SFP+ 10 Gigabit Ethernet Direct Attach Copper (twinax copper cable) 1m in length complete in all respect.	Nos	30.00	EX-SFP-10GE-DAC-1M	1		1		1	
Supplying Installation testing and Commissioning of Small Form Factor Pluggable 1 Gigabit Ethernet (SFP+) SR Optics	Nos	38.00	EX-SFP-1GE-SX	2		2		2	

<p>Supplying Installation testing and Commissioning of 32 Port Fiber Switch 10/100/1000BASE-T ports, with up to 4X 10GbE uplinks and 2X 40GbE uplinks, Switch should support stacking bandwidth of minimum 160gbps, Modular operating system, 32 1 Gig SFP port with additional 4 no. of 10g SFP+PORT, redundant power supply, layer3 switch, each switch should be provided with stacking port/cable complete in all respect.</p>	Nos	2.00	EX4300-32F						
<p>Supplying Installation testing and Commissioning of SFP 1000Base-T 10/100/1000 Copper Transceiver Module for up to 100m transmission on Cat6 complete in all respect.</p>	Nos	4.00	EX-SFP-1GE-T						
<p>Supplying &amp; Fixing of Floor Standing Network/Server Rack - 42U / 800w / 800d, with Heavy Duty Extruded Aluminium Frame for rigidity. Top cover with FHU provision. Top &amp; Bottom cover with cable entry gland plates. Two pairs of 19” mounting angles with ‘U’ marking. Depth support channels - 3 pairs. With a Overall Weight Carrying Capacity of 500Kgs. Side Panels - 42U/800d Front MS Door Perforated honeycomb 42U/800w Rear MS Door Split Perforated honeycomb 42U/800w Fan 90CFM 230V AC, 4” dia Castors with Brake (set of 4) Vertical Cable manager 80mmW 42U Shelf, Stationery 700mm N/W PDU 12Sockets 5/15Amps with MCB Mounting Hardware (Pkt. Of 20) earthing Kit 150mmH Cable manager 1U MS with Loops complete in all respect.</p>	Nos	2.00	HR-S	2	0	2	0	2	0
<p>Supplying &amp; Fixing of Floor Standing Network Rack - 22U / 600w / 800d, with Heavy Duty Extruded Aluminium Frame for rigidity. Top cover with FHU provision. Top &amp; Bottom cover with cable entry gland plates. Two pairs of 19” mounting angles with ‘U’ marking. Depth support channels - 3 pairs. With a Overall Weight Carrying Capacity of 500Kgs. Side Panels - 22U/800d Front MS Door perforated honeycomb 22U/600w Rear MS Door (Fully Perforated - Mesh) 22U/600w Fan 90CFM 230V AC, 4” dia Castors with Brake (set of 4) Cable manager 1U MS with Loops</p>	Nos	15.00	HR-S	0	0	0	0	0	0

Shelf, Stationery 475mm N/W PDU 7Sockets 5Amps with MCB Mounting Hardware (Pkt. Of 20) Vertical Cable Channel 50mmW 22U complete in all respect.									
Supplying & Fixing of WALL MOUNT Network Rack - 12U / 600w / 600d, with Heavy Duty Extruded Aluminium Frame for rigidity. Top cover with FHU provision. Top & Bottom cover with cable entry gland plates. Two pairs of 19" mounting angles with 'U' marking. Depth support channels - 3 pairs. complete in all respect.	Nos	4.00	HR-S	1	0	1	0	1	0
TOTAL - LAN & NETWORK									

S.No	LAN & VOICE NETWORK	Unit	BOQ QTY	Model Number	Ground Floor	First Floor	Second Floor	
	DESCRIPTON				As per Drawing	As per Drawing	As per Drawing	
1	Supply Installation, Testing and Commissioning of Server Based EPABX Fully Computerized IP System, SIP Compliant. 2U Rack Mountable,Expandable upto 2000Ports.and configured as for below Ports	Nos	0	SV9100	1			
	P & T(CO Trunk) Line 32 No							
	PRI(30 Channel) 2 No							
	IPExtension Circuit 75 No							
	Digital Extension Circuit 64 No							
	Analog Extension Circuit 1200 No							
	SIP Trunking 164 No							

2	Supply Installation, Testing and Commissioning of Server Based EPABX Fully Computerized IP System, SIP Compliant. 2U Rack Mountable,Expandable upto 1000Ports.and configured as for below Ports	Nos	1	SV9100	0		
	P & T(CO Trunk) Line 32 No						
	PRI(30 Channel) 2 No						
	IPExtension Circuit 45 no						
	Digital Extension Circuit 32 No						
	Analog Extension Circuit 800 No						
	SIP Trunking 64 No						
3	Supply Installation and Commissioning of PC Based centralized Operator Console with all dignostic Softwareof IP EPABX System (Supplying with PC).	Nos	1		1		
4	Supply Installation, Testing and Commissioning of Integrated Viocemail System 4 Level IVR software with 6 different languages and 4 time schedule(As per OEM).	Nos	1		1		
5	Supply Installation and Commissioning of License for web integration for aspire net license integrated with hub exchange	Nos	1		1		
6	Supply Installation Testing and Commissioning of Digital Phone (24Key+ 60-line DSS Console) Backlit keypad Hands-free, full duplex ,Headset support Easy to use soft keys/LCD prompts,Directory dialling,Navigation wheel,Call history,Backlit LCD screen,Bluetooth support (BCAZ),Security lock key XML open interface .	Nos	1	DT800-DT400 Sereis	1		



7	Supply Installation Testing and Commissioning of 24Key Digital Phone Backlit keypad Hands-free, full duplex ,Headset support Easy to use soft keys/LCD prompts,Directory dialling,Navigation wheel,Call history,Backlit LCD screen,Bluetooth support (BCAZ),Security lock key XML open interface .	Nos	5	DT800-DT400 Sereis	1	1	1
8	Supply Installation Testing and Commissioning of Digital Phone (12Key)Backlit keypad Hands-free, full duplex Headset support Easy to use soft keys/LCD prompts Directory dialling Navigation wheel Call history , Backlit LCD screen,Bluetooth support (BCAZ),Security lock key XML open interface.	Nos	5	DT800-DT400 Sereis	0	0	0
9	Supply Installation Testing and Commissioning of Digital Phone (6Key)Backlit keypad Hands-free, full duplex Headset support Easy to use soft keys/LCD prompts Directory dialling Navigation wheel Call history , Backlit LCD screen,Bluetooth support (BCAZ),Security lock key XML open interface.	Nos	36	DT800-DT400 Sereis	0	8	8
10	Supply Installation Testing and Commissioning of IP Phone (12Key)Backlit keypad Hands-free, full duplex Headset support Easy to use soft keys/LCD prompts Directory dialling Navigation wheel Call history , Backlit LCD screen,Bluetooth support (BCAZ),Security lock key XML open interface.	Nos		DT800-DT400 Sereis	0	0	0
11	Supply Installation, Testing and Commissioning of Analog Speaker Phone with backlight.	Nos	223	Beetel M56	22	88	87

	<b>LAN &amp; VOICE NETWORK</b>				<b>Third Floor</b>	<b>Fourth Floor</b>	<b>Fifth Floor</b>
<b>S.No</b>	<b>DESCRIPTON</b>	<b>Unit</b>	<b>BOQ QTY</b>	<b>Model Number</b>	<b>As per Drawing</b>	<b>As per Drawing</b>	<b>As per Drawing</b>

1	Supply Installation, Testing and Commissioning of Server Based EPABX Fully Computerized IP System, SIP Compliant. 2U Rack Mountable,Expandable upto 2000Ports.and configured as for below Ports	Nos	0	SV9100			
	P & T(CO Trunk) Line 32 No						
	PRI(30 Channel) 2 No						
	IPExtension Circuit 75 No						
	Digital Extension Circuit 64 No						
	Analog Extension Circuit 1200 No						
	SIP Trunking 164 No						
2	Supply Installation, Testing and Commissioning of Server Based EPABX Fully Computerized IP System, SIP Compliant. 2U Rack Mountable,Expandable upto 1000Ports.and configured as for below Ports	Nos	1	SV9100			
	P & T(CO Trunk) Line 32 No						
	PRI(30 Channel) 2 No						
	IPExtension Circuit 45 no						
	Digital Extension Circuit 32 No						
	Analog Extension Circuit 800 No						
	SIP Trunking 64 No						
3	Supply Installation and Commissioning of PC Based centralized Operator Console with all dignostic Softwareof IP EPABX System (Supplying with PC).	Nos	1				
4	Supply Installation, Testing and Commissioning of Integrated Viocemail System 4 Level IVR software with 6 different languages and 4 time schedule(As per OEM).	Nos	1				

5	Supply Installation and Commissioning of License for web integration for aspire net license integrated with hub exchange	Nos	1				
6	Supply Installation Testing and Commissioning of Digital Phone (24Key+ 60-line DSS Console) Backlit keypad Hands-free, full duplex ,Headset support Easy to use soft keys/LCD prompts,Directory dialling,Navigation wheel,Call history,Backlit LCD screen,Bluetooth support (BCAZ),Security lock key XML open interface .	Nos	1	DT800-DT400 Sereis			
7	Supply Installation Testing and Commissioning of 24Key Digital Phone Backlit keypad Hands-free, full duplex ,Headset support Easy to use soft keys/LCD prompts,Directory dialling,Navigation wheel,Call history,Backlit LCD screen,Bluetooth support (BCAZ),Security lock key XML open interface .	Nos	5	DT800-DT400 Sereis	1		1
8	Supply Installation Testing and Commissioning of Digital Phone (12Key)Backlit keypad Hands-free, full duplex Headset support Easy to use soft keys/LCD prompts Directory dialling Navigation wheel Call history , Backlit LCD screen,Bluetooth support (BCAZ),Security lock key XML open interface.	Nos	5	DT800-DT400 Sereis	0		3
9	Supply Installation Testing and Commissioning of Digital Phone (6Key)Backlit keypad Hands-free, full duplex Headset support Easy to use soft keys/LCD prompts Directory dialling Navigation wheel Call history , Backlit LCD screen,Bluetooth support (BCAZ),Security lock key XML open interface.	Nos	36	DT800-DT400 Sereis	4		16
10	Supply Installation Testing and Commissioning of IP Phone (12Key)Backlit keypad Hands-free, full duplex Headset support Easy to use soft keys/LCD prompts Directory dialling Navigation wheel Call history , Backlit LCD screen,Bluetooth support (BCAZ),Security lock key XML open interface.	Nos		DT800-DT400 Sereis	0		1
11	Supply Installation, Testing and Commissioning of Analog Speaker Phone with backlight.	Nos	223	Beetel M56	147		67

<b>PUBLIC ADDRESS SYSTEM</b>				<b>Ground Floor</b>	<b>First Floor</b>	<b>Second Floor</b>
<b>DESCRIPTON</b>	<b>Unit</b>	<b>Boq Qty</b>	<b>model number</b>	<b>As per Drawing</b>	<b>As per Drawing</b>	<b>As per Drawing</b>
SITC of 6W Recessed Ceining speakers with following features: -Speaker Drive 6", Complete Aluminium grille and Metal baffle, line matching transformer 100/70V line. Variable wattage tappings of 6 / 3 / 1.5, Effective frequency range 110-15kHz (BS6840), SPL@1m/1W=91dB, Peak SPL 97dB complete with necessary mounting hardware & accesories.	Nos	374.00	CMS5/T	60	98	98
SITC of 10W Wall Mount Speaker with Frequency Response 150Hz - 15kHz, with Line Matching transformer 100V. Variable tapping 10W/5W, SPL@1M/1W - 90dB, Peak SPL 98dB.	Nos	44.00	SML6/T	4	4	4
Supply, Installation, Testing & Commissioning of Digital Voice Evacuation system for 8 Zones expandable to 120 Zones. The System shall meet the standards of BS EN54 - 32 & EN 60849. The System Shall have Built in 500W Class-D Amplifier and it should be capable for the EVAC, Paging, PA and BGM functions. The Controller shall have SD card option to store the EVAC and Alert Voice Message. The Controller shall have Speaker line supervision and amplifier auto changeover. The Controller shall have following features: Seperate Zone volume control at the front side of panel, Status indications on the Panel for EVAC,Fault ,AC,DC ,Fault,ALERT & Fireman mic, Zone capacity up to 96 Zones, 8 programmable Control Input and output, Fireman Microphone with High Priority, THD<1%, Frequency response 80Hz - 20kHz, Up to 1000 Record files, 100V Class-AB Speaker Output.	Nos	3.00	DVA8-500	1		
SITC of Remote Paging microphone with minimum 12 buttons and Busy/Hole Indication. The Microphone Should be suitable for Desktop mounting.	Nos.	4.00	DVA8-500RM	1		
Supply Installation testing and comisioning of 500W RMS Dual Channel Class-D Digital Power Amplifier with Switch power technology for power electricity saving, Separate PFC Design for highest reliability, Separate Power Supply System. Amplifier shall have Following Features: 240W RMS per Channel, Amplifier Output 100V, Supply input AC 220 +/- 10% - 50/60Hz, Short Circuit, Power, Tempreature, Overload Protection, Auto Cooling Fans. THD <0.1%, Frequency Response 40Hz - 20kHz, AC & DC Fuse, SNR >89dB.	Nos	4.00	DPA2500	2		

Supply Installation testing and comisioning of 120W RMS Dual Channel Class-D Digital Power Amplifier with Switch power technology for power electricity saving, Separate PFC Design for highest reliability, Separate Power Supply System. Amplifier shall have Following Features: 60W RMS per Channel, Amplifier Output 100V, Supply input AC 220 +/- 10% - 50/60Hz, Short Circuit, Power, Tempreature, Overload Protection, Auto Cooling Fans. THD <0.1%, Frequency Response 40Hz - 20kHz, AC & DC Fuse, SNR >89dB.	Nos	1.00	DPA2120	1		
Supply Installation testing and comisioning of Professional CD/DVD player with USB flash port & 19" Rack mount arrangement.	Nos	4.00		1		
Supply Installation testing and comisioning Volume Controller for Office and Cabins.	Nos	102.00	VCT-6R	2	50	50
Supply Installation, testing and comisioning of 19-inch Equipment Rack with standardized frame or enclosure for mounting multiple PA controllers, CD player, Amplifiers etc modules. Size 24U.	Nos	2.00	HR-S	1		
<b>TOTAL - PA SYSTEM- INTERNAL</b>						

<b>PUBLIC ADDRESS SYSTEM</b>				<b>Third Floor</b>	<b>Fourth Floor</b>	<b>Fifth Floor</b>
<b>DESCRIPTON</b>	<b>Unit</b>	<b>Boq Qty</b>	<b>model number</b>	<b>As per Drawing</b>	<b>As per Drawing</b>	<b>As per Drawing</b>
SITC of 6W Recessed Ceining speakers with following features: -Speaker Drive 6", Complete Aluminium grille and Metal baffle, line matching transformer 100/70V line. Variable wattage tappings of 6 / 3 / 1.5, Effective frequency range 110-15kHz (BS6840), SPL@1m/1W=91dB, Peak SPL 97dB complete with necessary mounting hardware & accesories.	Nos	374.00	CMS5/T	92	74	85
SITC of 10W Wall Mount Speaker with Frequency Response 150Hz - 15kHz, with Line Matching transformer 100V. Variable tapping 10W/5W, SPL@1M/1W - 90dB, Peak SPL 98dB.	Nos	44.00	SML6/T	4	4	4

Supply, Installation, Testing & Commissioning of Digital Voice Evacuation system for 8 Zones expandable to 120 Zones. The System shall meet the standards of BS EN54 - 32 & EN 60849. The System Shall have Built in 500W Class-D Amplifier and it should be capable for the EVAC, Paging, PA and BGM functions. The Controller shall have SD card option to store the EVAC and Alert Voice Message. The Controller shall have Speaker line supervision and amplifier auto changeover. The Controller shall have following features: Seperate Zone volume control at the front side of panel, Status indications on the Panel for EVAC, Fault, AC, DC, Fault, ALERT & Fireman mic, Zone capacity up to 96 Zones, 8 programmable Control Input and output, Fireman Microphone with High Priority, THD<1%, Frequency response 80Hz - 20kHz, Up to 1000 Record files, 100V Class-AB Speaker Output.	Nos	3.00	DVA8-500			
SITC of Remote Paging microphone with minimum 12 buttons and Busy/Hole Indication. The Microphone Should be suitable for Desktop mounting.	Nos.	4.00	DVA8-500RM			
Supply Installation testing and comisioning of 500W RMS Dual Channel Class-D Digital Power Amplifier with Switch power technology for power electricity saving, Separate PFC Design for highest reliability, Separate Power Supply System. Amplifier shall have Following Features: 240W RMS per Channel, Amplifier Output 100V, Supply input AC 220 +/- 10% - 50/60Hz, Short Circuit, Power, Tempreature, Overload Protection, Auto Cooling Fans. THD <0.1%, Frequency Response 40Hz - 20kHz, AC & DC Fuse, SNR >89dB.	Nos	4.00	DPA2500			
Supply Installation testing and comisioning of 120W RMS Dual Channel Class-D Digital Power Amplifier with Switch power technology for power electricity saving, Separate PFC Design for highest reliability, Separate Power Supply System. Amplifier shall have Following Features: 60W RMS per Channel, Amplifier Output 100V, Supply input AC 220 +/- 10% - 50/60Hz, Short Circuit, Power, Tempreature, Overload Protection, Auto Cooling Fans. THD <0.1%, Frequency Response 40Hz - 20kHz, AC & DC Fuse, SNR >89dB.	Nos	1.00	DPA2120			
Supply Installation testing and comisioning of Professional CD/DVD player with USB flash port & 19" Rack mount arrangement.	Nos	4.00				

Supply Installation testing and comisioning Volume Controller for Office and Cabins.	Nos	102.00	VCT-6R	45	40	45
Supply Installation testing and comisioning of 19-inch Equipment Rack with standardized frame or enclosure for mounting multiple PA controllers, CD player, Amplifiers etc modules. Size 24U.	Nos	2.00	HR-S			
<b>TOTAL - PA SYSTEM- INTERNAL</b>						

	<b>FIRE ALARM WORKS</b>				<b>Ground Floor</b>	<b>First Floor</b>	<b>Second Floor</b>
<b>S. No</b>	<b>DESCRIPTON</b>	<b>Unit</b>	<b>QTY.</b>	<b>Modal Number</b>	<b>Installed</b>	<b>Installed</b>	<b>Installed</b>
1	Supply, Installation, Testing and Commissioning of 8 loop addressable fire alarm control panel, expandable upto 32 loops. Controller shall be 5.7 inch color touch screen display with stylus(320*240 pixels), inbuilt networking port(both RS485&Ethernet),Serial port for printer,two supervisory inputs,two position key switch and USB port for programming. The Panel shall handle 4096 detection points, 10,000 history events,menu driven user interface with smart search. The events shall be displayed in different colors- red for alarm events & yellow for trouble etc. for easy identification. The Panel shall be VDS/EN 54/UL approved.	Nos.	2.00		1		
2	Supply, Installation, Testing and Commissioning of 3 loop addressable fire alarm control panel, expandable upto 32 loops. Controller shall be 5.7 inch color touch screen display with stylus(320*240 pixels), inbuilt networking port(both RS485&Ethernet),Serial port for printer,two supervisory inputs,two position key switch and USB port for programming. The Panel shall handle 4096 detection points, 10,000 history events,menu driven user interface with smart search. The events shall be displayed in different colors- red for alarm events & yellow for trouble etc. for easy identification. The Panel shall be VDS/EN 54/UL approved.	Nos.	1.00		1		
3	Supply, Installation, Testing and Commissioning of 2 loop addressable fire alarm control panel, expandable upto 32 loops. Controller shall be 5.7 inch color touch screen display with stylus(320*240 pixels), inbuilt networking port(both RS485&Ethernet),Serial port for printer,two supervisory inputs,two position key switch and USB port for programming. The Panel shall handle 4096 detection points, 10,000 history events,menu driven user interface with smart search. The events shall be displayed in different colors- red for alarm events & yellow for trouble etc. for easy identification. The Panel shall be VDS/EN 54/UL approved.	Nos.	1.00				



4	Supply, Installation, Testing and Commissioning Active Repeater Panel. Controller shall be 5.7 inch color touch screen display with stylus(320*240 pixels), inbuilt networking port(both RS485&Ethernet),Serial port for printer,two supervisory inputs,two position key switch and USB port for programming. The Repeater Panel shall allow users to acknowledge, reset,silence, program, view history events...etc (All functions similar to main panel)The user interface of the repeater panel shall be same as the Main Controller with menu driven user interface with smart search. The events shall be displayed in different colors- red for alarm events & yellow for trouble etc. for easy identification. The Panel shall be VDS/EN 54 approved.	No.	16.00			1	1
5	Supply, Installation, Testing and Commissioning of intelligent addressable Multicriteria detector works based on Dual-Ray technology with an infrared and a blue LED so that lightest smoke is detected fast and reliable along with a heat sensor including mounting base. (Detector should comply to Test Fire 1). Detector should have inbuilt isolators as per NFPA 72 style 7 wiring requirements and have an option of both soft & hard addressing. Detector should monitor Electromagnetic interference and report to the panel - current and average values. EMC safety for detector shall be 50 V/m. Shall be EN54/ VDs/ UL certification.(Detectors without Inbuilt Isolators may be considered with an additional Isolator Module per detector)	Nos.	2132.00	FAP-425-OT	63	100	100
6	Supply, Installation, Testing and Commissioning of Addressable Control Relay Module with inbuilt isolators as per NFPA 72 style 7 wiring requirements & with flexible network structures with a maximum switching current of 1A @ 30V DC. Shall be EN54/ Vds Certification/UL	Nos.	58.00		4	4	4
7	Supply, Installation, Testing and Commissioning of Addressable Module with one input & one output contacts, with inbuilt isolators & with 2 monitoring features, monitoring of a line with EOL resistor ,Potential free contact monitoring. Shall be EN54 / Vds/UL Certification.	Nos.	58.00	FLM-420-0111E	4	4	4

8	Supply, Installation, Testing & Commissioning of Response Indicator with matching screws complete with GI Junction box, Cable lugs at cable end and ferruling.	Nos.	864.00	Response Indicator	63	100	100
9	Supply, Installation, Testing and Commissioning of addressable manual break glass unit ( Double action) with inbuilt isolators as per NFPA 72 style 7 wiring requirements, with flexible network structures & necessary fixing arrangements with key complete as required. Shall be EN 54 / Vds/UL Certification.	Nos.	58.00	FMC-210 DM-GR	4	4	4
10	Supply, Installation, Testing and Commissioning of Stand alone Loop Powered detector base sounder with inbuilt isolators as per NFPA 72 style 7 wiring requirements & with 32 different tone variants selection options & adjustable sound pressure by 5 levels, the sound pressure 92.1 dB(A), with flasher having Synchronized flash rate of 1 Hz and Light intensity > 2 cd, should be programmed from the panel. Shall be EN54 / Vds/UL Certification.	Nos.	58.00	Hooter	4	4	4

<b>FIRE ALARM WORKS:</b>				<b>Third Floor</b>	<b>Fourth Floor</b>	<b>Fifth Floor</b>
<b>DESCRIPTON</b>	<b>Unit</b>	<b>QTY.</b>	<b>Modal Number</b>	<b>Installed</b>	<b>Installed</b>	<b>Installed</b>
Supply, Installation, Testing and Commissioning of 8 loop addressable fire alarm control panel, expandable upto 32 loops. Controller shall be 5.7 inch color touch screen display with stylus(320*240 pixels), inbuilt networking port(both RS485&Ethernet),Serial port for printer,two supervisory inputs,two position key switch and USB port for programming. The Panel shall handle 4096 detection points, 10,000 history events,menu driven user interface with smart search. The events shall be displayed in different colors- red for alarm events & yellow for trouble etc. for easy identification. The Panel shall be VDS/EN 54/UL approved.	Nos.	2.00				
Supply, Installation, Testing and Commissioning of 3 loop addressable fire alarm control panel, expandable upto 32 loops. Controller shall be 5.7 inch color touch screen display with stylus(320*240 pixels), inbuilt networking port(both RS485&Ethernet),Serial port for printer,two supervisory inputs,two position key switch and USB port for programming. The Panel shall handle 4096 detection points, 10,000 history events,menu driven user interface with smart search. The events shall be displayed in	Nos.	1.00				

different colors- red for alarm events & yellow for trouble etc. for easy identification. The Panel shall be VDS/EN 54/UL approved.						
Supply, Installation, Testing and Commissioning of 2 loop addressable fire alarm control panel, expandable upto 32 loops. Controller shall be 5.7 inch color touch screen display with stylus(320*240 pixels), inbuilt networking port(both RS485&Ethernet),Serial port for printer,two supervisory inputs,two position key switch and USB port for programming. The Panel shall handle 4096 detection points, 10,000 history events,menu driven user interface with smart search. The events shall be displayed in different colors- red for alarm events & yellow for trouble etc. for easy identification. The Panel shall be VDS/EN 54/UL approved.	Nos.	1.00				
Supply, Installation, Testing and Commissioning Active Repeater Panel. Controller shall be 5.7 inch color touch screen display with stylus(320*240 pixels), inbuilt networking port(both RS485&Ethernet),Serial port for printer,two supervisory inputs,two position key switch and USB port for programming. The Repeater Panel shall allow users to acknowledge, reset,silence, program, view history events...etc (All functions similar to main panel)The user interface of the repeater panel shall be same as the Main Controller with menu driven user interface with smart search. The events shall be displayed in different colors- red for alarm events & yellow for trouble etc. for easy identification. The Panel shall be VDS/EN 54 approved.	No.	16.00		1	1	1
Supply, Installation, Testing and Commissioning of intelligent addressable Multicriteria detector works based on Dual-Ray technology with an infrared and a blue LED so that lightest smoke is detected fast and reliable along with a heat sensor including mounting base. (Detector should comply to Test Fire 1). Detetctor should have inbuilt isolators as per NFPA 72 style 7 wiring requirements and have an option of both soft & hard addressing. Detector should monitor Electromagnetic interference and report to the panel - current and average values. EMC safety for detector shall be 50 V/m. Shall be EN54/ VDs/ UL certification.(Detectors without Inbuilt Isolators may be considered with an additional Isolator Module per detector)	Nos.	2132.00	FAP-425-OT	95	75	87

Supply, Installation, Testing and Commissioning of Addressable Control Relay Module with inbuilt isolators as per NFPA 72 style 7 wiring requirements & with flexible network structures with a maximum switching current of 1A @ 30V DC. Shall be EN54/ Vds Certification/UL	Nos.	58.00		4	4	4
Supply, Installation, Testing and Commissioning of Addressable Module with one input & one output contacts, with inbuilt isolators & with 2 monitoring features, monitoring of a line with EOL resistor ,Potential free contact monitoring. Shall be EN54 / Vds/UL Certification.	Nos.	58.00	FLM-420-0111E	4	4	4
Supply, Installation, Testing & Commissioning of Response Indicator with matching screws complete with GI Junction box, Cable lugs at cable end and ferruling.	Nos.	864.00	Response Indicator	95	75	87
Supply, Installation, Testing and Commissioning of addressable manual break glass unit ( Double action) with inbuilt isolators as per NFPA 72 style 7 wiring requirements, with flexible network structures & necessary fixing arrangements with key complete as required. Shall be EN 54 / Vds/UL Certification.	Nos.	58.00	FMC-210 DM-GR	4	4	4
Supply, Installation, Testing and Commissioning of Stand alone Loop Powered detector base sounder with inbuilt isolators as per NFPA 72 style 7 wiring requirements & with 32 different tone variants selection options & adjustable sound pressure by 5 levels, the sound pressure 92.1 dB(A), with flasher having Synchronized flash rate of 1 Hz and Light intensity > 2 cd, should be programmed from the panel. Shall be EN54 / Vds/UL Certification.	Nos.	58.00	Hooter	4	4	4

<b>2 No. BIG CONFERENCE ROOM</b>				<b>Ground Floor</b>	<b>First Floor</b>	<b>Second Floor</b>
<b>Audio System</b>	Unit	Qty	Model No.	<b>Installed</b>	<b>Installed</b>	<b>Installed</b>
SITC of Table Top Boundary layer microphone Semi-cardioid polar pattern RFI-proof due to Scudio technology, ON/OFF, Push-To-Talk and Push-To-Mute function,Silent membrane key with braille inscription,High-quality non-glare design,Linear frequency response with high bandwidth,LED indicator,Switchable bass roll-off filter in two stages,High gain-before-feedback etc complete with installation as per site requirement.	Nos	22.00	MC350A & MC350B	29		
SITC of Full Range 5.25" or better Ceiling Speaker 60 W RMS Power, Frequency Response 60 Hz - 20 kHz ,Sensitivity 91 dB or better,90-100 degrees conical Coverage ,Nominal Impedance 4 / 8Ohms ohms,Peak SPL 115 dB. etc complete with installation as	Nos	12.00	CMS60/T	6		

per site requirement.						
SITC of Multiple Driver Column Array Loudspeaker consisting of 7 x 3"-4" or better full range drivers with 150 W RMS Power @ 4 / 8 Ohms, Frequency Response 110 Hz - 12 kHz ,Sensitivity 90 dB or better,120 degrees horizontal dispersion, Peak SPL 118 dB Peak etc complete with installation as per site requirement.	Nos	4.00	OCM80/T	2		
SITC of DSP processor with 10 Mic / Line input, 6 Line Output, RS232 Port, Ethernet Port, Digital Audio network port etc all complete as per site requirement	Nos	4.00	DMX108D + CE3500 (2set)	2		
SITC of 2-Channel 800W Class D Power Amplifier delivering 2 x 400W per channel at 70 V, 2, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	2.00	DPA2500	1		
SITC of 4-Channel 500W Class D Energy Efficient Power Amplifier delivering 4 x 125 W per channel at 70 V, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	2.00	DPA4125	1		
SITC of 2-Channel 200W Class D Energy Efficient Power Amplifier delivering 2 x 100 W per channel at 70 V, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	2.00	DPA2120	1		
Make : Labgruppen / Powersoft / Heinrich						
<b>Video System</b>						
<b>Video wall</b>						
SITC of professional Indoor Type, 10ft X6ft <b>LED Video Display Wall</b> having pixel pitch $\leq 1.2\text{mm}$ with remote power supply supports N+1 redundancy, Video & Image Processor with atleast 4in/4out DVI ports, Pixel density should not be less than 650,000 pixels/m <sup>2</sup> , contrast minimum 5000:1, brightness should not be less than 600 nits, LED lifesspan should not be less than 100,000 hours, LED wall should be 100 front serviceable,Galvanized Steel mounting structure duly powder coated in mat black/ approved shade. complete including warrenty period of three years with 5% spares on site.	Nos	2.00	P1.27	1		
SITC of table mount cable cubby with 2 x Power , USB Charger, Pass Through for VGA + A, HDMI and Data etc. complete as per site requirement	Nos	42.00	HTB-HTC-VVV	29		

SITC of Under Table Multifformat twisted pair transmitter module with HDMI, VGA & audio input. Twisted pair output supporting audio, video, control & power upto 60mtrs. Resolution of 4K support, autoswitching between Inputs. HDCP & EDID Management etc. complete as per site requirement	Nos	10.00	HT=8311	10		
SITC of HDMI & Control (RS 232/IR) twisted pair receiver supporting audio, video & power upto atleast 60mtrs. Resolution of 4K support. HDMI Data Rate: 10.2 Gb or better, HDCP & EDID management.etc as required	Nos	12.00	HT-9151	10		
SITC of Wireless Presentation system, supporting upto 64 participants, wireless video transmission at min 1080p @ 30 fps, VGA & HDMI output. With inbuilt WAP or supplied with external WAP. Simultaneous four feed viewing. etc as required	Nos	2.00		1		
Supply, Installation, Testing & Commissioning of Multifformat Scalar Matrix switcher with Total 8No's of HDMI or Twisted Pair input, 2 x Scaled output on HDMI or at Twisted Pair. Support 4K Resolution, Support transmission of Audio, Video & Control upto 60mtr over shielded CAT6, Compatible with HDBaseT Display, Built-In HDMI audio De-embedder, HDCP Compliant etc complete as per site requirement.	Nos	2.00	H9208H	1		
SITC of Full HD Video Conferencing end point with Full HD 1080p60 camera, codec, Microphone Array, cables, and remote control , support long extension twisted cable for Camera and Codec connectivity till 60mtr, Video Standards and Resolutions:It should support H.323, SIP standards for communications, It should support H.261, H.263, H.264 AVC/ SVC, H.264 High Profile/H.265, It should support 1080p 60 fps, 1080p 30 fps, 720p 60 fps and 720p 30fps, It should support content sharing using standard based H.239 and BFCP over SIP. It should transmit both people and content both simutaneously to the far end location at 1080p 30fps, Audio Standards and Features:	Nos	2.00	Group 500	1		

It should support G.711, G.728, G.729A, G.722, G.722.1, AAC-LD or better, It should support 20kHz or better bandwidth with crystal clear audio and stereo sound., Automatic Gain Control and Automatic Noise Suppressionv Keyboard noise reduction and instant adaptation echo cancellation Video and Audio Inputs: 1 x HDMI/HDCI input for connecting main HD camera 1 x HDMI/DVI & 1 VGA input for connecting PC/Laptop to share HD content 1 x Microphone Input or more(Support for minimum 3 mics)v 1 x 3.5mm stereo line-in, Video and Audio Outputs: 2 x HDMI output for connecting main monitor & second monitor, 1 x 3.5 mm stereo line-outvOther Interfaces: 1 x 10/100/1000 LAN port, 2 x USB for software upgrade and connecting external devices, 1 x RS-232 mini-DIN 8-pin or equivalent Camera: It should support 1080p60fps with 10x optical zoomvThe codec should be future capable of enhancing video conferencing experience with advanced face and vocie recognition technology such that it automatically scans the room and seamlessly commands the main camera to appropriately frame the acitve speaker without any manual intervention., It should support PAN Range of +/-90°, and Tilt of +/-20°, Network Features: H.323 and SIP bandwidth up to 6 Mbps, IPv4 and IPv6 support, Multisite Feature:It should support atleast 4 sites at HD720p in multipoint call, Security: Media Encryption (H.323, SIP): AES-128, AES-256, web interface and telnet API, Other Standards:H224/H.281, H.323 Annex Q, H.225, H.245, H.241, H.239, H.243, H.460, etc all completet etc complete as per site requirement.						
Make : Polycom / Cisco						
<b>CONTROL SYSTEM</b>						
SITC OF AV Control processor with 6 or more BI Directional RS 232 Port, 8 IR/Serial port, 6 or more relay port, 4 or more IO Port, Ethernet monitoring control . Should be supplied with license/software for control from third party iPad device. , any required power supply. etc as required.	Nos	2.00	CP3 + Crestron App	1		
Supply, Installation, Testing & Commissioning of 7" Wired table top Touch Panel	Nos	2.00	TSW-760 + TSW-760-TTK + PWE-4803RU	1		
8 port L2 network switch with 4 PoE and 4 Normal port with 100/1000 MBps Support	Nos	2.00	DGS-1210-10P	1		
<b>INSTALLATION EQUIPMENT</b>						

SITC of Equipment Rack 20 U with front glass door, power distribution box, internal fans and lights, wheels etc complete with standard accessories complete as required	Nos	2.00	HR-S	1		
SITC of 1.5 Sqmm x 2 core ATC copper Conductor, Insulated Cores,PVC Sheathed Speaker Cables complete etc as required.	Mtr	800.00				
SITC of 2022 AWG-24/0.20mmx 2 core ATC Copper Conductor,PVC Insulated, 90% ATC Copper Braid Shielded,PVC Sheathed Microphone Cable complete etc as required.	Mtr	1200.00				
SITC of CAT-6STP 4pair cable-0.58mmBare copper, ATC Copper Braid Shielded, PVC Sheathed overall complete etc. as required	Mtr	800.00				
SITC of CAT-6UTP 4pair cable- complete etc. as required	Mtr	400.00				
SITC of HDMI cables including cost of connectors wherever required	Mtr	800.00				
SITC of VGA cables including cost of connectors wherever required	Mtr	800.00				
<b>TOTAL- 2 No. BIG CONFERENCE ROOM</b>						
<b>10 NO. SMALL CONFERENCE ROOM</b>						
<b>Audio System</b>						
SITC of Table Top Boundary layer microphone Semi-cardioid polar pattern RFI-proof due to Scudio technology, ON/OFF, Push-To-Talk and Push-To-Mute function,Silent membrane key with braille inscription,High-quality non-glare design,Linear frequency response with high bandwidth,LED indicator,Switchable bass roll-off filter in two stages,High gain-before-feedback etc complete with installation as per site requirement.	Nos	110.00	MC350A & MC350B	11	9	9
SITC of Full Range 5.25" or better Ceiling Speaker 60 W RMS Power, Frequency Response 60 Hz - 20 kHz ,Sensitivity 91 dB or better,90-100 degrees conical Coverage ,Nominal Impedance 4 / 8Ohms ohms,Peak SPL 115 dB. etc complete with installation as per site requirement.	Nos	60.00	CMS60/T	6	6	6
SITC of Multiple Driver Column Array Loudspeaker consisting of 7 x 3"-4" or better full range drivers with 150 W RMS Power @ 4 / 8 Ohms,Frequency Response 110 Hz - 12 kHz ,Sensitivity 90 dB or better,120 degrees horizontal dispersion, Peak SPL 118 dB Peak etc complete with installation as per site requirement.	Nos	20.00	OCM80/T	2	2	2
SITC of DSP processor with 10 Mic / Line input, 6 Line Output, RS232 Port, Ethernet Port, Digital Audio network port etc all complete as per site requirement	Nos	20.00	DMX108D + CE3500 (10set)	2	2	2



SITC of 2-Channel 800W Class D Power Amplifier delivering 2 x 400W per channel at 70 V, 2, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	10.00	DPA2500	1	1	1
SITC of 4-Channel 500W Class D Energy Efficient Power Amplifier delivering 4 x 125 W per channel at 70 V, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	10.00	DPA4125	1	1	1
SITC of 2-Channel 200W Class D Energy Efficient Power Amplifier delivering 2 x 100 W per channel at 70 V, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	10.00	DPA2120	1	1	1
<b>Video System</b>						
SITC of 80"-85" professional Full HD display with 1400:1 contrast ratio or better, Brightness 350 cd/m2 or better 2 x HDMI input, VGA Input, RS232 and LAN control Port etc all complete as per site requirement.	Nos	10.00	QM85N	1	1	1
Make : Panasonic / NEC / Samsung/ DGX						
SITC of table mount cable cubby with 2 x Power , USB Charger, Pass Through for VGA + A, HDMI and Data etc. complete as per site requirement	Nos	110.00	HTB-HTC-VVV	11	9	9
SITC of Under Table Multifformat twisted pair transmitter module with HDMI, VGA & audio input. Twisted pair output supporting audio, video, control & power upto 60mtrs. Resolution of 4K support, autoswitching between Inputs. HDCP & EDID Management etc. complete as per site requirement	Nos	50.00	HT-8311			
SITC of HDMI & Control (RS 232/IR) twisted pair receiver supporting audio, video & power upto atleast 60mtrs. Resolution of 4K support. HDMI Data Rate: 10.2 Gb or better, HDCP & EDID management.etc as required	Nos	60.00	HT-9151			
Supply, Installation, Testing & Commissioning of Multifformat Scalar Matrix switcher with Total 8No's of HDMI or Twisted Pair input, 2 x Scaled output on HDMI or at Twisted Pair. Support 4K Resolution, Support transmission of Audio, Video & Control upto 60mtr over shielded CAT6, Compatible with HDBaseT Display, Built-In HDMI audio De-embedder, HDCP Compliant etc complete as per site requirement.	Nos	10.00	H9208H	1	1	1
<b>CONTROL SYSTEM</b>						

SITC OF AV Control processor with 6 or more BI Directional RS 232 Port, 8 IR/Serial port, 6 or more relay port, 4 or more IO Port, Ethernet monitoring control . Should be supplied with license/software for control from third party iPad device. , any required power supply. etc as required.	Nos	10.00	CP3 + Crestron App	1	1	1
Supply, Installation, Testing & Commissioning of 7" Wired table top Touch Panel	Nos	10.00	TSW-760 + TSW-760-TTK + PWE-4803RU	1	1	1
8 port L2 network switch with 4 PoE and 4 Normal port with 100/1000 MBps Support	Nos	10.00				
<b>INSTALLATION EQUIPMENT</b>						
SITC of Equipment Rack 20 U with front glass door, power distribution box, internal fans and lights, wheels etc complete with standard accessories complete as required	Nos	10.00	Valrack	1	1	1
SITC of 1.5 Sqmm x 2 core ATC copper Conductor, Insulated Cores,PVC Sheathed Speaker Cables complete etc as required.	Mtr	2000.00				
SITC of 2022 AWG-24/0.20mmx 2 core ATC Copper Conductor,PVC Insulated, 90% ATC Copper Braid Shielded,PVC Sheathed Microphone Cable complete etc as required.	Mtr	3000.00				
SITC of CAT-6STP 4pair cable-0.58mmBare copper, ATC Copper Braid Shielded, PVC Sheathed overall complete etc. as required	Mtr	2000.00				
SITC of CAT-6UTP 4pair cable- complete etc. as required	Mtr	1000.00				
SITC of HDMI cables including cost of connectors wherever required	Mtr	2000.00		200	200	200
SITC of VGA cables including cost of connectors wherever required	Mtr	2000.00				

<b>2 No. BIG CONFERENCE ROOM</b>				<b>Third Floor</b>	<b>Fourth Floor</b>	<b>Fifth Floor</b>
<b>Audio System</b>	<b>Unit</b>	<b>Qty</b>	<b>Model No.</b>	<b>Installed</b>	<b>Installed</b>	<b>Installed</b>
SITC of Table Top Boundary layer microphone Semi-cardioid polar pattern RFI-proof due to Scudio technology, ON/OFF, Push-To-Talk and Push-To-Mute function,Silent membrane key with braille inscription,High-quality non-glare design,Linear frequency response with high bandwidth,LED indicator,Switchable bass roll-off filter in two stages,High gain-before-feedback etc complete with installation as per site requirement.	Nos	22.00	MC350A & MC350B			

SITC of Full Range 5.25" or better Ceiling Speaker 60 W RMS Power, Frequency Response 60 Hz - 20 kHz ,Sensitivity 91 dB or better,90-100 degrees conical Coverage ,Nominal Impedance 4 / 8Ohms ohms,Peak SPL 115 dB. etc complete with installation as per site requirement.	Nos	12.00	CMS60/T			
SITC of Multiple Driver Column Array Loudspeaker consisting of 7 x 3"-4" or better full range drivers with 150 W RMS Power @ 4 / 8 Ohms,Frequency Response 110 Hz - 12 kHz ,Sensitivity 90 dB or better,120 degrees horizontal dispersion, Peak SPL 118 dB Peak etc complete with installation as per site requirement.	Nos	4.00	OCM80/T			
SITC of DSP processor with 10 Mic / Line input, 6 Line Output, RS232 Port, Ethernet Port, Digital Audio network port etc all complete as per site requirement	Nos	4.00	DMX108D + CE3500 (2set)			
SITC of 2-Channel 800W Class D Power Amplifier delivering 2 x 400W per channel at 70 V, 2, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	2.00	DPA2500			
SITC of 4-Channel 500W Class D Energy Efficient Power Amplifier delivering 4 x 125 W per channel at 70 V, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	2.00	DPA4125			
SITC of 2-Channel 200W Class D Energy Efficient Power Amplifier delivering 2 x 100 W per channel at 70 V, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	2.00	DPA2120			
Make : Labgruppen / Powersoft / Heinrich						
<b>Video System</b>						
<b>Video wall</b>						

SITC of professional Indoor Type, 10ft X6ft <b>LED Video Display Wall</b> having pixel pitch $\leq$ 1.2mm with remote power supply supports N+1 redundancy, Video & Image Processor with atleast 4in/4out DVI ports, Pixel density should not be less than 650,000 pixels/m <sup>2</sup> , contrast minimum 5000:1, brightness should not be less than 600 nits, LED lifesspan should not be less than 100,000 hours, LED wall should be 100 front serviceable, Galvanized Steel mounting structure duly powder coated in mat black/ approved shade. complete including warrenty period of three years with 5% spares on site.	Nos	2.00	P1.27			
SITC of table mount cable cubby with 2 x Power , USB Charger, Pass Throgh for VGA + A, HDMI and Data etc. complete as per site requirement	Nos	42.00	HTB- HTC-VVV			
SITC of Under Table Multifomrat twisted pair transmitter module with HDMI, VGA & audio input. Twisted pair output supporting audio, video, control & power upto 60mtrs. Resolution of 4K support, autoswitching between Inputs. HDCP & EDID Management etc. complete as per site requirement	Nos	10.00	HT=8311			
SITC of HDMI & Control (RS 232/IR) twisted pair receiver supporting audio, video & power upto atleast 60mtrs. Resolution of 4K support. HDMI Data Rate: 10.2 Gb or better, HDCP & EDID management.etc as required	Nos	12.00	HT-9151			
SITC of Wireless Presentation system, supporting upto 64 participants, wireless video transmission at min 1080p @ 30 fps, VGA & HDMI output. With inbuilt WAP or supplied with external WAP. Simultaneous four feed viewing. etc as required	Nos	2.00				
Supply, Installation, Testing & Commissioning of Multifomrat Scalar Matrix switcher with Total 8No's of HDMI or Twisted Pair input, 2 x Scaled output on HDMI or at Twisted Pair. Support 4K Resolution, Support transmission of Audio, Video & Control upto 60mtr over shielded CAT6, Compatible with HDBaseT Display, Built-In HDMI audio De-embedder, HDCP Compliant etc complete as per site requirement.	Nos	2.00	H9208H			
SITC of Full HD Video Conferencing end point with Full HD 1080p60 camera, codec, Microphone Array, cables, and remote control , support long extension twisted cable for Camera and Codec connectivity till 60mtr, Video Standards and Resolutions:It should support H.323, SIP standards for communications, It should support H.261, H.263, H.264 AVC/ SVC, H.264 High Profile/H.265, It should support 1080p 60 fps, 1080p 30 fps, 720p 60 fps and 720p 30fps, It should support content sharing using standard based H.239 and BFCP over SIP. It should transmit both people and content both	Nos	2.00	Group 500			

simultaneously to the far end location at 1080p 30fps, Audio Standards and Features:						
It should support G.711, G.728, G.729A, G.722, G.722.1, AAC-LD or better, It should support 20kHz or better bandwidth with crystal clear audio and stereo sound., Automatic Gain Control and Automatic Noise Suppressionv Keyboard noise reduction and instant adaptation echo cancellation Video and Audio Inputs: 1 x HDMI/HDCI input for connecting main HD camera 1 x HDMI/DVI & 1 VGA input for connecting PC/Laptop to share HD content 1 x Microphone Input or more(Support for minimum 3 mics)v 1 x 3.5mm stereo line-in, Video and Audio Outputs: 2 x HDMI output for connecting main monitor & second monitor, 1 x 3.5 mm stereo line-outvOther Interfaces: 1 x 10/100/1000 LAN port, 2 x USB for software upgrade and connecting external devices, 1 x RS-232 mini-DIN 8-pin or equivalent Camera: It should support 1080p60fps with 10x optical zoomvThe codec should be future capable of enhancing video conferencing experience with advanced face and vocie recognition technology such that it automatically scans the room and seamlessly commands the main camera to appropriately frame the acitve speaker without any manual intervention., It should support PAN Range of +/-90°, and Tilt of +/-20°, Network Features: H.323 and SIP bandwidth up to 6 Mbps, IPv4 and IPv6 support, Multisite Feature:It should support atleast 4 sites at HD720p in multipoint call, Security: Media Encryption (H.323, SIP): AES-128, AES-256, web interface and telnet API, Other Standards:H224/H.281, H.323 Annex Q, H.225, H.245, H.241, H.239, H.243, H.460, etc all completet etc complete as per site requirement.						
Make : Polycom / Cisco						
<b>CONTROL SYSTEM</b>						
SITC OF AV Control processor with 6 or more BI Directional RS 232 Port, 8 IR/Serial port, 6 or more relay port, 4 or more IO Port, Ethernet monitoring control . Should be supplied with license/software for control from third party iPAD device. , any required power supply. etc as required.	Nos	2.00	CP3 + Crestron App			
Supply, Installation, Testing & Commissioning of 7" Wired table top Touch Panel	Nos	2.00	TSW-760 + TSW-760-TTK + PWE-4803RU			
8 port L2 network switch with 4 PoE and 4 Normal port with 100/1000 MBps Support	Nos	2.00	DGS-1210-10P			

<b>INSTALLATION EQUIPMENT</b>						
SITC of Equipment Rack 20 U with front glass door, power distribution box, internal fans and lights, wheels etc complete with standard accessories complete as required	Nos	2.00	HR-S			
SITC of 1.5 Sqmm x 2 core ATC copper Conductor, Insulated Cores,PVC Sheathed Speaker Cables complete etc as required.	Mtr	800.00				
SITC of 2022 AWG-24/0.20mmx 2 core ATC Copper Conductor,PVC Insulated, 90% ATC Copper Braid Shielded,PVC Sheathed Microphone Cable complete etc as required.	Mtr	1200.00				
SITC of CAT-6STP 4pair cable-0.58mmBare copper, ATC Copper Braid Shielded, PVC Sheathed overall complete etc. as required	Mtr	800.00				
SITC of CAT-6UTP 4pair cable- complete etc. as required	Mtr	400.00				
SITC of HDMI cables including cost of connectors wherever required	Mtr	800.00				
SITC of VGA cables including cost of connectors wherever required	Mtr	800.00				
<b>TOTAL- 2 No. BIG CONFERENCE ROOM</b>						
<b>10 NO. SMALL CONFERENCE ROOM</b>						
<b>Audio System</b>						
SITC of Table Top Boundary layer microphone Semi-cardioid polar pattern RFI-proof due to Scudio technology, ON/OFF, Push-To-Talk and Push-To-Mute function,Silent membrane key with braille inscription,High-quality non-glare design,Linear frequency response with high bandwidth,LED indicator,Switchable bass roll-off filter in two stages,High gain-before-feedback etc complete with installation as per site requirement.	Nos	110.00	MC350A & MC350B	9	22	9
SITC of Full Range 5.25" or better Ceiling Speaker 60 W RMS Power, Frequency Response 60 Hz - 20 kHz ,Sensitivity 91 dB or better,90-100 degrees conical Coverage ,Nominal Impedance 4 / 8Ohms ohms,Peak SPL 115 dB. etc complete with installation as per site requirement.	Nos	60.00	CMS60/T	6	12	6
SITC of Multiple Driver Column Array Loudspeaker consisting of 7 x 3"-4" or better full range drivers with 150 W RMS Power @ 4 / 8 Ohms,Frequency Response 110 Hz - 12 kHz ,Sensitivity 90 dB or better,120 degrees horizontal dispersion, Peak SPL 118 dB Peak etc complete with installation as per site requirement.	Nos	20.00	OCM80/T	2	4	2

SITC of DSP processor with 10 Mic / Line input, 6 Line Output, RS232 Port, Ethernet Port, Digital Audio network port etc all complete as per site requirement	Nos	20.00	DMX108D + CE3500 (10set)	2	2	2
SITC of 2-Channel 800W Class D Power Amplifier delivering 2 x 400W per channel at 70 V, 2, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	10.00	DPA2500	1	1	1
SITC of 4-Channel 500W Class D Energy Efficient Power Amplifier delivering 4 x 125 W per channel at 70 V, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	10.00	DPA4125	1	1	1
SITC of 2-Channel 200W Class D Energy Efficient Power Amplifier delivering 2 x 100 W per channel at 70 V, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	10.00	DPA2120	1	1	1
Video System						
SITC of 80"-85" professional Full HD display with 1400:1 contrast ratio or better, Brightness 350 cd/m2 or better 2 x HDMI input, VGA Input, RS232 and LAN control Port etc all complete as per site requirement.	Nos	10.00	QM85N	1	1	1
Make : Panasonic / NEC / Samsung/ DGX						
SITC of table mount cable cubby with 2 x Power , USB Charger, Pass Through for VGA + A, HDMI and Data etc. complete as per site requirement	Nos	110.00	HTB-HTC-VVV	9	22	9
SITC of Under Table Multifomat twisted pair transmitter module with HDMI, VGA & audio input. Twisted pair output supporting audio, video, control & power upto 60mtrs. Resolution of 4K support, autoswitching between Inputs. HDCP & EDID Management etc. complete as per site requirement	Nos	50.00	HT-8311			
SITC of HDMI & Control (RS 232/IR) twisted pair receiver supporting audio, video & power upto atleast 60mtrs. Resolution of 4K support. HDMI Data Rate: 10.2 Gb or better, HDCP & EDID management.etc as required	Nos	60.00	HT-9151			

Supply, Installation, Testing & Commissioning of Multiformat Scalar Matrix switcher with Total 8No's of HDMI or Twisted Pair input, 2 x Scaled output on HDMI or at Twisted Pair. Support 4K Resolution, Support transmission of Audio, Video & Control upto 60mtr over shielded CAT6, Compatible with HDBaseT Display, Built-In HDMI audio De-embedder, HDCP Compliant etc complete as per site requirement.	Nos	10.00	H9208H	1	1	1
<b>CONTROL SYSTEM</b>						
SITC OF AV Control processor with 6 or more BI Directional RS 232 Port, 8 IR/Serial port, 6 or more relay port, 4 or more IO Port, Ethernet monitoring control . Should be supplied with license/software for control from third party iPad device. , any required power supply. etc as required.	Nos	10.00	CP3 + Crestron App	1	1	1
Supply, Installation, Testing & Commissioning of 7" Wired table top Touch Panel	Nos	10.00	TSW-760 + TSW-760-TTK + PWE-4803RU	1	2	1
8 port L2 network switch with 4 PoE and 4 Normal port with 100/1000 MBps Support	Nos	10.00				
<b>INSTALLATION EQUIPMENT</b>						
SITC of Equipment Rack 20 U with front glass door, power distribution box, internal fans and lights, wheels etc complete with standard accessories complete as required	Nos	10.00	Valrack	1	1	1
SITC of 1.5 Sqmm x 2 core ATC copper Conductor, Insulated Cores,PVC Sheathed Speaker Cables complete etc as required.	Mtr	2000.00				
SITC of 2022 AWG-24/0.20mmx 2 core ATC Copper Conductor,PVC Insulated, 90% ATC Copper Braid Shielded,PVC Sheathed Microphone Cable complete etc as required.	Mtr	3000.00				
SITC of CAT-6STP 4pair cable-0.58mmBare copper, ATC Copper Braid Shielded, PVC Sheathed overall complete etc. as required	Mtr	2000.00				
SITC of CAT-6UTP 4pair cable- complete etc. as required	Mtr	1000.00				
SITC of HDMI cables including cost of connectors wherever required	Mtr	2000.00		200	400	200
SITC of VGA cables including cost of connectors wherever required	Mtr	2000.00				

<b>ACCESS CONTROL SYSTEM</b>				<b>GF</b>	<b>1st F</b>	<b>2nd F</b>
<b>DESCRIPTON</b>	<b>Unit</b>	<b>Boq QTY.</b>	<b>Model Number</b>	<b>Installed</b>	<b>Installed</b>	<b>Installed</b>



Supply, Installation, testing and commissioning of Surface mounted Networkable multiprocessor controlled 2 reader controller capable of controlling multiple readers (IN/OUT) alongwith TCP/IP connectivity complete as per specifications. Control panel housed in MS Powder Coated Cabinet with Tamper Switch, Complete with power supply unit for Controllers & Magnetic Locks as per specification	Nos.	3.00	OPEN-B4-IP /N	0		
Supply, Installation, testing and commissioning of Surface mounted Networkable multiprocessor controlled 4 reader controller capable of controlling multiple readers (IN/OUT) alongwith TCP/IP connectivity complete as per specifications. Control panel housed in MS Powder Coated Cabinet with Tamper Switch, Complete with power supply unit for Controllers & Magnetic Locks as per specification	Nos.	20.00	JET D4 IP/N	2	4	0
Supply, installation, testing and commissioning of Access Control Application Software for 128 Reader Capacity, and 4000 Card Holder Capacity, Basic GUI , TA Module with Alarm Module, T+ Module, 2-Nos Client Work Stations,Module for using SQL DB , -MULTI Site Module.	Nos.	1.00	Amadeus 5	1		
Supply, installation, testing and commissioning of UL Listed Smart Card Reader fwith compatible support of weigand output, 13.56 MHz technology platform and complies with the ISO 15693 / 14443A standard for contact less smart card technology. Card reader must be configurable to read encrypted ISO14443A sectors using standard or custom read keys for Sign OUT Terminal. should be compatible with HID format cards. Encryption,All RF data transmission between the card and reader should be encrypted using a secure algorithm. Industry-standard encryption techniques and advanced key management systems should be used to avoid the risk of compromised data or duplicated cards. The reader should have audio transducer to provide various tone sequences to signify access granted, access denied, power up and diagnostics. Visually impaired cardholders can easily distinguish between access granted and access denied. High-intensity light bar should provide a clear visual status indication in red, green or amber, even in bright sunlight.	Each	86.00	R-10	11	5	5
Supply, testing and commissioning of iClass Smart card	Each	520.00	ICLASS CLAMSHEL			
Supply, installation, testing and commissioning of Single Leaf Electro Magnetic Lock of Suitable	Each	36.00	BEL-600S	18	8	8

Capacity(Min 600 lbs).						
Supply, installation, testing and commissioning of Double Leaf Electro Magnetic Lock of Suitable Capacity(Min 1200 lbs).	Each	56.00	BEL 1200lbs	1	1	1
Supply and Fixing of "U" Bracket with Accessories.	Each	4.00	u-600	0	0	0
Supply and Fixing of "L" Bracket with Accessories.	Each	4.00	l-600	20	10	10
Extra Item						
Exit Push button		<b>0</b>		11	5	5
ACCESS CONTROL SYSTEM				3rd F	4th F	5th F
DESCRIPTON	<b>Unit</b>	<b>Boq QTY.</b>	<b>Model Number</b>	<b>Installed</b>	<b>Installed</b>	<b>Installed</b>
Supply, Installation, testing and commissioning of Surface mounted Networkable multiprocessor controlled 2 reader controller capable of controlling multiple readers (IN/OUT) alongwith TCP/IP connectivity complete as per specifications. Control panel housed in MS Powder Coated Cabinet with Tamper Switch, Complete with power supply unit for Controllers & Magnetic Locks as per specification	<b>Nos.</b>	<b>3.00</b>	OPEN-B4-IP /N			
Supply, Installation, testing and commissioning of Surface mounted Networkable multiprocessor controlled 4 reader controller capable of controlling multiple readers (IN/OUT) alongwith TCP/IP connectivity complete as per specifications. Control panel housed in MS Powder Coated Cabinet with Tamper Switch, Complete with power supply unit for Controllers & Magnetic Locks as per specification	<b>Nos.</b>	<b>20.00</b>	JET D4 IP/N	0	4	
Supply, installation, testing and commissioning of Access Control Application Software for 128 Reader Capacity, and 4000 Card Holder Capacity, Basic GUI , TA Module with Alarm Module, T+ Module, 2-Nos Client Work Stations,Module for using SQL DB , -MULTI Site Module.	<b>Nos.</b>	<b>1.00</b>	Amadeus 5			
Supply, installation, testing and commissioning of UL Listed Smart Card Reader fwith compatible support of weigand output, 13.56 MHz technology platform and complies with the ISO 15693 / 14443A standard for contact less smart card technology. Card reader must be configurable to read encrypted ISO14443A sectors using standard or custom read keys for Sign OUT Terminal. should be compatible with HID format cards. Encryption,All RF data transmission between the card and reader should be encrypted using a secure algorithm.	<b>Each</b>	<b>86.00</b>	R-10	5	5	5

Industry-standard encryption techniques and advanced key management systems should be used to avoid the risk of compromised data or duplicated cards. The reader should have audio transducer to provide various tone sequences to signify access granted, access denied, power up and diagnostics. Visually impaired cardholders can easily distinguish between access granted and access denied. High-intensity light bar should provide a clear visual status indication in red, green or amber, even in bright sunlight.						
Supply, testing and commissioning of iClass Smart card	<b>Each</b>	<b>520.00</b>	ICLASS CLAMSHEL			
Supply, installation, testing and commissioning of Single Leaf Electro Magnetic Lock of Suitable Capacity(Min 600 lbs).	<b>Each</b>	<b>36.00</b>	BEL-600S	8	8	8
Supply, installation, testing and commissioning of Double Leaf Electro Magnetic Lock of Suitable Capacity(Min 1200 lbs).	<b>Each</b>	<b>56.00</b>	BEL 1200lbs	1	1	1
Supply and Fixing of "U" Bracket with Accessories.	<b>Each</b>	<b>4.00</b>	u-600	0	0	0
Supply and Fixing of "L" Bracket with Accessories.	<b>Each</b>	<b>4.00</b>	l-600	10	10	10
Extra Item						
Exit Push button		<b>0</b>		5	5	5

VIDEO SURVEILLANCE SYSTEM(IP CCTV)				<b>Ground Floor</b>	<b>First Floor</b>	<b>Second Floor</b>
DESCRIPTON	Unit	QTY.	Model Number	<b>As per Drawing</b>	<b>As per Drawing</b>	<b>As per Drawing</b>
Supplying, installation, testing and commissioning of 2 megapixels resolution Network Dome Camera for true HD quality images,2.8 – 12 mm varifocal lens,True Day/Night (TDN) functionality for true color image ,Motion Detection 4 Zones, Multi- Level Sensitivity Privacy Zones 4 Zones,Snapshot Support JPEG format Password Protection Support Character Display Support(Channel /Date) ONVIF Yes,IR Illumination20-30M IR illuminators for clear images in low light conditions Wide Dynamic Range 3D noise reduction for sharper images and lower bandwidth use in low light ONVIF compliant complete in all respect.	Each	72.00	ISL02CFOCWINUL	13	13	13

<p>Supply, installation, testing and commissioning of 2 megapixels resolution Network Bullet camera camera,Imager 1/2.8” Progressive Scan CMOS,Video Compression. .H.264/MJPEG,Day/Night-IR Cut Filter,Minimum Illumination-0Lux/F1.4(IR ON) IR Range-Up to 50 Meter,Electronic Shutter-Auto/Manual(1/25~1/10000), Lens 2.8 to 12 mm Motorized zoom Lens,Resolution Main-1920x1080p,Digital Noise Reduction-3D,Wide Dynamic Range-120db, Behavior Analysis-Line crossing detection, intrusion detection, unattended baggage detection, object removal detection.Support Face Detection. Region of Interest Support 1 ROI per stream.Power Consumption and Current- 12 VDC, 1.2A, max. 14.5W PoE (802.3at, 42.5V to 57V), 0.5A to 0.1A, max. 16.5W.Protection Level IP67, IK10 TVS 2000V Lightning Protection, Surge Protection and Voltage Transient Protection.Regulatory UL, CE, FCC.Operating Conditions Temperature: -30 °C to +60 °C (-22 °F to +140 °F).Humidity: 95% or less.</p>	Each	82.00	ISL02MFONWINUL	6	4	4
<p>Supplying of 4U Rack mount single chassis Network Video Recorder with dual Gb NIC, 1 DVI-I + HDMI + 1 Display Port, max 2 simultaneous monitors, RS-232/485 serial port, DVD, Server Operating System- Windows 10,Ubuntu Linux 16.04, Gen 4 Intel Core i7, Local Client Display Rate (FPS)Windows – 700 FPS (HD)Linux – 900 FPS (HD),High Performance, High Reliability IP Recorder. — Continuously records 400Mbps (Windows) &amp; 800 Mbps (Linux)of video while hosting a local client, multiple remote clients and the web server on a single server,RAM-8 GB, 16 GB (Optional)solid-state operating system drive,USB-6 x USB 2.0, 2 x USB 3.0 high air flow cooling and hardware monitoring features ensure maximum uptime. keyboard and mouse, Professional Grade client and server software pre-installed and software updates. Access live and recorded video on multiple client PCs with free Windows, Mac or Linux client application. web server application is pre-installed on the</p>	Set	1.00	HOLNVR32 (2Nos)			

server to access video through a web browser or free Mobile iPhone / iPad and Android apps. Maximum Storage Capacity 240TB RAID6 & Maximum Hard Drive 20 Slot(Up to 12TB) Support Up to 128 IP Camera.						
Supplying of 2U Rack mount single chassis Network Video Recorder with dual Gb NIC, 1 DVI-I + HDMI + 1 Display Port, max 2 simultaneous monitors, RS-232/485 serial port, DVD, Server Operating System- Windows 10,Ubuntu Linux 16.04, Processor-Gen 4 Intel Core i3, Local Client Display Rate (FPS)Windows – 700 FPS (HD)Linux – 900 FPS (HD),High Performance, High Reliability IP Recorder. — Continuously records 300Mbps (Windows) & 450 Mbps (Linux)of video while hosting a local client, multiple remote clients and the web server on a single server, RAM-4 GB, 8 GB, 12 GB (Optional)solid- state operating system drive,USB-6 x USB 2.0, 2 x USB 3.0 high air flow cooling and hardware monitoring features ensure maximum uptime. keyboard and mouse, Professional Grade client and server software pre-installed and software updates. Access live and recorded video on multiple client PCs with free Windows, Mac or Linux client application. web server application is pre-installed on the server to access video through a web browser or free Mobile iPhone / iPad and Android apps. Maximum Storage Capacity 30TB & Maximum Hard Drive 3 Slot(Up to 10TB) Support Up to 64 IP Camera.	Set	1.00	HOLNVR32 ( 1 Nos)	2		
Supply, installation, testing and commissioning of Enterprise Class 6TB HDD.	Each	15.00	Seagate	8		

<p>Supply, installation, testing and commissioning of Video Management System (VMS) software shall be used to view live and recorded video from capture cards and IP devices connected to local and wide area networks. The VMS software shall have a client/server-based architecture that can be configured as a standalone VMS system with the client software running on the server hardware and/or the client running on any network-connected TCP/IP workstation. Multiple client workstations shall be capable of simultaneously viewing live and/or recorded video from one or more servers. Multiple servers shall also be able to simultaneously provide live and/or recorded video to one or more workstations. The VMS server software shall also have the ability to be installed on an IP edge device—such as an IP camera or encoder that allows for 3rd party applications—allowing the device to serve as both a server and IP video recording device. The VMS shall not charge for the number of concurrent clients (min. 50 thick clients and 16 mobile clients to be provided along with VMS).</p>	Each	154.00	Tyco	19	17	17
<p>Supply, installation, testing &amp; commissioning of Client Workstation having Intel Core i5 original motherboard, 16 GB RAM, Video graphics card 2 GB Licensed Windows 8 Professional (64 bit) and 1 TB Hard Disk with Web camera, Printer and finger print scanner.</p>	Each	4.00	HP-DT 280 G3 SFF	1		
<p>Supplying, Installation, Testing &amp; Commissioning of 55 " LED Full HD TV Resolution 1920 x 1080 , Contrast Ratio (Typical) 5000:1, Built-in Speaker (10W + 10W), Magic Clone (to USB), Auto Source Switching &amp; Recovery, Lamp Error Detection, Super Clear Coating, Temperature Sensor, Plug and Play (DDC2B), Pivot Display, Clock Battery, PIP/PBP, Video Wall (10x10), Image Rotation, Button Lock, HDCP Support, Smart Scheduling, Smart F/W update, Built-In MagicInfo Premium-Swith Mounting Brackets as per Technical Specification complete in all respect.</p>	Each	4.00	DC55E	2		

VIDEO SURVEILLANCE SYSTEM(IP CCTV)				Third Floor	Fourth Floor	Fifth Floor
DESCRIPTON	Unit	QTY.	Model Number	As per Drawing	As per Drawing	As per Drawing
Supplying, installation, testing and commissioning of 2 megapixels resolution Network Dome Camera for true HD quality images,2.8 – 12 mm varifocal lens,True Day/Night (TDN) functionality for true color image ,Motion Detection 4 Zones, Multi- Level Sensitivity Privacy Zones 4 Zones,Snapshot Support JPEG format Password Protection Support Character Display Support(Channel /Date) ONVIF Yes,IR Illumination20-30M IR illuminators for clear images in low light conditions Wide Dynamic Range 3D noise reduction for sharper images and lower bandwidth use in low light ONVIF compliant complete in all respect.	Each	72.00	ISL02CFOCWINUL	11	11	12
Supply, installation, testing and commissioning of 2 megapixels resolution Network Bullet camera camera,Imager 1/2.8” Progressive Scan CMOS,Video Compression. .H.264/MJPEG,Day/Night-IR Cut Filter,Minimum Illumination-0Lux/F1.4(IR ON) IR Range-Up to 50 Meter,Electronic Shutter-Auto/Manual(1/25~1/10000), Lens 2.8 to 12 mm Motorized zoom Lens,Resolution Main-1920x1080p,Digital Noise Reduction-3D,Wide Dynamic Range-120db, Behavior Analysis-Line crossing detection, intrusion detection, unattended baggage detection, object removal detection.Support Face Detection. Region of Interest Support 1 ROI per stream.Power Consumption and Current- 12 VDC, 1.2A, max. 14.5W PoE (802.3at, 42.5V to 57V), 0.5A to 0.1A, max. 16.5W.Protection Level IP67, IK10 TVS 2000V Lightning Protection, Surge Protection and Voltage Transient Protection.Regulatory UL, CE, FCC.Operating Conditions Temperature: -30 °C to +60 °C (-22 °F to +140 °F).Humidity: 95% or less.	Each	82.00	ISL02MFONWINUL	4	4	4

<p>Supplying of 4U Rack mount single chassis Network Video Recorder with dual Gb NIC, 1 DVI-I + HDMI + 1 Display Port, max 2 simultaneous monitors, RS-232/485 serial port, DVD, Server Operating System- Windows 10,Ubuntu Linux 16.04, Gen 4 Intel Core i7, Local Client Display Rate (FPS)Windows – 700 FPS (HD)Linux – 900 FPS (HD),High Performance, High Reliability IP Recorder. — Continuously records 400Mbps (Windows) &amp; 800 Mbps (Linux)of video while hosting a local client, multiple remote clients and the web server on a single server, RAM-8 GB, 16 GB (Optional)solid-state operating system drive,USB-6 x USB 2.0, 2 x USB 3.0 high air flow cooling and hardware monitoring features ensure maximum uptime. keyboard and mouse, Professional Grade client and server software pre-installed and software updates. Access live and recorded video on multiple client PCs with free Windows, Mac or Linux client application. web server application is pre-installed on the server to access video through a web browser or free Mobile iPhone / iPad and Android apps. Maximum Storage Capacity 240TB RAID6 &amp; Maximum Hard Drive 20 Slot(Up to 12TB) Support Up to 128 IP Camera.</p>	Set	1.00	HOLNVR32 (2Nos)			
<p>Supplying of 2U Rack mount single chassis Network Video Recorder with dual Gb NIC, 1 DVI-I + HDMI + 1 Display Port, max 2 simultaneous monitors, RS-232/485 serial port, DVD, Server Operating System- Windows 10,Ubuntu Linux 16.04, Processor-Gen 4 Intel Core i3, Local Client Display Rate (FPS)Windows – 700 FPS (HD)Linux – 900 FPS (HD),High Performance, High Reliability IP Recorder. — Continuously records 300Mbps (Windows) &amp; 450 Mbps (Linux)of video while hosting a local client, multiple remote clients and the web server on a single server, RAM-4 GB, 8 GB, 12 GB (Optional)solid- state operating system drive,USB-6 x USB 2.0, 2 x USB 3.0 high air flow cooling and hardware</p>	Set	1.00	HOLNVR32 ( 1 Nos)			



monitoring features ensure maximum uptime. keyboard and mouse, Professional Grade client and server software pre-installed and software updates. Access live and recorded video on multiple client PCs with free Windows, Mac or Linux client application. web server application is pre-installed on the server to access video through a web browser or free Mobile iPhone / iPad and Android apps. Maximum Storage Capacity 30TB & Maximum Hard Drive 3 Slot(Up to 10TB) Support Up to 64 IP Camera.						
Supply, installation, testing and commissioning of Enterprise Class 6TB HDD.	Each	15.00	Seagate			
Supply, installation, testing and commissioning of Video Management System (VMS) software shall be used to view live and recorded video from capture cards and IP devices connected to local and wide area networks. The VMS software shall have a client/server-based architecture that can be configured as a standalone VMS system with the client software running on the server hardware and/or the client running on any network-connected TCP/IP workstation. Multiple client workstations shall be capable of simultaneously viewing live and/or recorded video from one or more servers. Multiple servers shall also be able to simultaneously provide live and/or recorded video to one or more workstations. The VMS server software shall also have the ability to be installed on an IP edge device—such as an IP camera or encoder that allows for 3rd party applications—allowing the device to serve as both a server and IP video recording device. The VMS shall not charge for the number of concurrent clients (min. 50 thick clients and 16 mobile clients to be provided along with VMS).	Each	154.00	Tyco	15	15	16
Supply, installation, testing & commissioning of Client Workstation having Intel Core i5 original motherboard, 16 GB RAM, Video graphics card 2 GB Licensed Windows 8 Professional	Each	4.00	HP-DT 280 G3 SFF			

(64 bit) and 1 TB Hard Disk with Web camera, Printer and finger print scanner.							
Supplying, Installation, Testing & Commissioning of 55 " LED Full HD TV Resolution 1920 x 1080 , Contrast Ratio (Typical) 5000:1, Built-in Speaker (10W + 10W), Magic Clone (to USB), Auto Source Switching & Recovery, Lamp Error Detection, Super Clear Coating, Temperature Sensor, Plug and Play (DDC2B), Pivot Display, Clock Battery, PIP/PBP, Video Wall (10x10), Image Rotation, Button Lock, HDCP Support, Smart Scheduling, Smart F/W update, Built-In MagicInfo Premium-Swith Mounting Brackets as per Technical Specification complete in all respect.	Each	4.00	DC55E				

	Building Management System				Ground Floor	First Floor	Second Floor	Third Floor
S.No	DESCRIPTON	Unit	QTY	Model Number	Installed	Installed	Installed	Installed
1	BMS Computer System: Supply, installation, testing and commissioning of I7 Processor or Equivalet Server PC, Intel(R) Xeon(R) Processor, 2.93GHz, 4MB Cache with 4 GB RAM, & 1 TB HDD, 10/100 Mbps Ethernet card, USB connection & internal modem, Microsoft(R) Windows(R) 7 OS Professional Enterprise, Web server software, DVD-ROM Drive (with RAM), 100/1000 Mbps NIC for Network connection and anti virus software with 22" colour graphics monitor as per Tender Specifications. Accessories included Optical Mouse, Key Pad, Laserjet colour A4 printer with the above BMS System configuration.	Each	2.00	Dell	1			
	BUILDING MANAGEMENT SYSTEM WEB-BASED SERVER SOFTWARE	Each						
2	Supply, installation, testing and commissioning of the multi user with simultaneous minimum 2 user web based Server license. Software for Building Management System with dynamic graphics. The Web-Based Server software shall permit use of Standard Web-Browsers such as Microsoft Internet Explorer, Netscape Navigator, etc with EMAIL / SMS	Set	2.00	DESIGO CC	1			

	OPTION AVAILABLE. Software should be have license of 2500 points (hardwired 1000 points & software 1500 points both).							
3	Supply, installation, testing and commissioning of Energy Management & Analysis software capable of fetching the energy data from energy meter and storing it the same BMS PC as per Tender Specifications.(No additional PC Shall be provided for EM Software)	Set	2.00	DESIGO CC	1			
	PROGRAMMABLE & APPLICATION SPECIFIC CONTROLLER (DDC) - UL LISTED	Eac h						
	Supply, installation, testing and commissioning of Programmable and Application specific 32 bit, UL Listed BACnet (BTL certified) Real Time controllers, field mounted configured as per Data Point Summary for respective building services and as per below distributions. The DDC shall be Compact Type Controller with inbuilt minimum 16 Universal Inputs & with a polling speed of 100 ms. The controller shall be housed in vandal proof lockable MS cabinets. No Expansion controller, Digital to Analog, Analog to Digital convertor shall be allowed. Proprietary Protocol shall not be accepted. As per Tender Specifications.	Eac h						
	The above shall be housed in a vandal proof, lockable & secure MS Cabinets to be supplied along with the Controllers as per the List of Approved makes. Number of controllers shall have spare capacity for future expansion upto 15%	Eac h						
4	DCC controllers for VRV	Eac h	22.00	PXC12D	8	9	8	7
5	DCC controllers for Ventillation System		6.00	PXC12D				
6	DCC controllers for DG system		2.00	PXC12D				
7	DCC controllers for Transformer		1.00	PXC12D				
8	DCC controllers for Fire Fighting System		3.00	PXC12D				
9	DCC controllers for Plumbing / Domestic / Raw System		5.00	PXC12D				
10	DCC controllers for Electrical System		6.00	PXC12D				
11	DCC controllers for Elevator System		2.00	PXC12D				
	Make : SEIMENS/SCHNEIDER/HONEYWEL L							
	WEB SERVER ENGINES (NETWORK / SUPERVISORY CONTROLLERS)							



SENSORS AND FIELD DEVICES								
	Supplying, installing, testing and commissioning of the following sensors / transducers / transmitters							
19	Outside air temperature + humidity RH & Wetbulb sensors for measuring outside air temperature. It should be provided with sun sheild and rain protection.		2.00	HSOSA31 2				
20	UL Listed Current Relay with built in LEDs for On / Off commands Status		32.00	CS-610-75				
21	Water Level Switches for indicating level status in sumps & Tanks		6.00	ALS-2				
22	Differential pressure switches across the fan blowers indicating status.		17.00	Not required				
23	Room Temperature Sensor shall be with rigid stem and of averaging type.		35.00	Not required				
24	Pressure sensor with IP 67 protection for measuring line pressure in Hydrant / Sprinkler lines		3.00	GPB08S15				
25	UL Listed Room Mount CO2 Sensor		35.00	Not required				
26	Flame Proof Bi- Level Indicator fo DG Tank		2.00	ST1-S5- F3 -MS -FP - 2C				
27	Ultrasonic Water Flow Meters		1.00					
28	PH Analyser		2.00	PCPR1K				
29	TDS Analyser		2.00	PC1				
30	Voltage Transducer		2.00	CON V				
31	CO Sensor - Space Type for Basement Parking		14.00	Not required				

Building Management System				Fourth Floor	Fifth Floor			
DESCRIPTON	Unit	QTY.	Model Number	Installed	Installed	Fire Pump Room	DG Room	Pump Room
BMS Computer System: Supply, installation, testing and commissioning of I7 Processor or Equivalet Server PC, Intel(R) Xeon(R) Processor, 2.93GHz, 4MB Cache with 4 GB RAM, & 1 TB HDD, 10/100 Mbps Ethernet card, USB connection & internal modem, Microsoft(R) Windows(R) 7 OS Professional Enterprise, Web server software, DVD-ROM Drive (with RAM), 100/1000 Mbps NIC for Network connection and anti virus software with 22" colour graphics monitor as per Tender Specifications. Accessories included Optical Mouse, Key Pad, Laserjet colour A4 printer with the above BMS System configuration.	Each	2.00	Dell					

BUILDING MANAGEMENT SYSTEM WEB-BASED SERVER SOFTWARE	Each							
Supply, installation, testing and commissioning of the multi user with simultaneous minimum 2 user web based Server license. Software for Building Management System with dynamic graphics. The Web-Based Server software shall permit use of Standard Web-Browsers such as Microsoft Internet Explorer, Netscape Navigator, etc with EMAIL / SMS OPTION AVAILABLE. Software should be have license of 2500 points (hardwired 1000 points & software 1500 points both).	Set	2.00	DESIGO CC					
Supply, installation, testing and commissioning of Energy Management & Analysis software capable of fetching the energy data from energy meter and storing it the same BMS PC as per Tender Specifications. (No additional PC Shall be provided for EM Software)	Set	2.00	DESIGO CC					
PROGRAMMABLE & APPLICATION SPECIFIC CONTROLLER (DDC) - UL LISTED	Each							
Supply, installation, testing and commissioning of Programmable and Application specific 32 bit, UL Listed BACnet (BTL certified) Real Time controllers, field mounted configured as per Data Point Summary for respective building services and as per below distributions. The DDC shall be Compact Type Controller with inbuilt minimum 16 Universal Inputs & with a polling speed of 100 ms. The controller shall be housed in vandal proof lockable MS cabinets. No Expansion controller, Digital to Analog, Analog to Digital convertor shall be allowed. Proprietary Protocol shall not be accepted. As per Tender Specifications.	Each							
The above shall be housed in a vandal proof, lockable & secure MS Cabinets to be supplied along with the Controllers as per the List of Approved makes. Number of controllers shall have spare capacity for future expansion upto 15%	Each							
DCC controllers for VRV	Each	22.00	PXC12D	5	14	3	4	5
DCC controllers for Ventillation System		6.00	PXC12D					
DCC controllers for DG system		2.00	PXC12D					
DCC controllers for Transformer		1.00	PXC12D					
DCC controllers for Fire Fighting System		3.00	PXC12D					
DCC controllers for Plumbing / Domestic / Raw System		5.00	PXC12D					
DCC controllers for Electrical System		6.00	PXC12D					

DCC controllers for Elevator System		2.00	PXC12D					
Make : SEIMENS/SCHNEIDER/HONEYWELL								
WEB SERVER ENGINES (NETWORK / SUPERVISORY CONTROLLERS)								
Supply, installation, testing and commissioning of Microprocessor based 32 Bit ,UL Listed Embedded Web Server Engine-cum-Network & Supervisory controller on BACnet/IP units for connecting all field DDC controllers and 3rd party System Integration Units to it and for transferring data from field devices to BMS Web-Server Software . The Network Controller shall support BACnet standard MS/TP Protocol and shall be BACnet testing lab certified (BTL) and carry the BTL label .The Network supervisory Controller shall have imbedded graphic capability for generating web based user graphics & support minimum of Five Concurrent User .The Web user shall have the capability to access all system data through one Network Controller. In case of PC/Software Failure, User can access the system using POT.		6.00	PXG3.L + PXM20					
Make : SEIMENS/SCHNEIDER/HONEYWELL								
SYSTEM INTEGRATION UNITS FOR 3RD PARTY SYSTEM SOFTWARE INTEGRATION - UL listed Controllers								
Supply, installation, testing and commissioning of BACnet/ MSTP Based System Integration unit consisting of microprocessor based controller units as required to communicate between the Network Controller & the individual 3rd party microprocessor system controllers like Chillers, DGs, VFDs, VAV terminal units, UPS, Multifunction Digital Electronic Meters, Fire Detection Systems, STP, Elevators etc. as per distribution given below :								
For VRV (10 points/VRV on open Protocol Output BACnet/Modbus)		3.00	GW-BMS-01					
For Addressable Fire Detection System Control Panel		2.00	GW-BMS-01					
For DG System points mentioned in IO summary		2.00	GW-BMS-01					
Lift System points mentioned in IO summary		2.00	GW-BMS-01					
LT Electrical Panel & EM points mentioned in IO summary		2.00						





Supplying & Fixing of Non- PCB based Information Outlet (I/O) RJ45, Tolless Termination TIA-568C Category-6, Termination of Categrory-6 UTP Cable, UL listed ,Shall conform to Category-6 as per the EIA/TIA-568C.2,Shall support network line speeds up to 1 Gbps, Shall have RJ-45 type connector with bend limiting and strain relief boot for securing IDC contacts from external forces and for maintaining the bend radius of the cable, Shall have minimum duraility of 950 or Above mating cycles and 200 termination cycles. Certified by independent labs like ETL/GHMT/3P for compliance to EIA/TIA-568C.2 complete in all respect.	Nos	2034.00	IG610-X	74	0	119	19	142	26
Supplying & Fixing of Single Faceplate Shall be Dual Port (RJ45) square plate, dimension as per commercially available modular office furniture.Shall have spring shuttered front access for preventing ingress of dust,Shall be supplied with Gang Box of the same size by System Integrator complete in all respect.	Nos	1020.00	HL186-P2W	41	0	58	0	65	0
Supplying & Fixing of UTP Jack Panel, loaded with 24 nos UTP ports for Non-PCB based IO Jacks (RJ45, TIA-568C Category-6, Shall have integrated bonding bar or other mechanism for grounding, Shall be loaded with individually replaceable 24 nos. Category-6	Nos	88.00	JP-24	4	0	5	0	6	0

certification by Jacks complying with TIA-568.C.2 , Shall be having a 6 port module construction for better cable dressing at the rear, the jacks shall have RJ-45 type connector with bend limiting and strain relief boot for securing IDC contacts from external forces and for maintaining the bend radius of the cable complete in all respect.									
Supplying & Fixing of Category 6, UTP patch cords shall be constructed of 24-27 AWG unshielded twisted pair stranded copper cable with an enhanced performance modular plug at each end. Patch cord cable shall be offered in multiple colored UTP cable for design flexibility with a clear strain relief boot on each modular plug. All patch cords shall be compatible with both T568A and T568B wiring schemes. UTP Cable will be 1.0 mtr. complete in all respect. Jacket - LSZH	Nos	2028.00	UTPPC-63	123	0	111	0	143	0
Supplying & Fixing of Category 6 UTP patch cords shall be constructed of 24-27 AWG unshielded twisted pair stranded copper cable with an enhanced performance modular plug at each end. Patch cord cable shall be offered in multiple colored UTP cable for design flexibility with a clear strain relief boot on each modular plug. All patch cords shall be compatible with both T568A and T568B wiring schemes. Blue UTP Cable, 2 Meter complete in all respect. Jacket -LSZH	Nos	1047.00	UTPPC-67	123	0	111	0	143	0

Supplying & Fixing of Fiber Optic LC style fully loaded Patch Panel (FOPP), 19" Rack Mount ,Shall have all accessories including coupler plates pre loaded with 24 Nos of LC couplers (OM3) with all accessories complete in all respect. Pigtails Should Complie to ITU-G657.B-Bend insensitive fiber.	Nos	5.00	APZC-24F	1		1		1	
Supplying & Fixing of Fiber Optic Patch Cable (LC-LC), 3 Mtrs. Long, ISO/IEC-11801-OM3 50µ Duplex, LSZH,All patch cords shall conform to EIA/TIA-568C.3 and ISO/IEC-11801,Shall be Duplex Multi Mode Fiber Optic Patch Cords OM3 50µ,Shall support network line speeds up to 10 Gbps.Shall have LC-LC Connector connectors at the ends complete in all respect.	Nos	38.00	PCLC-03	24		24		24	
Supply & Fixing of OM3 50/125µ Type Pigtails of ISO/IEC-11801-OM3 Pigtails with LC Type Connectors,pigtails for terminating fibers on the FOPP complete in all respect.	Nos	228.00	TPL-12F	120		18		18	
Supplying, Installation, Testing & Commissioning of of 50 Port telephone Jack Panel Approved.	Each	20.00	Delton	1		1		2	
Supplying, Installation, Testing & Commissioning of 48 port 10/100/1000BASE-T ports and four GbE/10GbE SFP/SFP+ uplink ports layer 3 from day1 having static & RIP , stackable upto 10 switches, should support external	Nos	20.00	EX3400-48T	2		1		2	

redundant power supply, each switch should be provided with stacking port/cable.									
Supplying Installation testing and Commissioning of 24 port 10/100/1000BASE-T ports and four GbE/10GbE SFP/SFP+ uplink ports, layer 3 from day1 having static & RIP ,stackable upto 10 switches, should support external redundant power supply, certified , each switch should be provided with stacking port/cable complete in all respect	Nos	5.00	EX3400-24T			1		1	
POE Switch for CCTV 24 port	Nos		SG350-28P	2		1		1	
Supplying Installation testing and Commissioning of SFP+ 10 Gigabit Ethernet Direct Attach Copper (twinax copper cable) 1m in length complete in all respect.	Nos	30.00	EX-SFP-10GE-DAC-1M	4		3		3	
Supplying Installation testing and Commissioning of Small Form Factor Pluggable 1 Gigabit Ethernet (SFP+) SR Optics	Nos	38.00	EX-SFP-1GE-SX	2		2		4	
Supplying Installation testing and Commissioning of 32 Port Fiber Switch 10/100/1000BASE-T ports, with up to 4X 10GbE uplinks and 2X 40GbE uplinks, Switch should support stacking bandwidth of minimum 160gbps, Modular operating system, 32 1 Gig SFP port with additional 4 no. of 10g SFP+PORT, redundant power supply, layer3 switch, each switch should be provided	Nos	2.00	EX4300-32F	1					

with stacking port/cable complete in all respect.									
Supplying Installation testing and Commissioning of SFP 1000Base-T 10/100/1000 Copper Transceiver Module for up to 100m transmission on Cat6 complete in all respect.	Nos	4.00	EX-SFP-1GE-T	2					
Supplying & Fixing of Floor Standing Network/Server Rack - 42U / 800w / 800d, with Heavy Duty Extruded Aluminium Frame for rigidity. Top cover with FHU provision. Top & Bottom cover with cable entry gland plates. Two pairs of 19" mounting angles with 'U' marking. Depth support channels - 3 pairs. With a Overall Weight Carrying Capacity of 500Kgs. Side Panels - 42U/800d Front MS Door Perforated honeycomb 42U/800w Rear MS Door Split Perforated honeycomb 42U/800wFan 90CFM 230V AC, 4" dia Castors with Brake (set of 4) Vertical Cable manager 80mmW 42U Shelf, Stationery 700mm N/W PDU 12Sockets 5/15Amps with MCB Mounting Hardware (Pkt. Of 20) earthing Kit 150mmH Cable manager 1U MS with Loops complete in all respect.	Nos	2.00	HR-S	1	0				
Supplying & Fixing of Floor Standing Network Rack - 22U / 600w / 800d, with Heavy Duty Extruded Aluminium Frame for rigidity. Top cover with FHU provision. Top & Bottom cover with cable entry	Nos	15.00	HR-S	2		1		1	



Supplying & Fixing of Non- PCB based Information Outlet (I/O) RJ45, Tolless Termination TIA- 568C Category-6, Termination of Category-6 UTP Cable, UL listed ,Shall conform to Category-6 as per the EIA/TIA-568C.2,Shall support network line speeds up to 1 Gbps, Shall have RJ-45 type connector with bend limiting and strain relief boot for securing IDC contacts from external forces and for maintaining the bend radius of the cable, Shall have minimum durability of 950 or Above mating cycles and 200 termination cycles. Certified by independent labs like ETL/GHMT/3P for compliance to EIA/TIA-568C.2 complete in all respect.	Nos	2034.00	IG610-X	200	56	118	18	124	67
Supplying & Fixing of Single Faceplate Shall be Dual Port (RJ45) square plate, dimension as per commercially available modular office furniture.Shall have spring shuttered front access for preventing ingress of dust,Shall be supplied with Gang Box of the same size by System Integrator complete in all respect.	Nos	1020.00	HL186-P2W	102	0	64	0	67	0
Supplying & Fixing of UTP Jack Panel, loaded with 24 nos UTP ports for Non-PCB based IO Jacks (RJ45, TIA-568C Category-6, Shall have integrated bonding bar or other mechanism for grounding, Shall be loaded with individually replaceable 24 nos. Category-6 certification by Jacks complying with TIA-568.C.2 , Shall be having a 6 port module construction for better cable dressing at the rear, the jacks shall have RJ-45 type connector with	Nos	88.00	JP-24	9	0	6	0	6	0

bend limiting and strain relief boot for securing IDC contacts from external forces and for maintaining the bend radius of the cable complete in all respect.									
Supplying & Fixing of Category 6, UTP patch cords shall be constructed of 24-27 AWG unshielded twisted pair stranded copper cable with an enhanced performance modular plug at each end. Patch cord cable shall be offered in multiple colored UTP cable for design flexibility with a clear strain relief boot on each modular plug. All patch cords shall be compatible with both T568A and T568B wiring schemes. UTP Cable will be 1.0 mtr. complete in all respect. Jacket -LSZH	Nos	2028.00	UTPPC-63	154	0	94	0	115	0
Supplying & Fixing of Category 6 UTP patch cords shall be constructed of 24-27 AWG unshielded twisted pair stranded copper cable with an enhanced performance modular plug at each end. Patch cord cable shall be offered in multiple colored UTP cable for design flexibility with a clear strain relief boot on each modular plug. All patch cords shall be compatible with both T568A and T568B wiring schemes. Blue UTP Cable, 2 Meter complete in all respect. Jacket -LSZH	Nos	1047.00	UTPPC-67	154	0	94	0	115	0
Supplying & Fixing of Fiber Optic LC style fully loaded Patch Panel (FOPP), 19" Rack Mount ,Shall have all accessories including coupler plates pre loaded with 24 Nos of LC couplers (OM3) with all accessories complete in	Nos	5.00	APZC-24F	1		1		1	



all respect. Pigtails Should Comply to ITU-G657.B-Bend insensitive fiber.									
Supplying & Fixing of Fiber Optic Patch Cable (LC-LC), 3 Mtrs. Long, ISO/IEC-11801-OM3 50µ Duplex, LSZH, All patch cords shall conform to EIA/TIA-568C.3 and ISO/IEC-11801, Shall be Duplex Multi Mode Fiber Optic Patch Cords OM3 50µ, Shall support network line speeds up to 10 Gbps. Shall have LC-LC Connector connectors at the ends complete in all respect.	Nos	38.00	PCLC-03	24		24		24	
Supply & Fixing of OM3 50/125µ Type Pigtails of ISO/IEC-11801-OM3 Pigtails with LC Type Connectors, pigtails for terminating fibers on the FOPP complete in all respect.	Nos	228.00	TPL-12F	18		18		12	
Supplying, Installation, Testing & Commissioning of of 50 Port telephone Jack Panel Approved.	Each	20.00	Delton	2		1		1	0
Supplying, Installation, Testing & Commissioning of 48 port 10/100/1000BASE-T ports and four GbE/10GbE SFP/SFP+ uplink ports layer 3 from day1 having static & RIP , stackable upto 10 switches, should support external redundant power supply, each switch should be provided with stacking port/cable.	Nos	20.00	EX3400-48T	2		2		2	
Supplying Installation testing and Commissioning of 24 port 10/100/1000BASE-T ports and four GbE/10GbE SFP/SFP+ uplink ports, layer 3 from day1 having static & RIP ,stackable upto 10 switches, should support external	Nos	5.00	EX3400-24T	1		0	0	0	

redundant power supply, certified , each switch should be provided with stacking port/cable complete in all respect									
POE Switch for CCTV 24 port	Nos		SG350-28P	1		1		1	
Supplying Installation testing and Commissioning of SFP+ 10 Gigabit Ethernet Direct Attach Copper (twinax copper cable) 1m in length complete in all respect.	Nos	30.00	EX-SFP-10GE-DAC-1M	3		3		3	
Supplying Installation testing and Commissioning of Small Form Factor Pluggable 1 Gigabit Ethernet (SFP+) SR Optics	Nos	38.00	EX-SFP-1GE-SX	4		4		4	
Supplying Installation testing and Commissioning of 32 Port Fiber Switch 10/100/1000BASE-T ports, with up to 4X 10GbE uplinks and 2X 40GbE uplinks, Switch should support stacking bandwidth of minimum 160gbps, Modular operating system, 32 1 Gig SFP port with additional 4 no. of 10g SFP+PORT, redundant power supply, layer3 switch, each switch should be provided with stacking port/cable complete in all respect.	Nos	2.00	EX4300-32F						
Supplying Installation testing and Commissioning of SFP 1000Base-T 10/100/1000 Copper Transceiver Module for up to 100m transmission on Cat6 complete in all respect.	Nos	4.00	EX-SFP-1GE-T						
Supplying & Fixing of Floor Standing Network/Server Rack - 42U / 800w / 800d, with Heavy Duty Extruded Aluminium Frame for rigidity. Top cover with FHU provision. Top &	Nos	2.00	HR-S						

<p>Bottom cover with cable entry gland plates. Two pairs of 19" mounting angles with 'U' marking. Depth support channels - 3 pairs. With a Overall Weight Carrying Capacity of 500Kgs. Side Panels - 42U/800d Front MS Door Perforated honeycomb 42U/800w Rear MS Door Split Perforated honeycomb 42U/800w Fan 90CFM 230V AC, 4" dia Castors with Brake (set of 4) Vertical Cable manager 80mmW 42U Shelf, Stationery 700mm N/W PDU 12Sockets 5/15Amps with MCB Mounting Hardware (Pkt. Of 20) earthing Kit 150mmH Cable manager 1U MS with Loops complete in all respect.</p>									
<p>Supplying &amp; Fixing of Floor Standing Network Rack - 22U / 600w / 800d, with Heavy Duty Extruded Aluminium Frame for rigidity. Top cover with FHU provision. Top &amp; Bottom cover with cable entry gland plates. Two pairs of 19" mounting angles with 'U' marking. Depth support channels - 3 pairs. With a Overall Weight Carrying Capacity of 500Kgs. Side Panels - 22U/800d Front MS Door perforated honeycomb 22U/600w Rear MS Door (Fully Perforated - Mesh) 22U/600w Fan 90CFM 230V AC, 4" dia Castors with Brake (set of 4) Cable manager 1U MS with Loops Shelf, Stationery 475mm N/W PDU 7Sockets 5Amps with MCB Mounting Hardware (Pkt. Of 20) Vertical Cable Channel 50mmW 22U complete in all respect.</p>	Nos	15.00	HR-S	1		1		1	

Supplying & Fixing of WALL MOUNT Network Rack - 12U / 600w / 600d, with Heavy Duty Extruded Aluminium Frame for rigidity. Top cover with FHU provision. Top & Bottom cover with cable entry gland plates. Two pairs of 19" mounting angles with 'U' marking. Depth support channels - 3 pairs. complete in all respect.	Nos	4.00	HR-S	1	1	1	
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Telephone System	Unit	BOQ QTY	Model Number	Ground Floor	First Floor	Second Floor
DESCRIPTON				As per Drawing	As per Drawing	As per Drawing
Supply Installation, Testing and Commissioning of Server Based EPABX Fully Computerized IP System, SIP Compliant. 2U Rack Mountable,Expandable upto 2000Ports.and configured as for below Ports	Nos	0	SV9100	0		
P & T(CO Trunk) Line 32 No						
PRI(30 Channel) 2 No						
IPExtension Circuit 75 No						
Digital Extension Circuit 64 No						
Analog Extension Circuit 1200 No						
SIP Trunking 164 No						
Supply Installation, Testing and Commissioning of Server Based EPABX Fully Computerized IP System, SIP Compliant. 2U Rack Mountable,Expandable upto 1000Ports.and configured as for below Ports	Nos	1	SV9100	1		

P & T(CO Trunk) Line 32 No						
PRI(30 Channel) 2 No						
IPExtension Circuit 45 no						
Digital Extension Circuit 32 No						
Analog Extension Circuit 800 No						
SIP Trunking 64 No						
Supply Installation and Commissioning of PC Based centralized Operator Console with all dignostic Softwareof IP EPABX System (Supplying with PC).	Nos	1		1		
Supply Installation, Testing and Commissioning of Integrated Viocemail System 4 Level IVR software with 6 different languages and 4 time schedule(As per OEM).	Nos	1		1		
Supply Installation and Commissioning of License for web integration for aspire net license integrated with hub exchange	Nos	1		1		
Supply Installation Testing and Commissioning of Digital Phone (24Key+ 60-line DSS Console) Backlit keypad Hands-free, full duplex ,Headset support Easy to use soft keys/LCD prompts,Directory dialling,Navigation wheel,Call history,Backlit LCD screen,Bluetooth support (BCAZ),Security lock key XML open interface .	Nos	1	DT800- DT400 Sereis	1		

Supply Installation Testing and Commissioning of 24Key Digital Phone Backlit keypad Hands-free, full duplex ,Headset support Easy to use soft keys/LCD prompts,Directory dialling,Navigation wheel,Call history,Backlit LCD screen,Bluetooth support (BCAZ),Security lock key XML open interface .	Nos	5	DT800-DT400 Sereis		1	1
Supply Installation Testing and Commissioning of Digital Phone (12Key)Backlit keypad Hands-free, full duplex Headset support Easy to use soft keys/LCD prompts Directory dialling Navigation wheel Call history , Backlit LCD screen,Bluetooth support (BCAZ),Security lock key XML open interface.	Nos	5	DT800-DT400 Sereis	1	1	1
Supply Installation Testing and Commissioning of Digital Phone (6Key)Backlit keypad Hands-free, full duplex Headset support Easy to use soft keys/LCD prompts Directory dialling Navigation wheel Call history , Backlit LCD screen,Bluetooth support (BCAZ),Security lock key XML open interface.	Nos	36	DT800-DT400 Sereis	3		12
Supply Installation Testing and Commissioning of IP Phone (12Key)Backlit keypad Hands-free, full duplex Headset support Easy to use soft keys/LCD prompts Directory dialling Navigation wheel Call history , Backlit LCD screen,Bluetooth support (BCAZ),Security lock key XML open interface.	Nos		DT800-DT400 Sereis			
Supply Installation, Testing and Commissioning of Analog Speaker Phone with backlight.	Nos	223	Beetel M56	23	58	24

Telephone System	Unit	BOQ QTY	Model Number	Third Floor	Fourth Floor	Fifth Floor
DESCRIPTON				As per Drawing	As per Drawing	As per Drawing

Supply Installation, Testing and Commissioning of Server Based EPABX Fully Computerized IP System, SIP Compliant. 2U Rack Mountable,Expandable upto 2000Ports.and configured as for below Ports	Nos	0	SV9100			
P & T(CO Trunk) Line 32 No						
PRI(30 Channel) 2 No						
IPExtension Circuit 75 No						
Digital Extension Circuit 64 No						
Analog Extension Circuit 1200 No						
SIP Trunking 164 No						
Supply Installation, Testing and Commissioning of Server Based EPABX Fully Computerized IP System, SIP Compliant. 2U Rack Mountable,Expandable upto 1000Ports.and configured as for below Ports	Nos	1	SV9100			
P & T(CO Trunk) Line 32 No						
PRI(30 Channel) 2 No						
IPExtension Circuit 45 no						
Digital Extension Circuit 32 No						
Analog Extension Circuit 800 No						
SIP Trunking 64 No						
Supply Installation and Commissioning of PC Based centralized Operator Console with all dignostic Softwareof IP EPABX System (Supplying with PC).	Nos	1				

Supply Installation, Testing and Commissioning of Integrated Voicemail System 4 Level IVR software with 6 different languages and 4 time schedule(As per OEM).	Nos	1				
Supply Installation and Commissioning of License for web integration for aspire net license integrated with hub exchange	Nos	1				
Supply Installation Testing and Commissioning of Digital Phone (24Key+ 60-line DSS Console) Backlit keypad Hands-free, full duplex ,Headset support Easy to use soft keys/LCD prompts,Directory dialling,Navigation wheel,Call history,Backlit LCD screen,Bluetooth support (BCAZ),Security lock key XML open interface .	Nos	1	DT800- DT400 Sereis			
Supply Installation Testing and Commissioning of 24Key Digital Phone Backlit keypad Hands-free, full duplex ,Headset support Easy to use soft keys/LCD prompts,Directory dialling,Navigation wheel,Call history,Backlit LCD screen,Bluetooth support (BCAZ),Security lock key XML open interface .	Nos	5	DT800- DT400 Sereis	1	1	1
Supply Installation Testing and Commissioning of Digital Phone (12Key)Backlit keypad Hands-free, full duplex Headset support Easy to use soft keys/LCD prompts Directory dialling Navigation wheel Call history , Backlit LCD screen,Bluetooth support (BCAZ),Security lock key XML open interface.	Nos	5	DT800- DT400 Sereis		1	1
Supply Installation Testing and Commissioning of Digital Phone (6Key)Backlit keypad Hands-free, full duplex Headset support Easy to use soft keys/LCD prompts Directory dialling Navigation wheel Call history , Backlit LCD screen,Bluetooth support (BCAZ),Security lock key XML open interface.	Nos	36	DT800- DT400 Sereis	12	6	3
Supply Installation Testing and Commissioning of IP Phone (12Key)Backlit keypad Hands-free, full duplex Headset support Easy to use soft keys/LCD prompts Directory dialling Navigation wheel Call history , Backlit LCD screen,Bluetooth support (BCAZ),Security lock key XML open interface.	Nos		DT800- DT400 Sereis	1		



Supply Installation, Testing and Commissioning of Analog Speaker Phone with backlight.	Nos	223	Beetel M56	32	44	42
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<b>PUBLIC ADDRESS SYSTEM</b>			<b>Ground Floor</b>	<b>First Floor</b>	<b>Second Floor</b>
<b>DESCRIPTON</b>	<b>Unit</b>	<b>model number</b>	<b>As per Drawing</b>	<b>As per Drawing</b>	<b>As per Drawing</b>
SITC of 6W Recessed Ceiling speakers with following features:-Speaker Drive 6", Complete Aluminium grille and Metal baffle, line matching transformer 100/70V line. Variable wattage tappings of 6 / 3 / 1.5, Effective frequency range 110-15kHz (BS6840), SPL@1m/1W=91dB, Peak SPL 97dB complete with necessary mounting hardware & accessories.	Nos	CMS5/T	35	40	46
SITC of 10W Wall Mount Speaker with Frequency Response 150Hz - 15kHz, with Line Matching transformer 100V. Variable tapping 10W/5W, SPL@1M/1W - 90dB, Peak SPL 98dB.	Nos	SML6/T	3	3	3
Supply, Installation, Testing & Commissioning of Digital Voice Evacuation system for 8 Zones expandable to 120 Zones. The System shall meet the standards of BS EN54 - 32 & EN 60849. The System Shall have Built in 500W Class-D Amplifier and it should be capable for the EVAC, Paging, PA and BGM functions. The Controller shall have SD card option to store the EVAC and Alert Voice Message. The Controller shall have Speaker line supervision and amplifier auto changeover. The Controller shall have following features: Seperate Zone volume control at the front side of panel, Status indications on the Panel for EVAC,Fault ,AC,DC ,Fault,ALERT & Fireman mic, Zone capacity up to 96 Zones, 8 programmable Control Input and output, Fireman Microphone with High Priority, THD<1%, Frequency response 80Hz - 20kHz, Up to 1000 Record files, 100V Class-AB Speaker Output.	Nos	DVA8-500	1		
SITC of Remote Paging microphone with minimum 12 buttons and Busy/Hole Indication. The Microphone Should be suitable for Desktop mounting.	Nos.	DVA8-500RM	1		

Supply Installation testing and comisioning of 500W RMS Dual Channel Class-D Digital Power Amplifier with Switch power technology for power electricity saving, Separate PFC Design for highest reliability, Separate Power Supply System. Amplifier shall have Following Features: 240W RMS per Channel, Amplifier Output 100V, Supply input AC 220 +/- 10% - 50/60Hz, Short Circuit, Power, Tempreature, Overload Protection, Auto Cooling Fans. THD <0.1%, Frequency Response 40Hz - 20kHz, AC & DC Fuse, SNR >89dB.	Nos	DPA2500	1		
Supply Installation testing and comisioning of 120W RMS Dual Channel Class-D Digital Power Amplifier with Switch power technology for power electricity saving, Separate PFC Design for highest reliability, Separate Power Supply System. Amplifier shall have Following Features: 60W RMS per Channel, Amplifier Output 100V, Supply input AC 220 +/- 10% - 50/60Hz, Short Circuit, Power, Tempreature, Overload Protection, Auto Cooling Fans. THD <0.1%, Frequency Response 40Hz - 20kHz, AC & DC Fuse, SNR >89dB.	Nos	DPA2120	1		
Supply Installation testing and comisioning of Professional CD/DVD player with USB flash port & 19" Rack mount arrangement.	Nos		1		
Supply Installation testing and comisioning Volume Controller for Office and Cabins.	Nos	VCT-6R	9	18	22
Supply Installation testing and comisioning of 19-inch Equipment Rack with standardized frame or enclosure for mounting multiple PA controllers, CD player, Amplifiers etc modules. Size 24U.	Nos	HR-S	1		
TOTAL - PA SYSTEM- INTERNAL					

<b>PUBLIC ADDRESS SYSTEM</b>			<b>Third Floor</b>	<b>Fourth Floor</b>	<b>Fifth Floor</b>
<b>DESCRIPTON</b>	<b>Unit</b>	<b>model number</b>	<b>As per Drawing</b>	<b>As per Drawing</b>	<b>As per Drawing</b>

SITC of 6W Recessed Ceiling speakers with following features: -Speaker Drive 6", Complete Aluminium grille and Metal baffle, line matching transformer 100/70V line. Variable wattage tappings of 6 / 3 / 1.5, Effective frequency range 110-15kHz (BS6840), SPL@1m/1W=91dB, Peak SPL 97dB complete with necessary mounting hardware & accessories.	Nos	CMS5/T	45	42	53
SITC of 10W Wall Mount Speaker with Frequency Response 150Hz - 15kHz, with Line Matching transformer 100V. Variable tapping 10W/5W, SPL@1M/1W - 90dB, Peak SPL 98dB.	Nos	SML6/T	3	3	3
Supply, Installation, Testing & Commissioning of Digital Voice Evacuation system for 8 Zones expandable to 120 Zones. The System shall meet the standards of BS EN54 - 32 & EN 60849. The System Shall have Built in 500W Class-D Amplifier and it should be capable for the EVAC, Paging, PA and BGM functions. The Controller shall have SD card option to store the EVAC and Alert Voice Message. The Controller shall have Speaker line supervision and amplifier auto changeover. The Controller shall have following features: Seperate Zone volume control at the front side of panel, Status indications on the Panel for EVAC, Fault, AC, DC, Fault, ALERT & Fireman mic, Zone capacity up to 96 Zones, 8 programmable Control Input and output, Fireman Microphone with High Priority, THD<1%, Frequency response 80Hz - 20kHz, Up to 1000 Record files, 100V Class-AB Speaker Output.	Nos	DVA8-500			
SITC of Remote Paging microphone with minimum 12 buttons and Busy/Hole Indication. The Microphone Should be suitable for Desktop mounting.	Nos.	DVA8-500RM			
Supply Installation testing and comisioning of 500W RMS Dual Channel Class-D Digital Power Amplifier with Switch power technology for power electricity saving, Separate PFC Design for highest reliability, Separate Power Supply System. Amplifier shall have Following Features: 240W RMS per Channel, Amplifier Output 100V, Supply input AC 220 +/- 10% - 50/60Hz, Short Circuit, Power, Temperature, Overload Protection, Auto Cooling Fans. THD <0.1%, Frequency Response 40Hz - 20kHz, AC & DC Fuse, SNR >89dB.	Nos	DPA2500			

Supply Installation testing and comisioning of 120W RMS Dual Channel Class-D Digital Power Amplifier with Switch power technology for power electricity saving, Separate PFC Design for highest reliability, Separate Power Supply System. Amplifier shall have Following Features: 60W RMS per Channel, Amplifier Output 100V, Supply input AC 220 +/- 10% - 50/60Hz, Short Circuit, Power, Tempreature, Overload Protection, Auto Cooling Fans. THD <0.1%, Frequency Response 40Hz - 20kHz, AC & DC Fuse, SNR >89dB.	Nos	DPA2120			
Supply Installation testing and comisioning of Professional CD/DVD player with USB flash port & 19" Rack mount arrangement.	Nos				
Supply Installation testing and comisioning Volume Controller for Office and Cabins.	Nos	VCT-6R	10	18	25
Supply Installation testing and comisioning of 19-inch Equipment Rack with standardized frame or enclosure for mounting multiple PA controllers, CD player, Amplifiers etc modules. Size 24U.	Nos	HR-S			
TOTAL - PA SYSTEM- INTERNAL					

<b>FIRE ALARM WORKS:</b>				<b>Ground Floor</b>	<b>First Floor</b>	<b>Second Floor</b>
<b>DESCRIPTON</b>	<b>Unit</b>	<b>QTY.</b>	<b>Modal Number</b>	<b>Installed</b>	<b>Installed</b>	<b>Installed</b>
Supply, Installation, Testing and Commissioning of 8 loop addressable fire alarm control panel, expandable upto 32 loops. Controller shall be 5.7 inch color touch screen display with stylus(320*240 pixels), inbuilt networking port(both RS485&Ethernet),Serial port for printer,two supervisory inputs,two position key switch and USB port for programming. The Panel shall handle 4096 detection points, 10,000 history events,menu driven user interface with smart search. The events shall be displayed in different colors- red for alarm events & yellow for trouble etc. for easy identification. The Panel shall be VDS/EN 54/UL approved.	Nos.	2.00		1		

<p>Supply, Installation, Testing and Commissioning of 3 loop addressable fire alarm control panel, expandable upto 32 loops. Controller shall be 5.7 inch color touch screen display with stylus(320*240 pixels), inbuilt networking port(both RS485&amp;Ethernet),Serial port for printer,two supervisory inputs,two position key switch and USB port for programming. The Panel shall handle 4096 detection points, 10,000 history events,menu driven user interface with smart search. The events shall be displayed in different colors- red for alarm events &amp; yellow for trouble etc. for easy identification. The Panel shall be VDS/EN 54/UL approved.</p>	Nos.	1.00				
<p>Supply, Installation, Testing and Commissioning of 2 loop addressable fire alarm control panel, expandable upto 32 loops. Controller shall be 5.7 inch color touch screen display with stylus (320*240 pixels), inbuilt networking port (both RS485&amp;Ethernet),Serial port for printer,two supervisory inputs,two position key switch and USB port for programming. The Panel shall handle 4096 detection points, 10,000 history events, menu driven user interface with smart search. The events shall be displayed in different colors- red for alarm events &amp; yellow for trouble etc. for easy identification. The Panel shall be VDS/EN 54/UL approved.</p>	Nos.	1.00				
<p>Supply, Installation, Testing and Commissioning Active Repeater Panel. Controller shall be 5.7 inch color touch screen display with stylus(320*240 pixels), inbuilt networking port(both RS485&amp;Ethernet),Serial port for printer,two supervisory inputs,two position key switch and USB port for programming. The Repeater Panel shall allow users to acknowledge, reset,silence, program, view hisory events...etc (All functions similar to main panel)The user interface of the repeater panel shall be same as the Main Controller with menu driven user interface with smart search. The events shall be displayed in different colors- red for alarm events &amp; yellow for trouble etc. for easy identification. The Panel shall be VDS/EN 54 approved.</p>	No.	16.00			1	1

Supply, Installation, Testing and Commissioning of intelligent addressable Multicriteria detector works based on Dual-Ray technology with an infrared and a blue LED so that lightest smoke is detected fast and reliable along with a heat sensor including mounting base. (Detector should comply to Test Fire 1). Detetctor should have inbuilt isolators as per NFPA 72 style 7 wiring requirements and have an option of both soft & hard addressing. Detector should monitor Electromagnetic interference and report to the panel - current and average values. EMC safety for detector shall be 50 V/m. Shall be EN54/ VDs/ UL certification.(Detectors without Inbuilt Isolators may be considered with an additional Isolator Module per detector)	Nos.	2132.00	FAP-425-OT	88	90	102
Supply, Installation, Testing and Commissioning of Addressable Control Relay Module with inbuilt isolators as per NFPA 72 style 7 wiring requirements & with flexible network structures with a maximun switching current of 1A @ 30V DC. Shall be EN54/ Vds Certification/UL	Nos.	58.00				
Supply, Installation, Testing and Commissioning of Addressable Module with one input & one output contacts, with inbuilt isolators & with 2 monitoring features, monitoring of a line with EOL resistor ,Potential free contact monitoring. Shall be EN54 / Vds/UL Certification.	Nos.	58.00	FLM-420-0111E	3	3	3
Supply, Installation, Testing & Commissioning of Response Indicator with matching screws complete with GI Junction box, Cable lugs at cable end and ferruling.	Nos.	864.00	Response Indicator	42	44	50
Supply, Installation, Testing and Commissioning of addressable manual break glass unit ( Double action) with inbuilt isolators as per NFPA 72 style 7 wiring requirements, with flexible network structures & necessary fixing arrangements with key complete as required. Shall be EN 54 / Vds/UL Certification.	Nos.	58.00	FMC-210 DM-GR	4	3	3
Supply, Installation, Testing and Commissioning of Stand alone Loop Powered detector base sounder with inbuilt isolators as per NFPA 72 style 7 wiring requirements & with 32 different tone variants selection options & adjustable sound pressure by 5 levels, the sound pressure 92.1 dB(A), with flasher having Synchronized flash rate of 1 Hz and Light intensity > 2 cd, should be programmed from the panel. Shall be EN54 / Vds/UL Certification.	Nos.	58.00	Hooter	3	3	3

<b>FIRE ALARM WORKS:</b>				<b>Third Floor</b>	<b>Fourth Floor</b>	<b>Fifth Floor</b>
<b>DESCRIPTON</b>	<b>Unit</b>	<b>QTY.</b>	<b>Modal Number</b>	<b>Installed</b>	<b>Installed</b>	<b>Installed</b>
Supply, Installation, Testing and Commissioning of 8 loop addressable fire alarm control panel, expandable upto 32 loops. Controller shall be 5.7 inch color touch screen display with stylus(320*240 pixels), inbuilt networking port(both RS485&Ethernet),Serial port for printer,two supervisory inputs,two position key switch and USB port for programming. The Panel shall handle 4096 detection points, 10,000 history events,menu driven user interface with smart search. The events shall be displayed in different colors- red for alarm events & yellow for trouble etc. for easy identification. The Panel shall be VDS/EN 54/UL approved.	Nos.	2.00				
Supply, Installation, Testing and Commissioning of 3 loop addressable fire alarm control panel, expandable upto 32 loops. Controller shall be 5.7 inch color touch screen display with stylus(320*240 pixels), inbuilt networking port(both RS485&Ethernet),Serial port for printer,two supervisory inputs,two position key switch and USB port for programming. The Panel shall handle 4096 detection points, 10,000 history events,menu driven user interface with smart search. The events shall be displayed in different colors- red for alarm events & yellow for trouble etc. for easy identification. The Panel shall be VDS/EN 54/UL approved.	Nos.	1.00				
Supply, Installation, Testing and Commissioning of 2 loop addressable fire alarm control panel, expandable upto 32 loops. Controller shall be 5.7 inch color touch screen display with stylus(320*240 pixels), inbuilt networking port(both RS485&Ethernet),Serial port for printer,two supervisory inputs,two position key switch and USB port for programming. The Panel shall handle 4096 detection points, 10,000 history events,menu driven user interface with smart search. The events shall be displayed in different colors- red for alarm events & yellow for trouble etc. for easy identification. The Panel shall be VDS/EN 54/UL approved.	Nos.	1.00				

Supply, Installation, Testing and Commissioning Active Repeater Panel. Controller shall be 5.7 inch color touch screen display with stylus(320*240 pixels), inbuilt networking port(both RS485&Ethernet),Serial port for printer,two supervisory inputs,two position key switch and USB port for programming. The Repeater Panel shall allow users to acknowledge, reset,silence, program, view hisory events...etc (All functions similar to main panel)The user interface of the repeater panel shall be same as the Main Controller with menu driven user interface with smart search. The events shall be displayed in different colors- red for alarm events & yellow for trouble etc. for easy identification. The Panel shall be VDS/EN 54 approved.	No.	16.00		1	1	1
Supply, Installation, Testing and Commissioning of intelligent addressable Multicriteria detector works based on Dual-Ray technology with an infrared and a blue LED so that lightest smoke is detected fast and reliable along with a heat sensor including mounting base. (Detector should comply to Test Fire 1). Detetctor should have inbuilt isolators as per NFPA 72 style 7 wiring requirements and have an option of both soft & hard addressing. Detector should monitor Electromagnetic interference and report to the panel - current and average values. EMC safety for detector shall be 50 V/m. Shall be EN54/ VDs/ UL certification.(Detectors without Inbuilt Isolators may be considered with an additional Isolator Module per detector)	Nos.	2132.00	FAP-425-OT	102	92	114
Supply, Installation, Testing and Commissioning of Addressable Control Relay Module with inbuilt isolators as per NFPA 72 style 7 wiring requirements & with flexible network structures with a maximun switching current of 1A @ 30V DC. Shall be EN54/ Vds Certification/UL	Nos.	58.00				
Supply, Installation, Testing and Commissioning of Addressable Module with one input & one output contacts, with inbuilt isolators & with 2 monitoring features, monitoring of a line with EOL resistor .Potential free contact monitoring. Shall be EN54 / Vds/UL Certification.	Nos.	58.00	FLM-420-0111E	3	3	3
Supply, Installation, Testing & Commissioning of Response Indicator with matching screws complete with GI Junction box, Cable lugs at cable end and ferruling.	Nos.	864.00	Response Indicator	50	45	57
Supply, Installation, Testing and Commissioning of addressable manual break glass unit ( Double action) with inbuilt isolators as per NFPA 72 style 7 wiring requirements, with flexible network structures & necessary fixing arrangements with key complete as	Nos.	58.00	FMC-210 DM-GR	3	3	3



required. Shall be EN 54 / Vds/UL Certification.						
Supply, Installation, Testing and Commissioning of Stand alone Loop Powered detector base sounder with inbuilt isolators as per NFPA 72 style 7 wiring requirements & with 32 different tone variants selection options & adjustable sound pressure by 5 levels, the sound pressure 92.1 dB(A), with flasher having Synchronized flash rate of 1 Hz and Light intensity > 2 cd, should be programmed from the panel. Shall be EN54 / Vds/UL Certification.	Nos.	58.00	Hooter	3	3	3

<b>2 No. BIG CONFERENCE ROOM</b>				<b>Ground Floor</b>	<b>First Floor</b>	<b>Second Floor</b>
<b>Audio System</b>	Unit	Qty	Model No.	<b>As per Drawing</b>	<b>As per Drawing</b>	<b>As per Drawing</b>
SITC of Table Top Boundary layer microphone Semi-cardioid polar pattern RFI-proof due to Scudio technology, ON/OFF, Push-To-Talk and Push-To-Mute function,Silent membrane key with braille inscription,High-quality non-glare design,Linear frequency response with high bandwidth,LED indicator,Switchable bass roll-off filter in two stages,High gain-before-feedback etc complete with installation as per site requirement.	Nos	22.00	MC350A & MC350B	20		
SITC of Full Range 5.25" or better Ceiling Speaker 60 W RMS Power, Frequency Response 60 Hz - 20 kHz ,Sensitivity 91 dB or better,90-100 degrees conical Coverage ,Nominal Impedance 4 / 8Ohms ohms,Peak SPL 115 dB. etc complete with installation as per site requirement.	Nos	12.00	CMS60/T	6		
SITC of Multiple Driver Column Array Loudspeaker consisting of 7 x 3"-4" or better full range drivers with 150 W RMS Power @ 4 / 8 Ohms,Frequency Response 110 Hz - 12 kHz ,Sensitivity 90 dB or better,120 degrees horizontal dispersion, Peak SPL 118 dB Peak etc complete with installation as per site requirement.	Nos	4.00	OCM80/T	2		
SITC of DSP processor with 10 Mic / Line input, 6 Line Output, RS232 Port, Ethernet Port, Digital Audio network port etc all complete as per site requirement	Nos	4.00	DMX108D + CE3500 (2set)	2		
SITC of 2-Channel 800W Class D Power Amplifier delivering 2 x 400W per channel at 70 V, 2, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	2.00	DPA2500	1		

SITC of 4-Channel 500W Class D Energy Efficient Power Amplifier delivering 4 x 125 W per channel at 70 V, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	2.00	DPA4125	1		
SITC of 2-Channel 200W Class D Energy Efficient Power Amplifier delivering 2 x 100 W per channel at 70 V, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	2.00	DPA2120	1		
Make : Labgruppen / Powersoft / Heinrich						
<b>Video System</b>						
<b>Video wall</b>						
SITC of professional Indoor Type, 10ft X6ft <b>LED Video Display Wall</b> having pixel pitch $\leq 1.2\text{mm}$ with remote power supply supports N+1 redundancy, Video & Image Processor with atleast 4in/4out DVI ports, Pixel density should not be less than 650,000 pixels/m <sup>2</sup> , contrast minimum 5000:1, brightness should not be less than 600 nits, LED lifespan should not be less than 100,000 hours, LED wall should be 100 front serviceable,Galvanized Steel mounting structure duly powder coated in mat black/ approved shade. complete including warrenty period of three years with 5% spares on site.	Nos	2.00	P1.27	1		
SITC of table mount cable cubby with 2 x Power , USB Charger, Pass Throgh for VGA + A, HDMI and Data etc. complete as per site requirement	Nos	42.00	HTB-HTC-VVV	10		
SITC of Under Table Multifomat twisted pair transmitter module with HDMI, VGA & audio input. Twisted pair output supporting audio, video, control & power upto 60mtrs. Resolution of 4K support, autoswitching between Inputs. HDCP & EDID Management etc. complete as per site requirement	Nos	10.00	HT=8311	5		
SITC of HDMI & Control (RS 232/IR) twisted pair receiver supporting audio, video & power upto atleast 60mtrs. Resolution of 4K support. HDMI Data Rate: 10.2 Gb or better, HDCP & EDID management.etc as required	Nos	12.00	HT-9151	5		
SITC of Wireless Presentation system, supporting upto 64 participants, wireless video transmission at min 1080p @ 30 fps, VGA & HDMI output. With inbuilt WAP or supplied with external WAP. Simultaneous four feed viewing. etc as required	Nos	2.00		1		

Supply, Installation, Testing & Commissioning of Multiformat Scalar Matrix switcher with Total 8No's of HDMI or Twisted Pair input, 2 x Scaled output on HDMI or at Twisted Pair. Support 4K Resolution, Support transmission of Audio, Video & Control upto 60mtr over shielded CAT6, Compatible with HDBaseT Display, Built-In HDMI audio De-embedder, HDCP Compliant etc complete as per site requirement.	Nos	2.00	H9208H	1		
SITC of Full HD Video Conferencing end point with Full HD 1080p60 camera, codec, Microphone Array, cables, and remote control , support long extension twisted cable for Camera and Codec connectivity till 60mtr, Video Standards and Resolutions:It should support H.323, SIP standards for communications, It should support H.261, H.263, H.264 AVC/ SVC, H.264 High Profile/H.265, It should support 1080p 60 fps, 1080p 30 fps, 720p 60 fps and 720p 30fps, It should support content sharing using standard based H.239 and BFCP over SIP. It should transmit both people and content both simultaneously to the far end location at 1080p 30fps, Audio Standards and Features:	Nos	2.00	Group 500	1		
It should support G.711, G.728, G.729A, G.722, G.722.1, AAC-LD or better, It should support 20kHz or better bandwidth with crystal clear audio and stereo sound., Automatic Gain Control and Automatic Noise Suppressionv Keyboard noise reduction and instant adaptation echo cancellation Video and Audio Inputs: 1 x HDMI/HDCI input for connecting main HD camera 1 x HDMI/DVI & 1 VGA input for connecting PC/Laptop to share HD content 1 x Microphone Input or more(Support for minimum 3 mics)v 1 x 3.5mm stereo line-in, Video and Audio Outputs: 2 x HDMI output for connecting main monitor & second monitor, 1 x 3.5 mm stereo line-outvOther Interfaces: 1 x 10/100/1000 LAN port, 2 x USB for software upgrade and connecting external devices, 1 x RS-232 mini-DIN 8-pin or equivalent Camera: It should support 1080p60fps with 10x optical zoomvThe codec should be future capable of enhancing video conferencing experience with advanced face and vocie recognition technology such that it automatically scans the room and seamlessly commands the main camera to appropriately frame the acitve speaker without any manual intervention., It should support PAN Range of +/-90°, and Tilt of +/-20°, Network Features: H.323 and SIP bandwidth up to 6 Mbps, IPv4 and IPv6 support, Multisite Feature:It should support atleast 4 sites at HD720p in multipoint call, Security: Media Encryption (H.323, SIP): AES-128, AES-256, web interface and telnet API, Other Standards:H224/H.281, H.323 Annex Q, H.225, H.245, H.241, H.239, H.243, H.460, etc all completet etc complete as per site requirement.	Nos	2.00				
Make : Polycom / Cisco						

<b>CONTROL SYSTEM</b>						
SITC OF AV Control processor with 6 or more BI Directional RS 232 Port, 8 IR/Serial port, 6 or more relay port, 4 or more IO Port, Ethernet monitoring control . Should be supplied with license/software for control from third party iPad device. , any required power supply. etc as required.	Nos	2.00	CP3 + Crestron App	1		
Supply, Installation, Testing & Commissioning of 7" Wired table top Touch Panel	Nos	2.00	TSW-760 + TSW-760-TTK + PWE-4803RU	1		
8 port L2 network switch with 4 PoE and 4 Normal port with 100/1000 MBps Support	Nos	2.00	DGS-1210-10P	1		
<b>INSTALLATION EQUIPMENT</b>						
SITC of Equipment Rack 20 U with front glass door, power distribution box, internal fans and lights, wheels etc complete with standard accessories complete as required	Nos	2.00	HR-S	1		
SITC of 1.5 Sqmm x 2 core ATC copper Conductor, Insulated Cores,PVC Sheathed Speaker Cables complete etc as required.	Mtr	800.00				
SITC of 2022 AWG-24/0.20mmx 2 core ATC Copper Conductor,PVC Insulated, 90% ATC Copper Braid Shielded,PVC Sheathed Microphone Cable complete etc as required.	Mtr	1200.00				
SITC of CAT-6STP 4pair cable-0.58mmBare copper, ATC Copper Braid Shielded, PVC Sheathed overall complete etc. as required	Mtr	800.00				
SITC of CAT-6UTP 4pair cable- complete etc. as required	Mtr	400.00				
SITC of HDMI cables including cost of connectors wherever required	Mtr	800.00				
SITC of VGA cables including cost of connectors wherever required	Mtr	800.00				
<b>10 NO. SMALL CONFERENCE ROOM</b>						
<b>Audio System</b>						
SITC of Table Top Boundary layer microphone Semi-cardioid polar pattern RFI-proof due to Scudio technology, ON/OFF, Push-To-Talk and Push-To-Mute function,Silent membrane key with braille inscription,High-quality non-glare design,Linear frequency response with high bandwidth,LED indicator,Switchable bass roll-off filter in two stages,High gain-before-feedback etc complete with installation as per site requirement.	Nos	110.00	MC350A & MC350B	9	9	9

SITC of Full Range 5.25" or better Ceiling Speaker 60 W RMS Power, Frequency Response 60 Hz - 20 kHz ,Sensitivity 91 dB or better,90-100 degrees conical Coverage ,Nominal Impedance 4 / 8Ohms ohms,Peak SPL 115 dB. etc complete with installation as per site requirement.	Nos	60.00	CMS60/T	6	6	6
SITC of Multiple Driver Column Array Loudspeaker consisting of 7 x 3"-4" or better full range drivers with 150 W RMS Power @ 4 / 8 Ohms,Frequency Response 110 Hz - 12 kHz ,Sensitivity 90 dB or better,120 degrees horizontal dispersion, Peak SPL 118 dB Peak etc complete with installation as per site requirement.	Nos	20.00	OCM80/T	2	2	2
SITC of DSP processor with 10 Mic / Line input, 6 Line Output, RS232 Port, Ethernet Port, Digital Audio network port etc all complete as per site requirement	Nos	20.00	DMX108D + CE3500 (10set)	1	1	1
SITC of 2-Channel 800W Class D Power Amplifier delivering 2 x 400W per channel at 70 V, 2, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	10.00	DPA2500	2	2	2
SITC of 4-Channel 500W Class D Energy Efficient Power Amplifier delivering 4 x 125 W per channel at 70 V, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	10.00	DPA4125	1	1	1
SITC of 2-Channel 200W Class D Energy Efficient Power Amplifier delivering 2 x 100 W per channel at 70 V, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	10.00	DPA2120	1	1	1
<b>Video System</b>						
SITC of 80"-85" professional Full HD display with 1400:1 contrast ratio or better, Brightness 350 cd/m2 or better 2 x HDMI input, VGA Input, RS232 and LAN control Port etc all complete as per site requirement.	Nos	10.00	QM85N	1	1	1
Make : Panasonic / NEC / Samsung/ DGX						
SITC of table mount cable cubby with 2 x Power , USB Charger, Pass Through for VGA + A, HDMI and Data etc. complete as per site requirement	Nos	110.00	HTB-HTC-VVV	9	9	9

SITC of Under Table Multiformat twisted pair transmitter module with HDMI, VGA & audio input. Twisted pair output supporting audio, video, control & power upto 60mtrs. Resolution of 4K support, autoswitching between Inputs. HDCP & EDID Management etc. complete as per site requirement	Nos	50.00	HT-8311	5	5	5
SITC of HDMI & Control (RS 232/IR) twisted pair receiver supporting audio, video & power upto atleast 60mtrs. Resolution of 4K support. HDMI Data Rate: 10.2 Gb or better, HDCP & EDID management.etc as required	Nos	60.00	HT-9151	4	4	4
Supply, Installation, Testing & Commissioning of Multiformat Scalar Matrix switcher with Total 8No's of HDMI or Twisted Pair input, 2 x Scaled output on HDMI or at Twisted Pair. Support 4K Resolution, Support transmission of Audio, Video & Control upto 60mtr over shielded CAT6, Compatible with HDBaseT Display, Built-In HDMI audio De-embedder, HDCP Compliant etc complete as per site requirement.	Nos	10.00	H9208H	1	1	1
<b>CONTROL SYSTEM</b>						
SITC OF AV Control processor with 6 or more BI Directional RS 232 Port, 8 IR/Serial port, 6 or more relay port, 4 or more IO Port, Ethernet monitoring control . Should be supplied with license/software for control from third party iPad device. , any required power supply. etc as required.	Nos	10.00	CP3 + Crestron App	1	1	1
Supply, Installation, Testing & Commissioning of 7" Wired table top Touch Panel	Nos	10.00	TSW-760 + TSW-760-TTK + PWE-4803RU	1	1	1
8 port L2 network switch with 4 PoE and 4 Normal port with 100/1000 MBps Support	Nos	10.00				
<b>INSTALLATION EQUIPMENT</b>						
SITC of Equipment Rack 20 U with front glass door, power distribution box, internal fans and lights, wheels etc complete with standard accessories complete as required	Nos	10.00	Valrack	1	1	1

2 No. BIG CONFERENCE ROOM				Third Floor	Fourth Floor	Fifth Floor
<b>Audio System</b>	Unit	Qty	Model No.	As per Drawing	As per Drawing	As per Drawing

SITC of Table Top Boundary layer microphone Semi-cardioid polar pattern RFI-proof due to Scudio technology, ON/OFF, Push-To-Talk and Push-To-Mute function,Silent membrane key with braille inscription,High-quality non-glare design,Linear frequency response with high bandwidth,LED indicator,Switchable bass roll-off filter in two stages,High gain-before-feedback etc complete with installation as per site requirement.	Nos	22.00	MC350A & MC350B			
SITC of Full Range 5.25" or better Ceiling Speaker 60 W RMS Power, Frequency Response 60 Hz - 20 kHz ,Sensitivity 91 dB or better,90-100 degrees conical Coverage ,Nominal Impedance 4 / 8Ohms ohms,Peak SPL 115 dB. etc complete with installation as per site requirement.	Nos	12.00	CMS60/T			
SITC of Multiple Driver Column Array Loudspeaker consisting of 7 x 3"-4" or better full range drivers with 150 W RMS Power @ 4 / 8 Ohms,Frequency Response 110 Hz - 12 kHz ,Sensitivity 90 dB or better,120 degrees horizontal dispersion, Peak SPL 118 dB Peak etc complete with installation as per site requirement.	Nos	4.00	OCM80/T			
SITC of DSP processor with 10 Mic / Line input, 6 Line Output, RS232 Port, Ethernet Port, Digital Audio network port etc all complete as per site requirement	Nos	4.00	DMX108D + CE3500 (2set)			
SITC of 2-Channel 800W Class D Power Amplifier delivering 2 x 400W per channel at 70 V, 2, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	2.00	DPA2500			
SITC of 4-Channel 500W Class D Energy Efficient Power Amplifier delivering 4 x 125 W per channel at 70 V, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	2.00	DPA4125			
SITC of 2-Channel 200W Class D Energy Efficient Power Amplifier delivering 2 x 100 W per channel at 70 V, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	2.00	DPA2120			
Make : Labgruppen / Powersoft / Heinrich						
<b>Video System</b>						
<b>Video wall</b>						

SITC of professional Indoor Type, 10ft X6ft <b>LED Video Display Wall</b> having pixel pitch $\leq$ 1.2mm with remote power supply supports N+1 redundancy, Video & Image Processor with atleast 4in/4out DVI ports, Pixel density should not be less than 650,000 pixels/m <sup>2</sup> , contrast minimum 5000:1, brightness should not be less than 600 nits, LED lifesspan should not be less than 100,000 hours, LED wall should be 100 front serviceable,Galvanized Steel mounting structure duly powder coated in mat black/ approved shade. complete including warrenty period of three years with 5% spares on site.	Nos	2.00	P1.27			
SITC of table mount cable cubby with 2 x Power , USB Charger, Pass Through for VGA + A, HDMI and Data etc. complete as per site requirement	Nos	42.00	HTB- HTC-VVV			
SITC of Under Table Multifformat twisted pair transmitter module with HDMI, VGA & audio input. Twisted pair output supporting audio, video, control & power upto 60mtrs. Resolution of 4K support, autoswitching between Inputs. HDCP & EDID Management etc. complete as per site requirement	Nos	10.00	HT=8311			
SITC of HDMI & Control (RS 232/IR) twisted pair receiver supporting audio, video & power upto atleast 60mtrs. Resolution of 4K support. HDMI Data Rate: 10.2 Gb or better, HDCP & EDID management.etc as required	Nos	12.00	HT-9151			
SITC of Wireless Presentation system, supporting upto 64 participants, wireless video transmission at min 1080p @ 30 fps, VGA & HDMI output. With inbuilt WAP or supplied with external WAP. Simultaneous four feed viewing, etc as required	Nos	2.00				
Supply, Installation, Testing & Commissioning of Multifformat Scalar Matrix switcher with Total 8No's of HDMI or Twisted Pair input, 2 x Scaled output on HDMI or at Twisted Pair. Support 4K Resolution, Support transmission of Audio, Video & Control upto 60mtr over shielded CAT6, Compatible with HDBaseT Display, Built-In HDMI audio De-embedder, HDCP Compliant etc complete as per site requirement.	Nos	2.00	H9208H			
SITC of Full HD Video Conferencing end point with Full HD 1080p60 camera, codec, Microphone Array, cables, and remote control , support long extension twisted cable for Camera and Codec connectivity till 60mtr, Video Standards and Resolutions:It should support H.323, SIP standards for communications, It should support H.261, H.263, H.264 AVC/ SVC, H.264 High Profile/H.265, It should support 1080p 60 fps, 1080p 30 fps, 720p 60 fps and 720p 30fps, It should support content sharing using standard based H.239 and BFCP over SIP. It should transmit both people and content both simultaneously to the far end location at 1080p	Nos	2.00	Group 500			



30fps, Audio Standards and Features:						
It should support G.711, G.728, G.729A, G.722, G.722.1, AAC-LD or better, It should support 20kHz or better bandwidth with crystal clear audio and stereo sound., Automatic Gain Control and Automatic Noise Suppressionv Keyboard noise reduction and instant adaptation echo cancellation Video and Audio Inputs: 1 x HDMI/HDCI input for connecting main HD camera 1 x HDMI/DVI & 1 VGA input for connecting PC/Laptop to share HD content 1 x Microphone Input or more(Support for minimum 3 mics)v 1 x 3.5mm stereo line-in, Video and Audio Outputs: 2 x HDMI output for connecting main monitor & second monitor, 1 x 3.5 mm stereo line-outvOther Interfaces: 1 x 10/100/1000 LAN port, 2 x USB for software upgrade and connecting external devices, 1 x RS-232 mini-DIN 8-pin or equivalent Camera: It should support 1080p60fps with 10x optical zoomvThe codec should be future capable of enhancing video conferencing experience with advanced face and vocie recognition technology such that it automatically scans the room and seamlessly commands the main camera to appropriately frame the acitve speaker without any manual intervention., It should support PAN Range of +/-90°, and Tilt of +/-20°, Network Features: H.323 and SIP bandwidth up to 6 Mbps, IPv4 and IPv6 support, Multisite Feature:It should support atleast 4 sites at HD720p in multipoint call, Security: Media Encryption (H.323, SIP): AES-128, AES-256, web interface and telnet API, Other Standards:H224/H.281, H.323 Annex Q, H.225, H.245, H.241, H.239, H.243, H.460, etc all completet etc complete as per site requirement.	Nos	2.00				
Make : Polycom / Cisco						
<b>CONTROL SYSTEM</b>						
SITC OF AV Control processor with 6 or more BI Directional RS 232 Port, 8 IR/Serial port, 6 or more relay port, 4 or more IO Port, Ethernet monitoring control Should be supplied with license/software for control from third party iPad device. , any required power supply. etc as required.	Nos	2.00	CP3 + Crestron App			
Supply, Installation, Testing & Commissioning of 7" Wired table top Touch Panel	Nos	2.00	TSW-760 + TSW-760-TTK + PWE-4803RU			
8 port L2 network switch with 4 PoE and 4 Normal port with 100/1000 MBps Support	Nos	2.00	DGS-1210-10P			
<b>INSTALLATION EQUIPMENT</b>						

SITC of Equipment Rack 20 U with front glass door, power distribution box, internal fans and lights, wheels etc complete with standard accessories complete as required	Nos	2.00	HR-S			
SITC of 1.5 Sqmm x 2 core ATC copper Conductor, Insulated Cores,PVC Sheathed Speaker Cables complete etc as required.	Mtr	800.00				
SITC of 2022 AWG-24/0.20mmx 2 core ATC Copper Conductor,PVC Insulated, 90% ATC Copper Braid Shielded,PVC Sheathed Microphone Cable complete etc as required.	Mtr	1200.00				
SITC of CAT-6STP 4pair cable-0.58mmBare copper, ATC Copper Braid Shielded, PVC Sheathed overall complete etc. as required	Mtr	800.00				
SITC of CAT-6UTP 4pair cable- complete etc. as required	Mtr	400.00				
SITC of HDMI cables including cost of connectors wherever required	Mtr	800.00				
SITC of VGA cables including cost of connectors wherever required	Mtr	800.00				
<b>10 NO. SMALL CONFERENCE ROOM</b>						
<b>Audio System</b>						
SITC of Table Top Boundary layer microphone Semi-cardioid polar pattern RFI-proof due to Scudio technology, ON/OFF, Push-To-Talk and Push-To-Mute function,Silent membrane key with braille inscription,High-quality non-glare design,Linear frequency response with high bandwidth,LED indicator,Switchable bass roll-off filter in two stages,High gain-before-feedback etc complete with installation as per site requirement.	Nos	110.00	MC350A & MC350B	9		9
SITC of Full Range 5.25" or better Ceiling Speaker 60 W RMS Power, Frequency Response 60 Hz - 20 kHz ,Sensitivity 91 dB or better,90-100 degrees conical Coverage ,Nominal Impedance 4 / 8Ohms ohms,Peak SPL 115 dB. etc complete with installation as per site requirement.	Nos	60.00	CMS60/T	6		6
SITC of Multiple Driver Column Array Loudspeaker consisting of 7 x 3"-4" or better full range drivers with 150 W RMS Power @ 4 / 8 Ohms,Frequency Response 110 Hz - 12 kHz ,Sensitivity 90 dB or better,120 degrees horizontal dispersion, Peak SPL 118 dB Peak etc complete with installation as per site requirement.	Nos	20.00	OCM80/T	2		2

SITC of DSP processor with 10 Mic / Line input, 6 Line Output, RS232 Port, Ethernet Port, Digital Audio network port etc all complete as per site requirement	Nos	20.00	DMX108D + CE3500 (10set)	1		1
SITC of 2-Channel 800W Class D Power Amplifier delivering 2 x 400W per channel at 70 V, 2, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	10.00	DPA2500	2		2
SITC of 4-Channel 500W Class D Energy Efficient Power Amplifier delivering 4 x 125 W per channel at 70 V, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	10.00	DPA4125	1	0	1
SITC of 2-Channel 200W Class D Energy Efficient Power Amplifier delivering 2 x 100 W per channel at 70 V, 4, 8 and 16 ohms,THD 20 Hz - 20 kHz at 1W <0.1%,Signal to Noise Ratio >106 dBA or better, Frequency Response 20 Hz - 20 kHz, Energy Star Compliant etc all complete as per site requirements	Nos	10.00	DPA2120	1	1	1
<b>Video System</b>						
SITC of 80"-85" professional Full HD display with 1400:1 contrast ratio or better, Brightness 350 cd/m2 or better 2 x HDMI input, VGA Input, RS232 and LAN control Port etc all complete as per site requirement.	Nos	10.00	QM85N	1		1
Make : Panasonic / NEC / Samsung/ DGX						
SITC of table mount cable cubby with 2 x Power , USB Charger, Pass Through for VGA + A, HDMI and Data etc. complete as per site requirement	Nos	110.00	HTB-HTC-VVV	9		9
SITC of Under Table Multifomat twisted pair transmitter module with HDMI, VGA & audio input. Twisted pair output supporting audio, video, control & power upto 60mtrs. Resolution of 4K support, autoswitching between Inputs. HDCP & EDID Management etc. complete as per site requirement	Nos	50.00	HT-8311	5		5
SITC of HDMI & Control (RS 232/IR) twisted pair receiver supporting audio, video & power upto atleast 60mtrs. Resolution of 4K support. HDMI Data Rate: 10.2 Gb or better, HDCP & EDID management.etc as required	Nos	60.00	HT-9151	4		4
Supply, Installation, Testing & Commissioning of Multifomat Scalar Matrix switcher with Total 8No's of HDMI or Twisted Pair input, 2 x Scaled output on HDMI or at Twisted Pair. Support 4K Resolution, Support transmission of Audio, Video & Control upto 60mtr over shielded CAT6, Compatible with HDBaseT Display, Built-In HDMI audio De-embedder, HDCP Compliant etc	Nos	10.00	H9208H	1		1

complete as per site requirement.						
<b>CONTROL SYSTEM</b>						
SITC OF AV Control processor with 6 or more BI Directional RS 232 Port, 8 IR/Serial port, 6 or more relay port, 4 or more IO Port, Ethernet monitoring control . Should be supplied with license/software for control from third party iPad device. , any required power supply. etc as required.	Nos	10.00	CP3 + Crestron App	1		1
Supply, Installation, Testing & Commissioning of 7" Wired table top Touch Panel	Nos	10.00	TSW-760 + TSW-760-TTK + PWE-4803RU	1		1
8 port L2 network switch with 4 PoE and 4 Normal port with 100/1000 MBps Support	Nos	10.00				
<b>INSTALLATION EQUIPMENT</b>						
SITC of Equipment Rack 20 U with front glass door, power distribution box, internal fans and lights, wheels etc complete with standard accessories complete as required	Nos	10.00	Valrack	1		1

<b>ACCESS CONTROL SYSTEM</b>				<b>GF</b>	<b>1st F</b>	<b>2nd F</b>
<b>DESCRIPTON</b>	<b>Unit</b>	<b>Boq QTY.</b>	<b>Model Number</b>	<b>Installed</b>	<b>Installed</b>	<b>Installed</b>
Supply, Installation, testing and commissioning of Surface mounted Networkable multiprocessor controlled 2 reader controller capable of controlling multiple readers (IN/OUT) alongwith TCP/IP connectivity complete as per specifications. Control panel housed in MS Powder Coated Cabinet with Tamper Switch, Complete with power supply unit for Controllers & Magnetic Locks as per specification	Nos.	3.00	OPEN-B4-IP /N	0		
Supply, Installation, testing and commissioning of Surface mounted Networkable multiprocessor controlled 4 reader controller capable of controlling multiple readers (IN/OUT) alongwith TCP/IP connectivity complete as per specifications. Control panel housed in MS Powder Coated Cabinet with Tamper Switch, Complete with power supply unit for Controllers & Magnetic Locks as per specification	Nos.	20.00	JET D4 IP/N	2	2	

Supply, installation, testing and commissioning of Access Control Application Software for 128 Reader Capacity, and 4000 Card Holder Capacity, Basic GUI , TA Module with Alarm Module, T+ Module, 2-Nos Client Work Stations,Module for using SQL DB , -MULTI Site Module.	Nos.	1.00	Amadeus 5	1		
Supply, installation, testing and commissioning of UL Listed Smart Card Reader fwith compatible support of weigand output, 13.56 MHz technology platform and complies with the ISO 15693 / 14443A standard for contact less smart card technology. Card reader must be configurable to read encrypted ISO14443A sectors using standard or custom read keys for Sign OUT Terminal. should be compatible with HID format cards. Encryption,All RF data transmission between the card and reader should be encrypted using a secure algorithm. Industry-standard encryption techniques and advanced key management systems should be used to avoid the risk of compromised data or duplicated cards. The reader should have audio transducer to provide various tone sequences to signify access granted, access denied, power up and diagnostics. Visually impaired cardholders can easily distinguish between access granted and access denied. High-intensity light bar should provide a clear visual status indication in red, green or amber, even in bright sunlight.	Each	86.00	R-10	7	4	4
Supply, testing and commissioning of iClass Smart card	Each	520.00	ICLASS CLAMSHEL			
Supply, installation, testing and commissioning of Single Leaf Electro Magnetic Lock of Suitable Capacity(Min 600 lbs).	Each	36.00	BEL-600S	6	2	2
Supply, installation, testing and commissioning of Double Leaf Electro Magnetic Lock of Suitable Capacity(Min 1200 lbs).	Each	56.00	BEL 1200lbs	1	3	3
Supply and Fixing of "U" Bracket with Accessories.	Each	4.00	u-600	6	2	2
Supply and Fixing of "L" Bracket with Accessories.	Each	4.00	l-600	8	6	6
Extra Item						
Exit Push button		0		7	4	4

ACCESS CONTROL SYSTEM				3rd F	4th F	5th F
DESCRIPTION	Unit	Boq QTY.	Model Number	Installed	Installed	Installed
Supply, Installation, testing and commissioning of Surface mounted Networkable multiprocessor controlled 2 reader controller capable of controlling multiple readers (IN/OUT) alongwith TCP/IP connectivity complete as per specifications. Control panel housed in MS Powder Coated Cabinet with Tamper Switch, Complete with power supply unit for Controllers & Magnetic Locks as per specification	Nos.	3.00	OPEN-B4-IP /N			
Supply, Installation, testing and commissioning of Surface mounted Networkable multiprocessor controlled 4 reader controller capable of controlling multiple readers (IN/OUT) alongwith TCP/IP connectivity complete as per specifications. Control panel housed in MS Powder Coated Cabinet with Tamper Switch, Complete with power supply unit for Controllers & Magnetic Locks as per specification	Nos.	20.00	JET D4 IP/N		3	
Supply, installation, testing and commissioning of Access Control Application Software for 128 Reader Capacity, and 4000 Card Holder Capacity, Basic GUI , TA Module with Alarm Module, T+ Module, 2-Nos Client Work Stations,Module for using SQL DB , -MULTI Site Module.	Nos.	1.00	Amadeus 5			
Supply, installation, testing and commissioning of UL Listed Smart Card Reader fwith compatible support of weigand output, 13.56 MHz technology platform and complies with the ISO 15693 / 14443A standard for contact less smart card technology. Card reader must be configurable to read encrypted ISO14443A sectors using standard or custom read keys for Sign OUT Terminal. should be compatible with HID format cards. Encryption,All RF data transmission between the card and reader should be encrypted using a secure algorithm. Industry-standard encryption techniques and advanced key management systems should be used to avoid the risk of compromised data or duplicated cards. The reader should have audio transducer to provide various tone sequences to signify access granted, access denied, power up and diagnostics. Visually impaired cardholders can easily distinguish between access granted and access denied. High-intensity light bar should provide a clear visual status indication in red, green or	Each	86.00	R-10	4	4	4

amber, even in bright sunlight.						
Supply, testing and commissioning of iClass Smart card	Each	520.00	ICLASS CLAMSHEL			
Supply, installation, testing and commissioning of Single Leaf Electro Magnetic Lock of Suitable Capacity(Min 600 lbs).	Each	36.00	BEL-600S	2	2	2
Supply, installation, testing and commissioning of Double Leaf Electro Magnetic Lock of Suitable Capacity(Min 1200 lbs).	Each	56.00	BEL 1200lbs	3	3	3
Supply and Fixing of "U" Bracket with Accessories.	Each	4.00	u-600	2	2	2
Supply and Fixing of "L" Bracket with Accessories.	Each	4.00	l-600	6	6	6
Extra Item						
Exit Push button		<b>0</b>		4	4	4

VIDEO SURVEILLANCE SYSTEM(IP CCTV)				Ground Floor	First Floor	Second Floor
DESCRIPTON	Unit	QTY.	Model Number	As per Drawing	As per Drawing	As per Drawing
Supplying, installation, testing and commissioning of 2 megapixels resolution Network Dome Camera for true HD quality images,2.8 – 12 mm varifocal lens,True Day/Night (TDN) functionality for true color image ,Motion Detection 4 Zones, Multi-Level Sensitivity Privacy Zones 4 Zones,Snapshot Support JPEG format Password Protection Support Character Display Support(Channel /Date) ONVIF Yes,IR Illumination20-30M IR illuminators for clear images in low light conditions Wide Dynamic Range 3D noise reduction for sharper images and lower bandwidth use in low light ONVIF compliant complete in all respect.	Each	72.00	ISL02CFOCWINUL	13	8	8
Supply, installation, testing and commissioning of 2 megapixels resolution Network Bullet camera camera,Imager 1/2.8” Progressive Scan CMOS,Video Compression. .H.264/MJPEG,Day/Night-IR Cut Filter,Minimum Illumination-0Lux/F1.4(IR ON) IR Range-Up to 50 Meter,Electronic Shutter- Auto/Manual(1/25~1/10000), Lens 2.8 to 12 mm Motorized zoom Lens,Resolution Main- 1920x1080p,Digital Noise Reduction-3D,Wide Dynamic Range-120db, Behavior Analysis-Line crossing detection, intrusion detection, unattended baggage detection, object removal detection.Support Face Detection. Region of Interest Support 1 ROI per stream.Power Consumption and Current- 12 VDC, 1.2A, max. 14.5W PoE (802.3at, 42.5V to 57V), 0.5A to 0.1A, max.	Each	82.00	ISL02MFONWINUL	5	3	3

<p>16.5W.Protection Level IP67, IK10 TVS 2000V Lightning Protection, Surge Protection and Voltage Transient Protection.Regulatory UL, CE, FCC.Operating Conditions Temperature: -30 °C to +60 °C (-22 °F to +140 °F).Humidity: 95% or less.</p>						
<p>Supplying of 4U Rack mount single chassis Network Video Recorder with dual Gb NIC, 1 DVI-I + HDMI + 1 Display Port, max 2 simultaneous monitors, RS-232/485 serial port, DVD, Server Operating System- Windows 10,Ubuntu Linux 16.04, Gen 4 Intel Core i7, Local Client Display Rate (FPS)Windows – 700 FPS (HD)Linux – 900 FPS (HD),High Performance, High Reliability IP Recorder. — Continuously records 400Mbps (Windows) &amp; 800 Mbps (Linux)of video while hosting a local client, multiple remote clients and the web server on a single server.RAM-8 GB, 16 GB (Optional)solid-state operating system drive,USB-6 x USB 2.0, 2 x USB 3.0 high air flow cooling and hardware monitoring features ensure maximum uptime. keyboard and mouse, Professional Grade client and server software pre-installed and software updates. Access live and recorded video on multiple client PCs with free Windows, Mac or Linux client application. web server application is pre-installed on the server to access video through a web browser or free Mobile iPhone / iPad and Android apps. Maximum Storage Capacity 240TB RAID6 &amp; Maximum Hard Drive 20 Slot(Up to 12TB) Support Up to 128 IP Camera.</p>	Set	1.00	HOLNVR32 (2Nos)	1		
<p>Supplying of 2U Rack mount single chassis Network Video Recorder with dual Gb NIC, 1 DVI-I + HDMI + 1 Display Port, max 2 simultaneous monitors, RS-232/485 serial port, DVD, Server Operating System- Windows 10,Ubuntu Linux 16.04, Processor-Gen 4 Intel Core i3, Local Client Display Rate (FPS)Windows – 700 FPS (HD)Linux – 900 FPS (HD),High Performance, High Reliability IP Recorder. — Continuously records 300Mbps (Windows) &amp; 450 Mbps (Linux)of video while hosting a local client, multiple remote clients and the web server on a single server.RAM-4 GB, 8 GB, 12 GB (Optional)solid- state operating system drive,USB-6 x USB 2.0, 2 x USB 3.0 high air flow cooling and hardware monitoring features ensure maximum uptime. keyboard and mouse, Professional Grade client and server software pre-installed and software updates. Access live and recorded video on multiple client PCs with free Windows, Mac or Linux client</p>	Set	1.00	HOLNVR32 ( 1 Nos)	1		



application. web server application is pre-installed on the server to access video through a web browser or free Mobile iPhone / iPad and Android apps. Maximum Storage Capacity 30TB & Maximum Hard Drive 3 Slot(Up to 10TB) Support Up to 64 IP Camera.						
Supply, installation, testing and commissioning of Enterprise Class 6TB HDD.	Each	15.00	Seagate	9		
Supply, installation, testing and commissioning of Video Management System (VMS) software shall be used to view live and recorded video from capture cards and IP devices connected to local and wide area networks. The VMS software shall have a client/server-based architecture that can be configured as a standalone VMS system with the client software running on the server hardware and/or the client running on any network-connected TCP/IP workstation. Multiple client workstations shall be capable of simultaneously viewing live and/or recorded video from one or more servers. Multiple servers shall also be able to simultaneously provide live and/or recorded video to one or more workstations. The VMS server software shall also have the ability to be installed on an IP edge device—such as an IP camera or encoder that allows for 3rd party applications—allowing the device to serve as both a server and IP video recording device. The VMS shall not charge for the number of concurrent clients (min. 50 thick clients and 16 mobile clients to be provided along with VMS).	Each	154.00	Tyco	74		
Supply, installation, testing & commissioning of Client Workstation having Intel Core i5 original motherboard, 16 GB RAM, Video graphics card 2 GB Licensed Windows 8 Professional (64 bit) and 1 TB Hard Disk with Web camera, Printer and finger print scanner.	Each	4.00	HP-DT 280 G3 SFF	1		
Supplying, Installation, Testing & Commissioning of 55 " LED Full HD TV Resolution 1920 x 1080 , Contrast Ratio (Typical) 5000:1, Built-in Speaker (10W + 10W), Magic Clone (to USB), Auto Source Switching & Recovery, Lamp Error Detection, Super Clear Coating, Temperature Sensor, Plug and Play (DDC2B), Pivot Display, Clock Battery, PIP/PBP, Video Wall (10x10), Image Rotation, Button Lock, HDCP Support, Smart Scheduling, Smart F/W update, Built-In MagicInfo Premium-Swith Mounting Brackets as per Technical Specification complete in all respect.	Each	4.00	DC55E	2		

VIDEO SURVEILLANCE SYSTEM(IP CCTV)					<b>Third Floor</b>	<b>Fourth Floor</b>	<b>Fifth Floor</b>
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DESCRIPTION	Unit	QTY.	Model Number	As per Drawing	As per Drawing	As per Drawing
Supplying, installation, testing and commissioning of 2 megapixels resolution Network Dome Camera for true HD quality images,2.8 – 12 mm varifocal lens,True Day/Night (TDN) functionality for true color image ,Motion Detection 4 Zones, Multi- Level Sensitivity Privacy Zones 4 Zones,Snapshot Support JPEG format Password Protection Support Character Display Support(Channel /Date) ONVIF Yes,IR Illumination20-30M IR illuminators for clear images in low light conditions Wide Dynamic Range 3D noise reduction for sharper images and lower bandwidth use in low light ONVIF compliant complete in all respect.	Each	72.00	ISL02CFO CWINUL	8	9	8
Supply, installation, testing and commissioning of 2 megapixels resolution Network Bullet camera camera,Imager 1/2.8” Progressive Scan CMOS,Video Compression. .H.264/MJPEG,Day/Night-IR Cut Filter,Minimum Illumination-0Lux/F1.4(IR ON) IR Range-Up to 50 Meter,Electronic Shutter-Auto/Manual(1/25~1/10000), Lens 2.8 to 12 mm Motorized zoom Lens,Resolution Main-1920x1080p,Digital Noise Reduction-3D,Wide Dynamic Range-120db, Behavior Analysis-Line crossing detection, intrusion detection, unattended baggage detection, object removal detection.Support Face Detection. Region of Interest Support 1 ROI per stream.Power Consumption and Current- 12 VDC, 1.2A, max. 14.5W PoE (802.3at, 42.5V to 57V), 0.5A to 0.1A, max. 16.5W.Protection Level IP67, IK10 TVS 2000V Lightning Protection, Surge Protection and Voltage Transient Protection.Regulatory UL, CE, FCC.Operating Conditions Temperature: -30 °C to +60 °C (-22 °F to +140 °F).Humidity: 95% or less.	Each	82.00	ISL02MF ONWINU L	3	3	3
Supplying of 4U Rack mount single chassis Network Video Recorder with dual Gb NIC, 1 DVI-I + HDMI + 1 Display Port, max 2 simultaneous monitors, RS-232/485 serial port, DVD, Server Operating System-Windows 10,Ubuntu Linux 16.04, Gen 4 Intel Core i7, Local Client Display Rate (FPS)Windows – 700 FPS (HD)Linux – 900 FPS (HD),High Performance, High Reliability IP Recorder. — Continuously records 400Mbps (Windows) & 800 Mbps (Linux)of video while hosting a local client, multiple remote clients and the web server on a single server,RAM-8 GB, 16 GB (Optional)solid-state operating system drive,USB-6 x USB 2.0, 2 x USB 3.0 high air flow cooling and hardware monitoring features ensure maximum uptime. keyboard and mouse, Professional Grade client and server software pre-installed and software updates. Access live and recorded video on multiple client PCs with free Windows, Mac or Linux client application. web server application is pre-installed on the server to access video through a web browser or free Mobile iPhone / iPad and Android apps. Maximum Storage Capacity 240TB RAID6 & Maximum Hard Drive 20 Slot(Up to 12TB) Support Up to 128 IP Camera.	Set	1.00	HOLNVR 32 (2Nos)			

<p>Supplying of 2U Rack mount single chassis Network Video Recorder with dual Gb NIC, 1 DVI-I + HDMI + 1 Display Port, max 2 simultaneous monitors, RS-232/485 serial port, DVD, Server Operating System-Windows 10,Ubuntu Linux 16.04, Processor-Gen 4 Intel Core i3, Local Client Display Rate (FPS)Windows – 700 FPS (HD)Linux – 900 FPS (HD),High Performance, High Reliability IP Recorder. — Continuously records 300Mbps (Windows) &amp; 450 Mbps (Linux)of video while hosting a local client, multiple remote clients and the web server on a single server,RAM-4 GB, 8 GB, 12 GB (Optional)solid- state operating system drive,USB-6 x USB 2.0, 2 x USB 3.0 high air flow cooling and hardware monitoring features ensure maximum uptime. keyboard and mouse, Professional Grade client and server software pre-installed and software updates. Access live and recorded video on multiple client PCs with free Windows, Mac or Linux client application. web server application is pre-installed on the server to access video through a web browser or free Mobile iPhone / iPad and Android apps. Maximum Storage Capacity 30TB &amp; Maximum Hard Drive 3 Slot(Up to 10TB) Support Up to 64 IP Camera.</p>	Set	1.00	HOLNVR 32 ( 1 Nos)			
<p>Supply, installation, testing and commissioning of Enterprise Class 6TB HDD.</p>	Each	15.00	Seagate			
<p>Supply, installation, testing and commissioning of Video Management System (VMS) software shall be used to view live and recorded video from capture cards and IP devices connected to local and wide area networks. The VMS software shall have a client/server-based architecture that can be configured as a standalone VMS system with the client software running on the server hardware and/or the client running on any network-connected TCP/IP workstation. Multiple client workstations shall be capable of simultaneously viewing live and/or recorded video from one or more servers. Multiple servers shall also be able to simultaneously provide live and/or recorded video to one or more workstations. The VMS server software shall also have the ability to be installed on an IP edge device—such as an IP camera or encoder that allows for 3rd party applications—allowing the device to serve as both a server and IP video recording device.The VMS shall not charge for the number of concurrent clients (min. 50 thick clients and 16 mobile clients to be provided along with VMS).</p>	Each	154.00	Tyco			
<p>Supply, installation, testing &amp; commissioning of Client Workstation having Intel Core i5 original motherboard, 16 GB RAM, Video graphics card 2 GB Licensed Windows 8 Professional (64 bit) and 1 TB Hard Disk with Web camera,Printer and finger print scanner.</p>	Each	4.00	HP-DT 280 G3 SFF			

Supplying, Installation, Testing & Commissioning of 55 " LED Full HD TV Resolution 1920 x 1080 ,Contrast Ratio (Typical) 5000:1,Built-in Speaker (10W + 10W), Magic Clone (to USB), Auto Source Switching & Recovery, Lamp Error Detection, Super Clear Coating, Temperature Sensor, Plug and Play (DDC2B), Pivot Display, Clock Battery, PIP/PBP, Video Wall (10x10), Image Rotation, Button Lock, HDCP Support, Smart Scheduling, Smart F/W update, Built-In MagicInfo Premium-Swith Mounting Brackets as per Technical Specification complete in all respect.	Each	4.00	DC55E			
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Building Management System				Ground Floor
DESCRIPTON	Unit	QTY.	Model Number	As per Drawing
BMS Computer System: Supply, installation, testing and commissioning of 17 Processor or Equivalet Server PC, Intel(R) Xeon(R) Processor, 2.93GHz, 4MB Cache with 4 GB RAM, & 1 TB HDD, 10/100 Mbps Ethernet card, USB connection & internal modem, Microsoft(R) Windows(R) 7 OS Professional Enterprise, Web server software, DVD-ROM Drive (with RAM), 100/1000 Mbps NIC for Network connection and anti virus software with 22" colour graphics monitor as per Tender Specifications. Accessories included Optical Mouse, Key Pad, Laserjet colour A4 printer with the above BMS System configuration.	Each	2.00	Dell	1
BUILDING MANAGEMENT SYSTEM WEB-BASED SERVER SOFTWARE	Each			
Supply, installation, testing and commissioning of the multi user with simultaneous minimum 2 user web based Server license. Software for Building Management System with dynamic graphics. The Web-Based Server software shall permit use of Standard Web-Browsers such as Microsoft Internet Explorer, Netscape Navigator, etc with EMAIL / SMS OPTION AVAILABLE. Software should be have licensce of 2500 points (hardwired 1000 points & software 1500 points both).	Set	2.00	DESIGO CC	1
Supply, installation, testing and commissioning of Energy Management & Analysis software capable of fetching the energy data from energy meter and storing it the same BMS PC as per Tender Specifications.(No additional PC Shall be provided for EM Software)	Set	2.00	DESIGO CC	1
PROGRAMMABLE & APPLICATION SPECIFIC CONTROLLER (DDC) - UL LISTED	Each			
Supply, installation, testing and commissioning of Programmable and Application specific 32 bit, UL Listed BACnet (BTL certified) Real Time controllers, field mounted configured as per Data Point Summary for respective building services and as per below distributions. The DDC shall be Compact Type Controller with inbuilt minimum 16 Universal Inputs & with a polling speed of 100 ms. The controller shall be housed in vandal proof lockable MS cabinets. No Expansion controller, Digital to Analog, Analog to Digital convertor shall be allowed. Proprietry Protocol shall not be accepted. As per Tender Specifications.	Each			

The above shall be housed in a vandal proof, lockable & secure MS Cabinets to be supplied along with the Controllers as per the List of Approved makes. Number of controllers shall have spare capacity for future expansion upto 15%	Each			
DCC controllers for VRV	Each	22.00	PXC12D	<b>6</b>
DCC controllers for Ventillation System		6.00	PXC12D	<b>24</b>
DCC controllers for DG system		2.00	PXC12D	<b>1</b>
DCC controllers for Transformer		1.00	PXC12D	<b>1</b>
DCC controllers for Fire Fighting System		3.00	PXC12D	<b>1</b>
DCC controllers for Plumbing / Domestic / Raw System		5.00	PXC12D	<b>2</b>
DCC controllers for Electrical System		6.00	PXC12D	<b>2</b>
DCC controllers for Elevator System		2.00	PXC12D	
Make : SEIMENS/SCHNEIDER/HONEYWELL				
<b>WEB SERVER ENGINES (NETWORK / SUPERVISORY CONTROLLERS)</b>				
Supply, installation, testing and commissioning of Microprocessor based 32 Bit ,UL Listed Embedded Web Server Engine-cum-Network & Supervisory controller on BACnet/IP units for connecting all field DDC controllers and 3rd party System Integration Units to it and for transferring data from field devices to BMS Web-Server Software . The Network Controller shall support BACnet standard MS/TP Protocol and shall be BACnet testing lab certified (BTL) and carry the BTL label .The Network supervisory Controller shall have imbedded graphic capability for generating web based user graphics & support minimum of Five Concurrent User .The Web user shall have the capability to access all system data through one Network Controller. In case of PC/Software Failure, User can access the system using POT.		6.00	PXG3.L + PXM20	<b>1</b>
Make : SEIMENS/SCHNEIDER/HONEYWELL				
<b>SYSTEM INTEGRATION UNITS FOR 3RD PARTY SYSTEM SOFTWARE INTEGRATION - UL listed Controllers</b>				
Supply, installation, testing and commissioning of BACnet/ MSTP Based System Integration unit consisting of microprocessor based controller units as required to communicate between the Network Controller & the individual 3rd party microprocessor system controllers like Chillers, DGs, VFDs, VAV terminal units, UPS, Multifunction Digital Electronic Meters, Fire Detection Systems, STP, Elevators etc. as per distribution given below :				
For VRV (10 points/VRV on open Protocol Output BACnet/Modbus)		3.00	GW-BMS-01	<b>2</b>
For Addressable Fire Detection System Control Panel		2.00	GW-BMS-01	<b>1</b>
For DG System points mentioned in IO summary		2.00	GW-BMS-01	<b>1</b>
Lift System points mentioned in IO summary		2.00	GW-BMS-01	<b>1</b>
LT Electrical Panel & EM points mentioned in IO summary		2.00		
STP System points mentioned in IO summary		2.00		
Make : SEIMENS/SCHNEIDER/HONEYWELL				

<b>SENSORS AND FIELD DEVICES</b>				
Supplying, installing, testing and commissioning of the following sensors / transducers / transmitters				
Outside air temperature + humidity RH & Wetbulb sensors for measuring outside air temperature. It should be provided with sun shield and rain protection.		2.00	HSOSA312	<b>1</b>
UL Listed Current Relay with built in LEDs for On / Off commands Status		32.00	CS-610-75	<b>40</b>
Water Level Switches for indicating level status in sumps & Tanks		6.00	ALS-2	<b>4</b>
Differential pressure switches across the fan blowers indicating status.		17.00	Not required	
Room Temperature Sensor shall be with rigid stem and of averaging type.		35.00	Not required	
Pressure sensor with IP 67 protection for measuring line pressure in Hydrant / Sprinkler lines		3.00	GPB08S15	<b>2</b>
UL Listed Room Mount CO2 Sensor		35.00	Not required	
Flame Proof Bi- Level Indicator fo DG Tank		2.00	ST1-S5- F3 -MS -FP - 2C	<b>2</b>
Ultrasonic Water Flow Meters		1.00		
PH Analyser		2.00	PCPR1K	<b>1</b>
TDS Analyser		2.00	PC1	<b>1</b>
Voltage Transducer		2.00	CON V	<b>2</b>
CO Sensor - Space Type for Basement Parking		14.00	Not required	