

ESTIMATED BOQ FOR ELECTRICAL WORKS OF CIRCLE OFFICE AT SIX MILE, GUWAHATI, ASSAM					
Sl. No	Description	Unit	Qty	Rate	Amount
SECTION-A					
I	MAIN LT PANEL				
1.1	Supplying and installation of metal enclosed wall/ floor mounted front operated cubical type switch gear panel suitable for indoor installation conforming to IS: 8623 (Part I & II). Panel should be made of sheet steel and thickness not less than 2mm and structural steel having light section. The panel shall be completely dust tight and vermin proof and shall be painted with anti corrosive and anti condensation type two coats of primer and two coats of paint. All wiring shall be PVC insulated and PVC sheathed of 1100 volt grade of required size. The panel should have provision of entry of cable at the bottom and also provision of out going feeders from the bottom of the panel. The panel shall incorporated double busbar system. The bus bar shall be of high quality copper of uniform cross section. The panel shall consist of the following items (viz. voltmeter, ammeter, CT, indicating lamps, selector switch etc.) connected as per drawing and shall be flush mounted on the front of the				
a	Incomer :- 400A 4P 36KA MCCB - 1 No				
b	Outgoings :-				
	160A 4P 25KA MCCB - 1 No.				
	100A 4P 25KA MCCB - 4 Nos.				
	63A 4P 25KA MCCB - 1 No.				
	63A 4P MCB - 1 No.				
	40A 4P MCB - 5 Nos.				
	32A 4P MCB - 3 Nos.				
c	1 no., 0-400A, Ammeter with CT and selector switch				
d	1no., 0-500V, Voltmeter with selector switch and fuse				
e	1Set, TPN, Copper busbars of size 40mm x 10mm thk PVC insulated suitable for 640 Amp load				
f	1 Set, RYB, indicating lamps with resistors and fuses				
	Full Set as above	Set	1		
2	LT PANEL-UPS				
2.1	Supplying and installation of metal enclosed wall/ floor mounted front operated cubical type switch gear panel suitable for indoor installation conforming to IS: 8623 (Part I & II). Panel should be made of sheet steel and thickness not less than 2mm and structural steel having light section. The panel shall be completely dust tight and vermin proof and shall be painted with anti corrosive and anti condensation type two coats of primer and two coats of paint. All wiring shall be PVC insulated and PVC sheathed of 1100 volt grade of required size. The panel should have provision of entry of cable at the bottom and also provision of out going feeders from the bottom of the panel. The panel shall incorporated double busbar system. The bus bar shall be of high quality copper of uniform cross section. The panel shall consist of the following items (viz. voltmeter, ammeter, CT, indicating lamps, selector switch etc.) connected as per drawing and shall be flush mounted on the front of the				
a	Incomer :- 100A 4P MCCB - 2 Nos. with Interlock Change Over System.				
b	Outgoings :-				
	40A 4P MCCB - 4 Nos.				
	32A DP MCCB - 3 Nos.				
c	1 no., 0-100A, Ammeter with CT and selector switch				
d	1no., 0-500V, Voltmeter with selector switch and fuse				
e	1Set, TPN, Copper busbars of size 35mm x 5mm thk PVC insulated suitable for 250 Amp load				
f	1 Set, RYB, indicating lamps with resistors and fuses				
	Full Set as above	Set	1		
3	AUTOMATIC POWER FACTOR CONTROL PANEL				
3.1	Supply and installation of 60 KVAR APFC panel, floor/wall mounted front operated totally enclosed vermin proof, indoor non-drawout-cubicle type power panel fabricated out of 2mm thk CRCA sheet having gasketed hinged cover on each cubicle fully powder coated with following accessories				
a	1No.160A,FP, MCCB as incomer				
b	2 nos. of 50A 3P contactor & 1 no. 25A 3P contactor				
c	2 nos. 40A TP MCB & 2 nos. 25A TP MCB				
d	2 nos. 20KVAR & 1no. 10 KVAR Capacitor				
e	Suitable bus bar for connecting the contactors and MCB's, Capacitors				
f	1 no. 4 step APFC relay suitable for above arrangement				
g	ON/OFF/TRIP push button for each capacitor				
h	ON/OFF/TRIP indication lamp for each capacitor				
i	1 Set, RYB, indicating lamps with resistors and fuses for incomer.				
	Full Set as above	SET	1		
SECTION-B					
4	CHANGE OVER				
	Supplying with fitting and fixing Four Pole 415V Front handle operated On Load Change over switch (IP-20 protection powder painted sheet steel enclosure fitted on angle iron frame of the following capacity complete with making necessary connection as approved, specified and directed by the deptt				
	(C&S, Havells, Indo Asian, HPL, GECCO make)				
	a) 400A	Each	1		
5	S & I of SPN D/D consumer Unit with 8 ways with suitable DP incomer and SP out going MCB's for Signage Lighting.	Nos			
6	MAIN SWITCH				
	Supply and fixing of following MCCB Unt with MCCB in sheet steel enclosure on M.S. angle frame / M.S. legs on wall complete with interconnection, mending good damages to original finish, painting, etc. as required.				
	a) 400A 4P 36KA MCCB	Each	1		
7	MCB DISTRIBUTION BOARD				
	Supplying, installation, testing and commissioning of surface/recess mounting, 220/415 volts prewired MCB distribution boards with all switchgears as specified below, of sheet steel, dust protected, duly phosphatized and powder painted, inclusive of 200 amps tinned uniformly rated electrolytic copper bus-bar, common neutral link, earth bar, din bar for mounting MCB/MCCB/RCCBs detachable gland/knock out plates and with built in loose wire box, and superior make terminal connectors for all incoming and outgoings circuits, duly prewired with adequate size of FR PVC insulated copper conductor upto the terminal connector/neutral link				

7.1	MAIN TPDB [VTPN] [MCBDBP-1F, MCBDBP-2F & MCBDBP-3F for Power & A/C]			
	8way VTPN TPN DB IP 43 IK 09 with metal Doors - 1 No.	No.s	3	
	Incomer			
	100A 4P 25KA MCCB - 1 No.			
	Outgoing			
	25A TP 10 KA MCB - 5Nos.			
	20A/25A SP 10 KA MCB - 5Nos.			
	10A/16A SP 10 KA MCB - 4Nos.			
7.2	MAIN TPDB [VTPN] [MCBDBP-1S for Power & A/C]			
	8way VTPN TPN DB IP 43 IK 09 with metal Doors - 1 No.	No.s	1	
	Incomer			
	63A 4P 25KA MCCB - 1 No.			
	Outgoing			
	25A TP 10 KA MCB - 2Nos.			
	20A/25A SP 10 KA MCB - 6Nos.			
	10A/16A SP 10 KA MCB - 12Nos.			
7.3	MCBDBL-1F, MCBDBL-2F & for LIGHT & RAW POWER	No.s	2	
	8way TPN DB IP 43 IK 09 with metal Doors - 1 No.			
	Incomer			
	40A 4P MCB - 1 No.			
	40A 4P RCCB 100mA/300 mA sensitivity - 1 no.			
	Outgoing			
	6A SP 10 KA MCB - 15Nos.			
	10A SP 10 KA MCB - 9Nos.			
7.4	MCBDB 12 way SPN DB - MCBDBL-1S for LIGHT & FAN	No.s	2	
	12way SPN DB IP 42 IK 09 with metal Door - 1 No.			
	Incomer			
	40A DP MCB - 1 No.			
	Outgoing			
	40A DP RCCB 100mA/30 mA sensitivity - 1 no.			
	6A SP 10 KA MCB - 8 Nos.			
7.5	MCBDB/UPS-1F, MCBDBUPS-2F & for UPS POWER	No.s	2	
	8way TPN DB IP 43 IK 09 with metal Doors - 1 No.			
	Incomer			
	40A 4P MCB - 1 No.			
	40A 4P RCCB 100mA/30 mA sensitivity with nuisance protection - 1 no.			
	Outgoing			
	10A SP 10 KA MCB - 24Nos.			
7.6	MCBDB/UPS-1S for UPS POWER	No.s	1	
	12way SPN DB IP 42 IK 09 with metal Door - 1 No.			
	Incomer			
	40A DP MCB - 1 No.			
	Outgoing			
	40A 4P RCCB 100mA/30 mA sensitivity with nuisance protection - 1 no.			
	10A SP 10 KA MCB - 8 Nos.			
7.7	MCBDB/UPS-SERVER & MCBDB-E for UPS POWER & EMERGENCY LIGHT	No.s	2	
	8way SPN DB IP 42 IK 09 with metal Door - 1 No.			
	Incomer			
	32A DP MCB - 1 No.			
	Outgoing			
	25A 4P RCCB 100mA/30 mA sensitivity with nuisance protection - 1 no.			
	10A SP 10 KA MCB - 4 Nos.			
7.8	4 Pole One way enclosure with 25A TP 10 KA MCB	No.s	19	
7.9	2 Pole One way enclosure with 20A/25A/32A DP 10 KA MCB	No.s	14	
	SECTION-C			
8	CABELS / MAINS			
8.1	S & T of 1100V grade armoured cable having sector / circular shaped aluminium / copper conductor PVC insulated cores, laid up, PVC tape wrapped inner sheathed, GI strip / wire armoured and overall extruded PVC sheathed conforming to IS: 1554, laid on wall or ceiling using GI clamps and spacers as per route shown at site and further as directed by Bank / Architect in the following sizes. Rates shall be complete with complete with cable (Havell's/Richa/RR kebel or equivalent), glands and two nos. of 8SWG GI wire			
a	3 1/2 C X 185 Sq.mm Aluminium	Mtrs	90	
b	3 1/2 C X 70 Sq.mm Aluminium	Mtrs	85	
8.2	Sub-main line:-			
	Wiring in MS conduit of IS specification of Proper size with core PVC insulated stranded copper wire 11KV grade (Finolex/Havell's/Richa/RR kebel or equivalent) and with all materials supply ,installation connection complete as per circuit diagram and as required from main DB to various DBs:-			
a)	With 4 Nos. x 16 + 2X16 sq. mm (2ECC)	Mtrs	35	
b)	With 4 Nos. x 10 + 2X10sq. Mm (2ECC)	Mtrs	75	
b)	With 4 Nos. x 6 + 2X6sq. Mm (2ECC)	Mtrs	270	
8.3	Sub-main line:-			
	Wiring in MS conduit of IS specification of Proper size with core PVC insulated stranded copper wire 11KV grade (Finolex/Havell's/Richa/RR kebel or equivalent) and with all materials supply ,installation connection complete as per circuit diagram and as required from main DB to various DBs:-			
a)	with 3nos 4sq.mm (1ECC)	Mtrs	100	
b)	with 3nos 6sq.mm (1ECC)	Mtrs	480	
c)	with 3nos 10sq.mm (1ECC)	Mtrs	60	
9	POINT WIRING			
9.1	Supply & Installation of concealed point wiring using 600v grade 2.5 sqmm copper conductor PVC insulated wires (with proper R,Y,B color code) pulled through haevy gauge PVC conduits laid concealed over false ceiling or in wall chases including circuit wires from the relevant DB and also including 1.5 Sq.mm Green Colour Copper earth wire and provision of grid plate type (ROMA) switches and sockets as approved by Bank / Architect. Each circuit feeding not more than 8 points / 800 W as per the following configuration.			
a	Primary light points including the cost of 6A switch	Pts	190	
b	Secondary light points looped from the above point	Pts	94	

c	6A plug point as primary point. [SO]	Pts	6		
d	Secondary 6A Plug point on switch board. [SO]	Pts	8		
e	16A Plug Point directly taken from DB for hotplate/geyser / zerox / fridge [P]	Pts	6		
f	Indicator Light point from main panel to Banking area for indication of Mains power supply with wiring, indicator lamps etc.	Pnt.	1		
g	Exhaust fan/ Wall Fan point consisting of 6A socket near fan and switch on light switch board	Pts	61		
h	Ceiling fan point with electronic regulator (2 module step, 100 watt (min.)	Pts	5		
i	Wiring for Signages with 2R x2.5 Sq.mm and 1 R x 1.5 Sq.mm, PVC insulated copper conductor flexible cable to be connected to the SPN D/D consumer along with a Timer and Contactor unit installed in Electrical Room room	Set	2		
9.2	COMPUTER/ RAW POWER WIRING				
	Note- All sockets should be placed below the workstations as mentioned in the drawings but the controlling switch should fixed above the work stations and at place as directed by the architect				
a	S & I of point wiring for UPS or stabilized power plug points on workstations / table for computers using 3C x 2.5 Sqmm Cu. PVC sheathed white color flexible cable pulled through already laid floor raceways and taken upto table top using PVC rigid or flexible conduits run within wooden or metal partitions. Each point consisting of 3 Nos of 6A/16A 2 / 3 Pin sockets and 1 No 16A switch, wired together forming one point. Switches and sockets to be (ROMA). Earth wire to be of Green colour only. (Only 2 tables served by one circuit from UPS DB) [SOC]	Pts	9		
b	S & I of point wiring for UPS or stabilized power plug points on workstations / table for computers using 3C x 2.5 Sqmm Cu. PVC sheathed white color flexible cable pulled through above False ceiling and cutting the walls as raceways are not provided and taken upto table top using PVC rigid or flexible conduits run within wooden or metal partitions. Each point consisting of 3 Nos of 6A/16A 2 / 3 Pin sockets and 1 No 16A switch, wired together forming one point. Switches and sockets to be (ROMA). Earth wire to be of Green colour only. (Only 2 tables served by one circuit from UPS DB) Cost is inclusive of necessary cutting the walls and including PVC Pipe required for taking the wires. [SOC]	Pts	80		
c	S & I of points similar to above but to be used as raw power point on the tables consisting of one 6A/16A socket with switch of other color and flexible cable of black color & circuit taken from Lighting DB (4 tables served by one circuit from LDB/PDB) Taken through Raceways. [SOR]	Pts	4		
d	S & I of points similar to above but to be used as raw power point on the tables consisting of one 6/16A socket with switch of other color and flexible cable of black color & circuit taken from Lighting DB (4 tables served by one circuit from LDB/PDB) Taken Above False ceiling and through walls as raceways are not provided. Cost is inclusive of necessary cutting the walls and including PVC Pipe required for taking the wires.	Pts	46		
	SECTION-D				
10	EARTHING				
10.1	Earthing with Copper earth plate 600 x 600 x 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc with charcoal/ coke and salt as required.	Each	4		
10.2	Earthing with GI earth plate 600x600x3mmthick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc with charcoal/ coke and salt as required.	Each	2		
10.3	Providing & fixing 25 mm x 5 mm Cu strip on surface or in recess for connection as required.	Metres	40		
10.4	Providing & fixing 25 mm x 5 mm G.I. strip on surface or in recess for connection as required.	Metres	20		
10.5	Providing & fixing 6 SWG dia GI wire on surface or in recess for loop earthing alongwith adjusting surface/ recessed conduit / submain/ cable as required.	Metres	20		
	SECTION-E				
11	LIGHTING FIXTURES(Philips/Jaquar or equivalent)				
11.1	S & I of lighting fixtures as per the details given below including necessary hardware such as clamps,nuts, bolts, nails, screws and suspension chains as required for fixing the fixtures in position as directed by architect / Consultant				
a	DOWN LIGHT - Nero Round LED recess-mounted designer panel with aluminium die cast housing , Item Code- LNR001R012XN, Wattage-12W, CCT- 4000 K, or equivalent as approved by the Engineer-incharge/ Architect.	Each	42		
b	EMERGENCY LIGHT - Areva (Round) Low-depth, recess-mounted, sleek, round downlight with aluminium die cast housing & polycarbonate diffuser, Item Code-LARV01R015XN , Wattage-15W, CCT- 4000 K, or equivalent as approved by the Engineer-incharge/ Architect. [EL]	Each	27		
c	PANEL LIGHT - Sauver Ultra Slim LED Panel made from extruded aluminium housing frame (recess / pendant) 2ft x 2ft , Item Code- LSVR01S036XN , Wattage-36W, CCT- 4000 K, or equivalent as approved by the Engineer-incharge/ Architect. [PL]	Each	111		
d	COB-DOWNLIGHT - Teny LED recess-mounted COB Spot light with aluminium housing (white Finish) , Item Code- LTNY01R002XW , Wattage-2W, CCT- 3000 K, or equivalent as approved by the Engineer-incharge/ Architect. [COB]	Each	10		
e	COB-DOWNLIGHT - Estus Swivel Downlight, Recess-mounted, COB-based, square tiltable LED doynlight with multiple beam angle (36 degree) , Item Code- LETS36s006XN , Wattage-6W, CCT- 4000 K, or equivalent as approved by the Engineer incharge/ Architect. [COB]	Each	18		
f	Supply and fixing of LED Indoor Strip Light (24V DC) IP33-rated, suitable for indoor application with different colours and wattages in standard 5.0 M roll with drivers (Cat. no. LDRV01S048XX), remote etc and all accessories all complete. Item Code- LSTP03X008XM , Wattage-40W, CCT- RGB K, or equivalent as approved by the Engineer-incharge/ Architect. [DPL]	Each	8		
g	1200 MM TUBE LIGHT - LED batten tubes, Glaze LED Batten, High quality aluminium extruded with decorative end caps, Item Code-LGLZ01x020XN , Wattage-20W, CCT- 4000 K, or equivalent as approved by the Engineer-incharge/ Architect. [TL]	Each	30		
h	600 MM TUBE LIGHT - LED batten tubes, Glaze LED Batten, High quality aluminium extruded with decorative end caps, Item Code-LGLZ01x010XN , Wattage-10W, CCT- 4000 K, or equivalent as approved by the Engineer-incharge/ Architect. [EL]	Each	14		
i	SQUARE DOWNLIGHT - Neve Plus (Square) LED recess mounted square panel with aluminium die cast housing , Item Code- LNEP01S006XN , Wattage-6W, CCT- 4000 K, or equivalent as approved by the Engineer-incharge/ Architect. [SDI]	Each	17		
j	Designer Light - Trius- Uniquely designed, suspended, triangle-shaped with uniform light output in extruded aluminium with polycarbonate diffuser, Item Code- LTRS02T090XN , Wattage-90W, CCT- 4000 K, or equivalent as approved by the Engineer incharge/ Architect. [DNI]	Each	4		
k	Decorative Pendent Light - Cooper Finishing Pendent Lamp-E-27 LED SWX 1, Item Code- KCH-COP-MD150031251C, or equivalent as approved by the Engineer-incharge/ Architect. [DPL]	Each	3		

I	Floor Lamp - Chrome Finishing with Opal Glass Floor Lamp: E-27 LED 14 W x 1, Item Code- KPT-CHR-ML49061A or equivalent as approved by the Engineer-in-charge/ Architect. [N.I]	Each	4	
11.2	Supplying including fitting fixing of following star rated Plastic Blade, new 450 mm dia bracket/wall fan of Ivory Colour , complete with all accessories of following sweeps with making necessary connection cable, as approved by the Deptt.s etc. as required complete and as directed by the Department			
	a) 450 mm sweep [WF]	EACH	45	
11.3	Supply and fixing of 10" - 12" PVC exhaust fans with louvers.[EF]	EACH	16	
11.4	Supplying including fitting fixing of following star rated A.C. Ceiling fan complete with all accessories like down rod, canopy etc. of following sweeps with making necessary connection cable, as approved by the Deptt.s etc. as required complete and as directed by the Department [Without regulator]. (ORIENT PSPO make / Usha make / GROMPTON make / ATC / VCAURD make)			
	a) 1200 mm sweep [F]	EACH	5	
12	WIRING FOR DATA AND VOICE OUTLETS			
12.1	Supplying, laying and termination of 4 pair Copper solid, twisted pair G600 CAT--6 cables through specified dia PVC conduits / raceways. Cables must meet and exceed category 6/ class E standards requirements in ISO/IEC11801, CENELEC EN50173 & TIA 568-B2-1. and providing & terminating with RJ-45 (Krone make) with face plates / I/O Ports in suitable modular / MS box from server / EPABX room to individual work stations and terminating other end with RJ-45 connector including numbering with ferule. Note- Rates shall be all inclusive as mentioned in the description above and the payment for the same item shall be made on the number of			
a	RJ-45 for data points (THROUGH RACEWAYS)	points	4	
b	RJ-45 for data points (THROUGH False ceiling and wall)	points	78	
12.2	Supplying, laying and termination of 4 pair Copper solid, twisted pair G600 CAT--6 cables through specified dia PVC conduits / raceways for voice and providing & terminating with RJ-11 (Krone make) with face plates / I/O Ports in suitable modular / MS box from server / EPABX room to individual work stations and terminate the other end with RJ-11 connector or on a Crone module with numbering of each cable with Ferule. Note- Rates shall be all inclusive as mentioned in the description above and the payment for the same item shall be made on the number of points provided based on the above description			
	Note- All Voice outlet should be fixed above the work stations and at place as directed by the architect			
a	RJ-11 for Voice (THROUGH RACEWAYS)	points	3	
b	RJ-11 for Voice (THROUGH FALSE CEILING AND WALL)	points	44	
12.3	Supplying, laying and fixing of PVC telephone flexible wire through specified dia PVC conduits / raceways of following size:			
a	20-pair	mtr.	30	
12.4	Cat 6 Jack Panel, 24 Port (DATA)	No.	1	
12.5	Cat 6 Jack Panel, 24 Port (VOICE)	No.	1	
12.6	19", 3U SS Rack Mount Recessed Frame for Voice Terminations	No.	1	
13	CCTV SYSTEM			
13.1	SITC of fixed dome indoor Colour Varifocal Lens Camera having 0.20 lux level requirement in night mode with the following components / sub assemblies as per specifications, complete with power supply unit, necessary brackets for fixing in the false ceiling etc. as required.(The camera shall be UL/ EN/ FCC certified) a. 1/3" progressive scan CCD image sensor Day/Night camera with inbuilt DSP, advanced features like High resolution of minimum 640 x 480, AGC, BLC, extended sensitivity, support on screen display etc. b. 1/2" Image format varifocal lens (4 to 8 mm)	Nos.	6	
13.2	SITC of Advanced dynamic 4 channel digital event recording system with Digital multiplexer, DVR, Video Motion Detection & Video management System features suitable for CCTV cameras and as specified in the technical specifications inclusive of the rack cost and inclusive of 1.5 TB storage Memory for 12.5 frames second at 4CIF (704 X 576) resolution TCP/IP connectivity, dual streaming and H.264 compression	No.	1	
13.3	SITC of coaxial FRLS RG 6 cable for CCTV system.	Metres	350	
13.4	SITC of 2C x 1.5 sq mm FRLS cable .	Metres	350	
13.5	SITC of cam power supply	Nos.	6	
13.6	Supply & Installation of suitable stand for monitor of CCTV	Nos.	1	
14	P.A. SYSTEM			
14.1	Supply, installation, testing and commissioning of public address/ music system comprising of the following:			
14.2	SITC of solid state Amplifier of 240 W, RMS output including necessary control wires, jacks etc. any other accessories as required in complete.	No.	1	
14.3	SITC of DVD player with USB support	No.	1	
14.4	SITC of 6-9 W ceiling mounted speakers with line matching transformers with decorative grills, mounting bracket etc. other accessories as required in complete.	Nos.	12	
14.5	SITC of twin twisted 24/0.2 SWG flexible tinned copper PVC insulated and screened Copper cables for speakers connections, volume control etc. through PVC conduits.	Metres	180	
14.6	SITC of 2 zone call station	No.	1	
14.7	SITC of lapel microphone	No.	2	
14.8	SITC of Bosch make MW1 -LTX-Fx Wireless Belt-pack Transmitter	No.	1	
14.9	Cordless Microphone	Nos	2	
14.1	SITC of Bosch make MW1 -LTX-Fx Wireless Belt-pack Compatible Reciever	No.	1	
15	Wiring for T.V at Video Conference and Conference Room			
15.1	Supply and laying of co-axial RG 6 cable for TV terminals	Meters	180	
15.2	Supplying and fixing of T.V Outlet in Modular Sheet /G.I Box etc as required	Nos.	5	
15.3	Supplying and fixing of HDMI PORT as required	Nos.	5	
15.4	Supplying and fixing of HDMI Cable with inbuilt port as required	Meters	80	
16	FIRE ALARM SYSTEM			
16.1	Supply, installation, testing and commissioning of Single Loop Intelligent, Addressable Main Fire Alarm Control panel suitable for operation on 230 V, 1 Ph, 50 Hz, AC supply with sufficient number control relay modules, Data entry, necessary programming and comprising following as per specifications complete as required:- a) Intelligent Detection Panel:- i) Microprocessor based central processing unit of at least 16 bit device, EPROM, non volatile memory with real time clock for communication and controlling the Intelligent / Addressable devices and history buffer of 3000 events with time and date stamp. ii) Capable of integrating 125 Detectors and 125 Modules. iii) operator interface, control and annunciation panel with back-lit alphanumeric liquid crystal display, system status LED, two level password access and with alphanumeric keypad. iv) One no. v) Suitable capacity maintenance free battery with 24 hours backup in normal conditions and 30 minutes in alarm condition alongwith battery charger. vi) The housing cabinet shall be corrosion proof, with manufacture standard finish, attack rated door, door lock and transparent viewing on front panel alongwith painting with rust-resistant prime coat complete as required vii) shall be FN/UL/FM/VDS listed.	No.	1	

16.2	Supply, installation, testing and commissioning of intelligent addressable Smoke and Heat Detector (Multisensor - 3D) with Standard base, Junction box,connector for loop in and loop out, insect resistant screen, built-in tamper resistant features including connection etc. with inbuilt isolator modules and other accessories as required Detectors shall be FN/UI/FM/VDS listed.	Nos.	78		
16.3	Supply, installation, testing and commissioning of intelligent addressable reponse indicators	Nos.	40		
16.4	Supply, installation, testing and commissioning of intelligent addressable manual call point	Nos.	4		
16.5	Supply, installation, testing & commissioning of Addressable Hooter / SOUNDER complete with control module FN/UI / LPCB approved make - HONEYWELL MORLEY IAS or equivalent as approved by the Deptt)	Nos.	4		
16.6	Supply, installation, testing & commissioning of Intelligent Addressable monitor modules with standard base, junction box, connector for loop in and loop out, built in tamper resistant features etc for integrating third party inputs. shall be FN/UI/FM/VDS listed.	No.	1		
16.7	Supply and laying 2 x 1.5 sq mm (14 SWG), 1.1 KV grade flame retardant copper conductor PVC cable with steel braiding and overall shielded with aluminium mylar tape including connection etc. as required.	Metres	680		
X	FIRE EXTINGUISHERS				
	Supply installation testing & commissioning of ISI marked FIRE EXTINGUISHERS				
1	ABC type - 2Kg	No	8		
2	ABC type - 5Kg	No	4		
TOTAL OF ELECTRICAL & OTHER RELATED WORKS					