

**SOQ OF ELECTRICAL (including LAN cabling, CCTV and fire alarm works) FOR CANARA BANK CIRCLE OFFICE,
SAMBAKULAM ROAD, MADURAI.**

SL. NO.	DESCRIPTION (Approved Makes were detailed in RFP document)	QTY.	UNIT	RATE in Rs.	AMOUNT in Rs.
	<u>PANEL & DISTRIBUTION BOARDS</u>				
	<u>FABRICATION</u>				
	This specification read in conjunction with general specifications covers the supply, of following LT PANELS suitable for 415V, 3 phase, 4 wire, 50Hz distribution system. The panel shall be IP 44, Free standing , Floor mounting , Vermin Proof , CRCA sheet metal enclosed, flush front with aluminium busbars, with 50 kA / 35 / 25 kA for 1 second rating , as per SLD, separate earth bus shall be provided throughout the length of the panel. The sheet steel fabricated panel made out of 14 SWG / 16 SWG CRCA Sheet steel fully treated by 7 tank process and powder coated with 60 to 70 Micron finish. only galvanised , zinc passivated hardware shall be used for assembly . The incoming and the outgoing feeder breakers, switch fuse units, change over switches, indicating lamps, meters etc. shall be accommodated in a modular multiter arrangement. A minimum of 400mm clearance shall be given from the floor level to the bottom most termination point. Adequate size cable alley & Busbar Chambers shall be provided with in the panel and at the back for easy bending and terminations. The outgoing feeders inside the panel shall be connected through solid busbars / Flexible cable links depending upon the current rating. Busbars shall be provided with PVC heat shrinkable sleeves . The panels shall be suitable for cable entry from top / bottom. The Aluminium earth strip of Suitable Size with two run shall run through out the perimeter at the bottom or top of the panel. All the panels with Top & Bottom Entry provision.The panel shall be "Linear" or "L" or Double front construction type to suit proposed electrical room. Door Earthing & Switch Gear Earthing wherever required to be done. There shall be a continuous aluminium earth bus throughout the perimeter of the bottom of the panel. All CT earthing shall be connected to this bus. All panel doors shall be connected to the body by atleast two copper flexibles. Bus duct / cable entry shall be from top/bottom. (Please ref SLD enclosed)..Necessaary civil foundation will be provided by the client however required MS channel support & anchor fastner including all hardwares are included in the scope of electrical contractor.				
	All MCCBs are (ICU = ICS 100%) only.				
	All MCCBs / FSUs shall be provided with front drive mechanism with necessary door interlock.				
	MCCBs with more than 163 A rating shall be provided with spreaders and terminal shrouds.				
1	<u>MAIN PANEL</u>				
	Supply, erection, testing & commissioning of indoor floor mounting free standing dust & vermin proof cubicle type Utility Panel board fabricated out of 14 /16 SWG CRCA sheet comprising of the following :-				
	<u>INCOMER:</u>				
	1 No. - 250 Amps TP&N Fixed Type MCCB with Manual Closing Mechanism of 36 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection				
	1 No. - Digital type flush mounting power monitor with RS 485 with inbuilt selectors to indicate the following parameters				
	Current, Voltage, KW, KW/hr, Power factor, Frequency, etc.				
	3 Nos. - 250/5A Class 0.5 15 VA C.T. metering				
	1 Set. - 3 Nos. R, Y, B indicating lamp to indicate supply position.				
	1 Set. - 2 Nos. Red & Green indicating lamp to indicate ON-OFF position of breaker.				
	1 Set. - Potential fuses/MCB for indicating lamps, meters, control circuit etc.				
	1 Set. - Outgoing terminals to receive Cables.				
	<u>BUSBAR:</u>				
	1 Set. 250A TP & N bus bars with Alu. flat with the size having a current density of				
	0.7A / Sqmm. The Bus bar shall be provided with colour coded heat shrunkable PVC sleeves with the exception of joint. The bus bar shall be supported at suitable intervals with SMC/ FRP as per IS.				
	<u>OUTGOINGS:</u>				
	2 Nos. 100 Amps TP&N Fixed Type MCCB with Manual Closing Mechanism of 25kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection				
	5 Nos. 63 Amps TP&N Fixed Type MCCB with Manual Closing Mechanism of 25kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection				

	2 Nos. 40 Amps TP&N Fixed Type MCCB with Manual Closing Mechanism of 25kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection				
	SUPPLY & ERECTION	2	Set		
2	UPS O/G PANEL - 20KVA UPS Supply, erection, testing & commissioning of indoor floor mounting free standing dust & vermin proof cubicle type Utility Panel board fabricated out of 14 /16 SWG CRCA sheet comprising of the following :-				
	INCOMER:				
	1 No. - 100Amps TP & 2N Fixed Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection				
	1 No. - Digital type flush mounting power monitor with RS 485 with inbuilt selectors to indicate the following parameters				
	Current, Voltage, KW,KWhr, Power factor, Frequency, etc.				
	3 Nos. - 100/5A Class 0.5 15 VA C.T. metering				
	1 Set. - 3 Nos. R, Y, B indicating lamp to indicate supply position.				
	1 Set. - 2 Nos. Red & Green indicating lamp to indicate ON-OFF position of breaker.				
	1 Set. - Potential fuses/MCB for indicating lamps, meters, control circuit etc.				
	1 Set. - Outgoing terminals to receive Cables.				
	BUSBAR:				
	1 Set. 100A TP & 2N bus bars with Alu. flat with the size having a current density of 0.7A / Sqmm. The Bus bar shall be provided with colour coded heat shrinkable				
	PVC sleeves with the exception of joint. The bus bar shall be supported at suitable intervals with SMC/ FRP as per IS.				
	OUTGOINGS:				
	3 Nos. 63 Amps TP&2N Fixed Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection				
	3 Nos. 32 Amps DP MCB				
	SUPPLY & ERECTION	2	Set		
3	Supplying and fixing 100A , 25ka, TPN MCCB housed in a suitable MS powder coated enclosure with provision for termination of incoming and outgoing cables with removable type gland plate as required.	4	Each		
4	Supplying and fixing 40A , 4P MCB housed in a suitable MS powder coated enclosure with provision for termination of incoming and outgoing cables with removable type gland plate as required.	2	Each		
5	Supplying and fixing 63A , 4P MCB housed in a suitable MS powder coated enclosure with provision for termination of incoming and outgoing cables with removable type gland plate as required.	4	Each		
6	Supply, installation, testing and commissioning of following type Ready Made Distribution Boards, with Double Door arrangement with magnetic lock complete with following switch gears .The DB shall be powder coated type using CRCA sheet steel enclosure.				
	LDB				
	L DB, 6 way ,7 Segment TPN DB comprises: (Horizontal Type , Ready Made DB)				
	Incomers having:				
	One (1) - 32A, 4P, 10kA, MCB 'C' Curve				
	Sub Incomers:				
	Three (3) - 25A, DP, RCCB (30mA) with separate neutral & earth link in each compartment (For Lighting)				
	Outgoing feeders:				
	18 Nos - 6/10A, SP, 10kA, MCB-'C' curve.				
	LDB - as above	3	No		
7	PDB				
	P DB, 8 way ,7 Segment TPN DB comprises: (Horizontal Type , Ready Made DB)				
	Incomers having:				
	One (1) - 63A, 4P, 10kA, MCB 'C' Curve				

	Sub Incomers:				
	Three (3) - 40A, DP, RCCB (30mA) with separate neutral & earth link in each compartment				
	Outgoing feeders:				
	24 Nos - 16/20A, SP, 10kA, MCB-'C' curve.				
	PDB - as above	4	No		
8	UPS PDB				
	DB, 6 way ,7 Segment TPN DB comprises: (Horizontal Type , Ready Made DB)				
	Incomers having:				
	One (1) - 63A, 4P, 10kA, MCB 'C' Curve				
	Sub Incomers:				
	Three (3) - 63A, DP, 10kA, MCB with separate neutral & earth link in each compartment				
	Outgoing feeders:				
	18 Nos - 16/20A, SP, 10kA, MCB-'C' curve.				
	DB - as above	4	No		
9	Supplying and fixing 63 A 4P RCBO with Outdoor enclosure (For AC OUTDOOR UNIT)	6	Nos.		
10	Supplying and fixing 63 A 4P MCB with Indoor enclosure	2	Nos.		
11	Supply, installation, testing and commissioning of 12 Way SPN Distribution board with neutral bar,earth bar,cables ties,top and with neutral bar,earth bar,cables ties,top and bottom removable gland plate and with necessary adopter boxes if any.The DB should be double door with provision of MCB as required including cutting of wall and plastering the same with neat finish.It comprising as follows:- (ATM DB)				
	Incomer : 32A FP MCB				
	Outgoings:				
	25/16/10A SP MCBs- 8 Nos	1	Nos.		
12	Supply, installation, testing and commissioning of 8 Way SPN Distribution board with neutral bar,earth bar,cables ties,top and with neutral bar,earth bar,cables ties,top and bottom removable gland plate and with necessary adopter boxes if any.The DB should be double door with provision of MCB as required including cutting of wall and plastering the same with neat finish.It comprising as follows:- (EMG. LIGHTING DB)				
	Incomer : 32A DP MCB				
	Outgoings:				
	6/10A SP MCBs- 6 Nos	2	Nos.		
	SUB-MAIN				
	POWER SOCKET CIRCUITS				
13	Supply, Laying, Testing and Commissioning of 3 Core 2.5sqmm FRLS copper Flexible Cables in Existing MS conduit pipe / Race ways complete with all accessories like junction boxes, rubber bushes etc.as required.(Black Clour - Raw Power Sockets)	2550	Mtrs		
14	Supply, Laying, Testing and Commissioning of 3 Core 2.5sqmm FRLS copper Flexible Cables in Existing MS conduit pipe / Race ways complete with all accessories like junction boxes, rubber bushes etc.as required. (White Clour - UPS Power Sockets)	2900	Mtrs		
15	Supply, Laying, Testing and Commissioning of 3 Core 4.0 sqmm FRLS copper Flexible Cables in MS conduit pipe complete with all accessories like junction boxes. rubber bushes etc.as required.	750	Mtrs		
16	Supply and installation of 3R 2.5 sqmm PVC insulated multi strand FRLS copper wire drawn in 20/25mm dia MS conduit to be laid, partitions etc complete with all accessories (FOR AC Indoor Units & Other Power Socket Circuits) including providing necessary marking of circuits with ferrules for Raw power.	1550	Mtrs		
17	Supplying and laying 4 runs of 16 sq.mm + 2 runs fo 6 sq.mm FRLS copper wire in 40 mm dia 16G thick MS conduit pipe complete with all accessories from Panel TO UPS incomer & Outgoing	40	Mtrs.		
18	Supplying and laying 3 runs of 6 sq.mm FRLS copper wire in 25 mm dia 16G thick MS conduit pipe complete with all accessories from Panel TO EMG. LIGHTING DB	60	Mtrs.		

	SOCKETS				
19	Supply, Erection, Testing and Commissioning of Modular type 2 Nos. 6 A International / Universal SOCKET controlled by 1 No 10 A switch with Indicator in Galvanised metal/PVC Boxes fixed on Modular face plates in recess/Surface and with necessary accessories as per site condition (For Raw Power Sockets)	170	Nos		
20	Supply, Erection, Testing and Commissioning of Modular type 3 Nos. 6 A International / Universal SOCKET controlled by 1 No 16 A switch with Indicator in Galvanised metal/PVC Boxes fixed on Modular face plates in recess/Surface and with necessary accessories as per site condition(For UPS Sockets)	5	Nos		
21	Supply, Erection, Testing and Commissioning of Modular type 1No. 6 A International / Universal SOCKET controlled by 1 No 6 A switch in Galvanised metal/PVC Boxes fixed on Modular face plates in recess/Surface and with necessary accessories as per site condition (ForAC Indoor units & Camera & Other Power Sockets)	95	Nos		
22	Supply and installation of Modular type 6/16A, 5pin, combination type shuttered switched socket outlet, controlled by a separate 16 A SP Modular Type switch , G.I outlet box and moulded plastic cover plate as required including termination of wires	45	Nos		
23	Supply and fixing 16A modular double pole switch with front plate housed in suitable zinc passivated metal box to be fixed in partitions or concealed in walls. (Master control)	175	Nos.		
24	Supply & Fixing of 4 module furniture popup box with the following switches and sockets and accessories etc, as required. 3 Nos. - 6A 5pin Socket 2 Nos. - 6A Switch 1 No. - RJ-45 Data Socket 1 No. - RJ-11 Telephone Socket 1 No. - HDMI Socket	9	Set		
25	Supply & Installation of 3 Pin 32A Metal Clad Socket with top in a specified company manufactured box with 25A DP MCB for AC.	10	Nos.		
26	Supplying and laying 25 mm dia. 2 mm thick rigid PVC conduit pipe complete with all accessories with GI pull wire for data socket outlets. Conduit embedded in floor/wall using cutting machine as per site requirement.	750	Mtrs		
27	Supply and installation of 25 mm dia. 16 G thick MS conduit pipe to be laid on wall, and partitions etc including all necessary materials	250	Mtrs		
	FLOOR RACEWAYS AND JUNCTION BOX FOR DATA & VOICE				
28	Supply, laying and installation of following trapezoidal PVC floor ducting supplied in three meters per length including trunk connector, clamp, vertical/ horizontal bend etc in screed floor or on wall in line with EN 50085 including chasing and refilling the trench as per the route shown in the drawing and approved by consultant/ client at site including clamping & closing the open ends temporarily by suitable end covers against entry of dust or any foreign materials. Installation rates of PVC trunk should be inclusive of necessary hardware and arrangement required for fixing of trunk with duct connector and fastening clamp. This activity also includes Duct connector, Fastening Clamp alongwith associated accessories. (Including Floor Cutting & Chipping of the Existing floor) Make : OBO				
a	90 mm wide x 35 mm deep trapezoidal UPVC duct with 2 mm thick	675	Mtrs		
29	Supply and installation of following floor junction box height adjustable from 60 to 75 mm with GI Powder coated trap and frame fitted with 2+3 mm Trap + GI load plate in line with EN 50085 suitable for 1.5 KN loading class with 10 mm floor covering protection flange complete with UPVC duct entries on all four sides and necessary recess for accommodating floor finishing material. The floor junction Trap, Frame, load plate and protection flange needs to be powder coated colour matched to the final floor finishing as per architect's choice. Make - OBO				

	The base floor boxes need to be supplied with height adjusting pillars in four corners for the first fix installation. GI hardware to make the installation complete, like supply of necessary screed anchors and grouting etc. including breaking walls, floors, etc. for structures as required including supply of all GI hardware materials, all labour and materials complete as per approved drawings, specifications of this tender and directions of Engineer-in-charge including minor civil work.			
a	358 mm x 358 mm GI under floor box suitable for three run of 90 x 35 mm UPVC Duct entries on all side complete with screeding cover and 358 mm x 358 mm square GI + Powder coated inspection cover complete with load plate colour matched to the floor finish with the RAL colour code confirmed by the architect. The floor boxes need to be supplied with 10 mm floor covering protection flange all around the trap and frame	30	No	
b	260 mm x 260 mm GI under floor box suitable for two runs of 90 x 35 mm UPVC Duct entries on all side complete with screeding cover and 266 mm x 266 mm square GI + Powder coated inspection cover complete with load plate colour matched to the floor finish with the RAL colour code confirmed by the architect. The floor boxes need to be supplied with 10 mm floor covering protection flange all around the trap and frame	25	No	
c	185 mm x 185 mm GI under floor box suitable for single run of 90 x 35 mm UPVC Duct entries on all side complete with screeding cover and 186 mm x 186 mm square GI + Powder coated inspection cover complete with load plate colour matched to the floor finish with the RAL colour code confirmed by the architect. The floor boxes need to be supplied with 10 mm floor covering protection flange all around the trap and frame	40	No	
WIRING				
30	Wiring for light, fan, 6/16 A socket outlet points etc., partly in surface conduit (in ceiling) and partly in recessed conduit system (in wall/partition/vertical drops etc., with 3 runs of 1.5 sq.mm (P + N + E) PVC insulated Flame Retardent Low Smoke copper wire in 20/25 mm dia. 16 G thick MS conduit pipe (all as per IS 9537 part II) complete with all accessories like junction boxes, rubber bushes etc., including supplying and fixing 6A modular type switch with front plate for control housed in a zinc passivated MS box of approved make and giving connections.(Box recessed in wall/partition)			
a	Light point - 1 light controlled by 1 no. 6 A switch	94	Each	
b	Light point - 2 lighs controlled by 1 no. 6 A switch	210	Each	
c	Light point - 3 lighs controlled by 1 no. 6 A switch	50	Each	
d	Wiring for of 6A multi pin socket iin the switch box along with 6A modular type switch.	75	Each	
e	Same as above but for exhaust fan with 6a switched socket	20	Each	
f	Same as above but for Ceiling fan with Regulator	20	Each	
31	Wiring for lighting cicuit mains all as detailed in item above, but with 3 runs (P + N + E) of 2.5 sq.mm FRLS copper wire in 20/25 mm dia. 16 G thick MS conduit pipe (all as per IS 9537 part II) complete with all accessories like junction boxes, rubber bushes etc. and cable marking ferrules as required. Circuit measured from DB up to first switch control box only(RAW & EMG. Lighting Circuits)	1475	Mtrs	
SUPPLY & INSTALLATION OF LIGHT FITTINGS				
32	S I T C of LED 8' Suspended linear light fixture 60W LED along with complete with all accessories suitably suspended with anchor fastener hook and auto clutch wire or conduits with end clamps. (WIPRO- LM34-801-XXX-57UWG2 / Eveready Cat. No. LEDRLL060I6-8FT or Equivalent)	16	Each	
33	S I T C of recess mounting LED luminaire 2'x2' square type along with providing and fixing electronic ballast & lamp (Philips - RC380B LED30S-6500 G5 L60W60 PSU OD / Eveready Cat. No. - LEDPLB036I6-03NS or Equivalent) and suitably suspended with anchor fastener hook and auto clutch wire with end clamps. The fitting should be independently supported from the ceiling and should not rest on the false ceiling	156	Each	

34	Supplying, fixing testing and commissioning of 15 W LED recessed down lighter complete with all accessories in the false ceiling including giving connections complete as required. Rate should include for all necessary supports for mounting the light fittings - similar to (PHILIPS DN194B LED16S-6500 PSU WH S2 / Eveready Cat. No. LEDNR01516R-01 or Equivalent)	368	Each		
34a	S I T C of LED Suspended light fixture 20W LED along with complete with all accessories suitably suspended with anchor fastener hook and auto clutch wire or conduits with end clamps. (WIPRO- LD30-201-60W-40-PL/PS or Equivalent) to suit site condition.	66	Each		
35	Supplying, fixing testing and commissioning of 18 W LED recessed down lighter complete with all accessories in the false ceiling including giving connections complete as required. Rate should include for all necessary supports for mounting the light fittings - similar to (PHILIPS DN195B LED20S-6500 PSU WH S2 or Equivalent)	5	Each		
36	S I T C of LED batten 4' light fixture along with complete with all accessories suitably suspended with anchor fastener hook and auto clutch wire or conduits with end clamps. (Philips BN 021 LED25S 6500 PSU GR S1 or Equivalent)	83	Each		
37	Same as above, but supply, erection, testing and commissioning of single color (warm white 2800k light / any other approved color) Indoor type flexible LED strip light of 180 lights /mtr with flat Aluminium profile/channel and including required rated driver / power supply in multiples of 1 Rmt. complete with all accessories.	200	Mtrs.		
38	supplying,fixing,testing and commissioning of 3W LED spot light of make as specified in tender document or approved by the bank phillips model no:47030/31/66 or equivalent .Product to be approved by the consultant & Bank before proceeding for SITC (Philips, Wipro, Crompton, Bajaj, Heavells)	10	Each		
39	S I T C of 305mm dia light duty exhaust fan (900rpm) along with auto gravity louvre (Make- Almonard or Equivalent)	20	Each		
40	S I T C of 1200mm dia ceiling fan of approved colour. (Make-Crompton or Equivalent)	19	Each		
CABLE & TERMINATIONS					
41	Supply, Laying, testing and commissioning of the following sizes of XLPE insulated, heavy duty aluminium/Copper conductor cable, 1.1 KV grade armoured, MV cable as required, generally conforming to IS:7098/Part-1 with upto date amendments.				
a	3 1/2 X 185 SQ.MM.AL.AR.CABLE	85	Mtrs		
b	4.0C X 6 SQ.MM.CU.AR.CABLE	65	Mtrs		
c	4.0C X 10 SQ.MM.CU.AR.CABLE	225	Mtrs		
d	4.0C X 16 SQ.MM.CU.AR.CABLE	215	Mtrs		
e	3.5C X 35 SQ.MM.AL.AR.CABLE	95	Mtrs		
f	4.0C X 16 SQ.MM.AL.AR.CABLE	120	Mtrs		
g	4.0C X 25 SQ.MM.AL.AR.CABLE	225	Mtrs		
42	Supply and Installation of cable end termination of the following size PVC Insulated and PVC sheathed Aluminium/Copper armoured cable 1.1KV grade with suitable glands and Aluminium / Copper Crimping Sockets etc. The cable gland shall be provided with suitable earth clip.				
a	3 1/2 X 185 SQ.MM.AL.AR.CABLE	4	Set		
b	4.0C X 6 SQ.MM.CU.AR.CABLE	2	Set		
c	4.0C X 10 SQ.MM.CU.AR.CABLE	14	Set		
d	4.0C X 16 SQ.MM.CU.AR.CABLE	8	Set		
e	3.5C X 35 SQ.MM.AL.AR.CABLE	8	Set		
f	4.0C X 16 SQ.MM.AL.AR.CABLE	6	Set		

g	4.0C X 25 SQ.MM.AL.AR.CABLE	10	Set		
43	Supply, erection of following sizes GI ladder type/perferated type cable rack system made out of sheet steel folded to required shape with adequate number of supports.				
	The cable rack shall have runners rugs of suitable size, horizontal elbow, vertical elbow 90 Deg. Up vertical elbow 90 Deg. Down, re-deep, coupler plates, materials. The cable racks shall be suspended from ceiling supported from side walls in columns etc. with adequate size supporting angles / channels with fastners, welding, anchor bolts, nuts etc. The rack shall have suitable cable clamping arrangements etc.				
a	300 mm wide tray size of 50mm height with 2mm thickness Perforated Cable Tray	180	Mtrs		
b	200 mm wide tray size of 50mm height with 2mm thickness Perforated Cable Tray	200	Mtrs		
	TELEPHONE				
44	Supply and fixing 1 No.RJ 11 modular type telephone socket outlet and modular plate in cadmium / GI plated MS box including making connections etc as required.	175	Each		
45	Supplying and fixing 2 nos. RJ 11 Telephone socket with front plate housed in a electro plated sheet steel box of approved make	10	Each		
46	Supply & Drawing of 1.5 sq. mm. tinned copper conductor 2 pair telephone cable in existing surface MS conduit, tray as follows 1 run of 2 Pair Telephone Cable	7500	Mtrs		
47	Supply and Fixing Krone connectors of the following sizes in suitable size powder coated MS box with doors, locking arrangement and fixing on wall /column making connections etc as required.				
a	100 Pair MDF	3	Nos.		
48	Supply and fixing RJ 45 modular type data socket outlet and modular plate in cadmium / GI plated MS box including making connections etc as required.	215	Each		
49	Supply and drawing of CAT 6A cable in the existing in PVC conduits / Trunking complete as required,etc (DATA)	7500	Mtrs.		
50	Supply and fixing of CAT 6A RJ45 Jack complete as required.	430	Nos.		
51	Supply and Fixing of CAT 6A cable Identification tag	430	Nos.		
	EARTHING				
52	Supply, installation, testing and commissioning of earth electrode as per IS 3043 (to be connected to UPS neutral only) using 600x600x3mm copper plate fitted with 2 runs of 25x3mm copper flat rivetted to the plate using copper rivets with a link on top for tapping connections including all accessories like 40mm dia B class GI watering pipe 2.5m long with funnel. The electrode and pipe shall be buried to the 2.5m depth with alternate layers of salt and charcoal. The rate shall include the cost of proving 450x450x300mm brick masonry chamber covered with removable FRC cover with holes to receive water along with RCC outer frame.	4	No		
53	Supply, installation, testing and commissioning of cast iron earth electrode as per IS 3043 using 100mm dia x 5/6mm thick cast iron pipe 3.0m long with funnel. The pipe shall be buried to the 3m depth with alternate layers of salt and charcoal. The rate shall include the cost of proving 450x450x300mm brick masonry chamber covered with removable FRC cover with holes to receive water along with RCC outer frame	4	No		
54	Supply & Laying 1 run of 16 sqmm PVC insulated copper conductor wire in 20 mm dia PVC conduit clamped to walls & burried under ground from ups to earth pit.	125	Mt		
55	Supplying and laying 25 X 6 mm GI Flats for earthing of panel & Cable Tray	165	mt		
56	Supplying and laying 8 SWG bare copper wires for earthing of all DB's and panels	155	mt		
57	Supplying and fixing Earthing Bridge Clamps in electrical room complete with 20 Nos Brass Terminals for Earth Bus.	2	No		
	TOTAL - A				

SL.N O	DESCRIPTION	UNIT	QTY	RATE in Rs.	AMOUNT in Rs.
CCTV SYSTEM					
1	Supply, Installation of Indoor 2 Mega Pixel Fixed Dome IP Camera	Nos	48		
2	Supply and drawing of CAT 6 cable in the existing in PVC conduits / DLP Trunking complete as required,etc	Mtrs	2750		
3	Supply and fixing of CAT 6 RJ45 Jack complete as required.	Nos	96		
4	Supply and Fixing of CAT 6 Cable Identification tag	Nos	96		
5	S.E.T.C of 50" HD monitor with HDMI port	No.	3		
6	S.E.T.C of 27" HD monitor with HDMI port	No.	1		
7	S.E.T.C of 32 channel NVR to support for 32 cameras & inbuilt storage slots with 8 HDD Capacity.The NVR shall be capable of remote monitoring facility, web application viewing, and central monitoring system with CMS software and mobile application (APP) viewing. The same shall be with Hot standby redundancy on RAID 5. The vendor to submitted hard disk calculation sheet for 90 days backup (Location: CM ROOM)	Nos	2		
8	S.E.T.C of 16 channel NVR to support for 16 cameras & inbuilt storage slots with 8 HDD Capacity.The NVR shall be capable of remote monitoring facility, web application viewing, and central monitoring system with CMS software and mobile application (APP) viewing. The same shall be with Hot standby redundancy on RAID 5. The vendor to submitted hard disk calculation sheet for 90 days backup (Location: CM ROOM)	Nos	1		
9	S.E.T.C of 8TB Surveillance HDD, 30days Storage HDD Calculation to be submitted & should be approved by consultant. Rate shall be inclusive of required surveillance hard disk for 40 nos of cameras	Nos	4		
10	S.E.T.C of 24 Port Gigabyte L2 10/100/1000 POE Network Switch (CCTV)	Nos	2		
11	S.E.T.C of 24 Port Patch Panel (CCTV)	Nos	2		
12	S.E.T.C of 8 Port Gigabyte L2 10/100/1000 POE Network Switch (CCTV)	Nos	1		
13	S.E.T.C of 8 Port Patch Panel (CCTV)	Nos	1		
14	Supply & Fixing of two meters patch cord in patch panel to Network Switch	Nos	50		
15	S.E.T.C of 6U Network Rack for CCTV	Nos	1		
16	S.E.T.C of 4U Network Rack for CCTV	Nos	1		
17	Supplying and fixing of following sizes of medium class FRLS PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required. 25 mm	Mtrs.	1950		
TOTAL - B					
SL.N O	DESCRIPTION	UNIT	QTY	RATE in Rs.	AMOUNT in Rs.
B FIRE ALARM SYSTEM					
1	MAIN CONTROL PANEL:				
	Supplying, installation, testing and commissioning of microprocessor based intelligent addressable main fire alarm panel , central processing unit with the following loop modules and capable of supporting not less than 240 devices (including detectors) and minimum 120 detectors per loop and loop length up to 2 km, network communication card, minimum 320 character graphics/ LCD display with touch screen or other keypad and minimum 4000 events history log in the non volatile memory (EPROM), power supply unit (230± 5% V, 50 hz), 48 hrs back-up with 24 volt sealed maintenance free batteries with automatic charger. The panel shall have facility to connect printer to printout log and facility to have seamless integration with analog/digital voice evacuation system (which is part of the schedule of work under SH: PA System) and shall be complete with all accessories . The panel shall be compatible for IBMS system with open protocol BACnet/ Modbus over IP complete as per specifications.Fire panel should have communication port and integrate with other fire panel and Repeater panel.				
a	Two Loop Panel..(SECOND & THIRD FLOORS)	Nos	1		
2	Supplying, installation, testing and commissioning of Analogue Addressable Multi-sensor detector with multiple sensitivity(adjustable at site) levels, programmable for timed automatic sensitivity selection with base, Junction box and other accessories as required and detectors shall be UL listed.	Nos	182		

3	Supplying, installation, testing & commissioning of addressable single action manual call point having an integrally mounted addressable module that monitors and reports contact status complete as required fixed at 1200mm from center of call piont to Finished floor Level.	Nos	5		
4	Supplying, installation, testing and commissioning of Addressable Response Indicator etc. complete	Nos.	85		
5	Supplying, installation, testing and commissioning of Addressable Photoelectric type Heat Detector with necessary mounting base LED indicator etc. complete	Nos	2		
6	Supplying & laying of 2x1.5 sqmm fire alarm armoured cable , 600/1000V rated with annealed copper conductor having XLPE insulation, steel wire armouring & FRLS outer sheath complete as required.	mts	2750		
7	Supplying, installation, testing and commissioning of Hooter with relay module and strobe light with minimum 85 db audible and control relay module, power supply units etc @ 3m for Audible annunciation and 75cd flashintg at 1 Hz for visual indication with Control Module. The Hooter with Control Module shall be flush or surface mountable type with all accessories etc., complete and as per technical specification fixed at 2500mm from center of call piont to Finished floor Level	Nos	5		
8	PVC conduit for laying of fire cable including necessary accessories like bend, junction box fixing of clamps etc., complete. The conduit shall be recessed in wall including chipping, roug plastering etc. (only for the Drops - MCP's,etc)				
a	25mm	mts	50		
b	32mm	mts	25		
FIRE EXTINGUISHERS					
9	Supply,erection & testing of approved make dry, chemical powder (DCP) Type extinguishers of 6 kg capacity with chromium plated gunmetal nozzle on the top of the fire extinguisher for discharge of liquid & chromium bottom gunmetal union(cap) at the fire extinguisher with handle fixed at the centre, complte with bracket fixing screws, spanner & one filling, extinguisher should bear ISI make (IS 2171 / IS 15683)	Nos	4		
10	Supply,erection & testing of approved make Carbon di-oxide fire extinguishers of 4.5 Kg made of high pressure steel cylinder complete with wheel type valve, with one meter long braided high pressure discharge hose which should have a minium brushing pressure of 14kg 7 fitted with ABS disharge horn & handles, complete with bracket & steel handle on the body fully changed, with ISI make (IS 2878 / IS 15683)	Nos	4		
TOTAL - C					
				RATE in Rs.	AMOUNT in Rs.
PA SYSTEM					
1	S.E.T.C of 6 Watts Ceiling mountintng speaker with line matching transformer	Nos	64		
2	S.E.T.C of Custom built table top 4 zone micro processor based 1 way announcement console consisting of teleline Preamplifier , 1x priority module , 4 Zone Selector Module , All Call Switch module, Tone Oscillator Module for fire evacuation , press to Talk Switch module, Goose Neck Microphpone, 24 V DC Rectifier Module Power Supply Unit All Call Relay Moudule etc as required	Set.	1		
3	S.E.T.C of 240 Watts power Amplifier unit with Mic. Inputs, control wires,power cables, etc as required.	Nos	2		
4	S.E.T.C of 6U Custom Built MS ,19 inches MS CRCA powder Coated PA Rack Having provision to Mount Amplifier ,Music Source , Main Control Panel ,with front Lockable acrylic door with Lock & Key Arrangement for Both front & Back with Caster wheel etc as required.	Nos	1		
5	S.E.T.C of DVD Player with USB Port to play DVD,MP3,MP4, CD, complete with all accessories etc as required.	Nos	1		
6	Supply and laying of 16/14 gauge twin twisted pair copper wire in existing PVC conduits/Cable tray complete with all accessories.as required.(Rate excluding of conduit)	Mtrs.	1100		

7	Supplying and fixing of following sizes of medium class FRLS PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.				
	20 mm	Mtrs.	800		
	TOTAL - D				
	GRAND TOTAL (A+B+C+D)				
Total amount in Words :					