

BOQ FOR ELECTRICAL WORKS AT HEAD OFFICE, KARNATAKA GRAMEENA BANK, BALLARI.

SUBJECT: Bill Of Quantities For Electrical and LV Works

Sl#	Description	Qty	Units	Rate Rs.	Amount Rs.
A	A - INTERNAL ELECTRICAL WORKS				
A.1	LT PANELS				
	Supply Installation,testing and Commosioning of following				
	L.T PANEL made up of 16SWG CRCA sheet for body and 14				
	SWG CRCA sheet for door, indoor type, floor mounting,				
	powder coated, with necessary hard ware, interconnection				
	wiring & accessories complete				
	Ref SLD -Main panel	1	Each		
	Ref SLD -UPS panel	1	Each		
A.2	L.T CABLES:				
	Supply, laying and testing of 1.1/11KV, armoured, PVC				
	insulated, Copper cables. Cable shall be laid in existing				
	Ducts/trench/Cable Tray. (Quantity considered is tentative,				
	actual measurement is as per site condition).				
A.2.1	3.5C x 70Sqmm XLPE 1.1KV Al. Armoured cable	10	Mtrs		
A.3.2	4C x 50Sqmm XLPE 1.1KV Al. Armoured cable	15	Mtrs		
A.2.3	1C x 16Sqmm copper flexible cable(R/Y/B/N)	20	Mtrs		
A.2.3	1C x 6Sqmm copper flexible cable(R/Y/B/N)	10	Mtrs		
A.3	CABLE END TERMINATION:				
	End terminations of the below listed PVC cables including				
	supply of brass glands, solders crimping type copper lugs				
	etc complete.				
A.3.2	3.5C x 70Sqmm XLPE 1.1KV Al. Armoured cable	2	Each		
A.3.2	4C x 50Sqmm XLPE 1.1KV Al. Armoured cable	2	Each		
A.3.3	1C x 16Sqmm copper flexible cable(R/Y/B/N)-LUGS	10	Each		
A.3.4	1C x 6Sqmm copper flexible cable(R/Y/B/N)--LUGS	10	Each		
A.4	MCB Distribution board.				
	Supply, Installing, Testing and commissioning of				
	following MCB Distribution Board made out of 16SWGMS				
	sheet enclosure, double door, with neutral and earthing				
	busbar. Rate shall included all necessary accessories to				
	complete the job.				
A.4.1	1 Phase 12 way,SPN DB	1	Each		
A.4.3	1 Phase 6 way,EPN DB	2	Each		
A.4.4	2pole Enclosure for MCB	2	Each		
A.4.4	4pole Enclosure for MCCB with 100A MCCB	1	Each		

A.4.5	4pole Weather proof Enclosure for 4POLE 63A MCB	1	Each		
A.5	RCCB's				
	Supply, Installing, Testing and commissioning of following				
	RCCB's in above DBs.Rate shall included all accessories to				
	complete the job.				
A.5.1	25A,100mA,2Pole Type RCCB	1	Each		
A.5.1	63A,300mA,4Pole Type RCCB -PDB	1	Each		
A.6	MCB's.				
	Supply, Installing, Testing and commissioning of following				
	10KA MCCB's in above DBs.Rate shall included all				
	necessary accessories to complete the job.				
A.6.1	10/20/32A,10KA,SP,MCB C-Curve	28	Each		
A.6.2	10/20/25A,10KA,SP,MCB D-Curve	18	Each		
A.6.3	25A,10KA,2P,MCB C-Curve	1	Each		
A.6.4	20/32A,10KA,TP,MCB C-Curve	1	Each		
A.6.5	32A,10KA,4P,MCB C-Curve	1	Each		
A.7	CIRCUIT WIRING				
	Supply & laying following lighting/power /sub-main circuit				
	of 660/1100V grade FLRS copper wires, with all conduit				
	and wiring accessories complete.				
A.7.1	Submain circuit : 4C x10Sqmm cu cable in				
	PVC conduit	25	Mtrs		
A.7.2	Submain circuit : 2 runs of 6Sqmm + 1 runs of 4Sqmm				
	PVC insulated copper wires in suitable conduit	15	Mtrs		
A.7.3	Submain/Power circuit : 2 runs of 4Sqmm + 1 runs of				
	1.5Sqmm PVC insulated copper wires in pvc conduit	100	Mtrs		
A.7.4	Lighting/Power circuit/UPS : 2 runs of 2.5Sqmm + 1 run of				
	1.5Sqmm PVC insulated copper wires in existing pvc conduit	850	Mtrs		
A.7.5	2 runs of 1.5Sqmm + 1 run of 1.0Sqmm PVC insulated				
	copper wires in existing conduit	100	Mtrs		
A.7.6	4 runs of 4Sqmm + 1 run of 2.5Sqmm PVC insulated				
	copper wires in conduit	0	Mtrs		
	Note:				
	Light ciruit shall be considered only form DB to first				

	switch board/Light point.				
A.8	POINT WIRING(Modular Type)				
	Point wiring of following points using 1100V grade 1.5				
	Sqmm multi strand ,PVC insulated ,copper conductor in				
	necessary size PVC conduit in a surface conduit system.				
	The wiring shall be complete with all conduit and wiring				
	accessories like deep junction box, GI pull wires,				
	etc. 1.0 sqmm Green colour PVC insulated				
	copper conductor shall be used for earthing.				
	light point wiring first point 9meter, after that considering circuit wiring				
A.8.1	One light point controlled by 6A SP switch	30	Each		
A.8.2	Two light point controlled by 6A SP switch	12	Each		
A.8.3	Three light point controlled by 6A SP switch	11	Each		
A.8.4	Four light point controlled by 6A SP switch	0	Each		
A.9	POWER POINTS & WIRING				
	Supply and installing of power points, includeing all				
	necessary accessories like MS box, face plates etc etc				
	compelet.				
	Note: Wiring shall not be included.				
A.9.1	Multi pin 6A socket without switch.	10	Each		
A.9.2	Multi pin 6A socket with switch.	10	Each		
A.9.3	3NO 6A Socket control by 1no 15A switch				
	with 1no dummy cover	74	Each		
A.9.5	16Amps socket controlled by a 16A SP switch				
	with neon indicator	15	Each		
A.9.6	Multi pin 16A socket without switch.	2	Each		
A.10	PVC Conduits				
	Supply and laying of following sizes ISI marked PVC conduit				
	laid above false ceiling/ chased through wall with all necessary				
	accessories like C channel, threaded rods, bolts, nuts etc				
	complete for Power wiring/Lighting/CCTV/UPS Circuits.				
A.10.1	19mm Dia 2mm Thick	200	Mtrs		
A.10.2	25mm Dia 2mm Thick	1250	Mtrs		

A.10.3	32mm Dia 2mm Thick	20	Mtrs		
A.10.4	25mm Dia PVC flexible	200	Mtrs		
A.11	LADDER TYPE CABLE TRAY:				
	Supply and fixing MS Perforated type cable tray made up of				
	2mm thick Galvanised sheet to be laid in below slab/duct.				
	complete.(Rate shall include accessories like Bottom C				
	channel support at every 1.5Mtr with 10mm thick GI threaded				
	rod, Anchor fasner with bolt & nuts etc complete)				
A.11.2	200mm Wide x 50mm Height	30	Mtrs		
A.11.3	100mm Wide x 50mm Height	r/0	Mtrs		
A.12	METALLIC RACEWAYS WITH COVER				
	Supply and fixing of covered Raceway with horizontal & vertical bends, reducers, Tee's, cross over, suitable supports and brackets and other accessories as required. The raceways shall be anti corrosive powder coated with RAL 7032(Siemens grey or equivalent) . The raceways shall be of 14 G thickness and shall have a welded GI slotted angle at every 1.5m for tying the cables as well as clamping the body earthing GI earthing strips. The raceways shall be joined together with powder coated anti corrosive GI plates and cadmium coated anti corrosive bolts and nuts .Raceway poles only should be used to drop down the cables. Do not clamp the raceways onto the wall or to the partition and also do not bury any cables within the wall or the partition . The IS standard for powder coating IS 13871. No warping, & raceways shall be temperature resistant only.				
	Two independent hot dip galvanized GI weldable earth strips shall be routed within the GI raceways specified above all through the routing of the cable from the origination to the destination point .The earthing strip size shall be 25X3MM only. The joints shall be welded only and shall not be painted . No bolting of the GI strip is allowed .This has to be welded between the joints as well as the main connection points to the body earthing grid of the building which is nearest to the point of work . The Tray shall be Strip galvanized for corrosion protection confirming to DIN EN 10346. The trays should be tested for a safe working load of 150 Kgs with a span distance of 1.5 meters and the deflection should be within the limits as per standard. The safety factor shall be 1.7 times of the safe working load.				
A.12.4	150mm Wide x 50mm Height with cover	30	Mtrs		
A.14	SUPPLY AND FIXING OF LIGHT FIXTURE				
	Supply and Fixing,testing & commissioning of following light				
	fixtures, which shall include all necessary accessories like				
	chain support, connectors,jump wires etc complete.				
A.14.2	10-15w surface light	50	Each		
A.14.3	2'x2' 36w LED light	29	Each		
A.14.5	300mm dia Exhaust Fan	2	Each		
A.15	POP-UP FLUSH MOUNTING BOXES FOR TABLE				
	Supply, Installing, of following floor mounted Pop-up service				
	outlets for Power/Data.				

A.15.1	6Module cable cubby with 1no. 3 pin 6A socket and 1no. HDMI outlet.	1	Each		
A.15.2	8Module cable cubby with 3nos. 6A 3pin socket with 2 HDMI outlet	R/0	Each		
A.16	MISCELLANEOUS ITEMS				
A.16.2	Supply & Installing of 2 module box	30	Each		
A.16.4	MS Fabrication work for supports, clamps, stands etc which includes 2 coats of primer, 2 coats of enamel painting, required accessories like bolts, nuts, anchor fasteners etc. complete.	35	Kgs		
	TOTAL OF PART-A				

SUBJECT: B - Bill Of Quantities For Electrical -HVAC

Sl#	Description	Qty	Units	Rate Rs.	Amount Rs.
B	INTERNAL ELECTRICAL WORKS				
1.0	L.T CABLES:				
	Supply, laying and testing of 1.1/11KV, armoured, PVC insulated, Copper cables. Cable shall be laid in existing Ducts/trench/Cable Tray. (Quantity considered is tentative, actual measurement is as per site condition).				
1.1	4C x 10Sqmm XLPE 1.1KV cu.cable with conduite	20	Mtrs		
1.2	4C x 6Sqmm XLPE 1.1KV cu.cable with conduite	50	Mtrs		
2.0	CABLE END TERMINATION:				
	End terminations of the below listed PVC cables including supply of brass glands, solders crimping type copper lugs etc complete.				
2.1	4C x 10Sqmm XLPE 1.1KV cu.cable with conduite --LUGS	2	Mtrs		
2.2	4C x 6Sqmm XLPE 1.1KV cu.cable with conduite--LUGS	6	Mtrs		
3.0	CIRCUIT WIRING				
	Supply & laying following lighting/power /sub-main circuit of 660/1100V grade FLRS copper wires, with all conduit and wiring accessories complete.				
3.1	2 runs of 1.5Sqmm + 1 run of 1.0Sqmm PVC insulated copper wires in existing conduit	200	Mtrs		
	Note:				
	Light circuit shall be considered only from DB to first switch board/Light point.				

4.0	POWER POINTS & WIRING				
	Supply and installing of power points, includeing all				
	necessary accessories like MS box, face plates etc etc				
	compelet.				
	Note: Wiring shall not be included.				
4.1	Multi pin 6A socket with switch.	8	Each		
4.4	4pole Enclosure for MCB with 63A MCB-IP 65rating	3	Each		
5.0	PVC Conduits				
	Supply and laying of following sizes ISI marked PVC conduit				
	laid above false ceiling/ chased through wall with all necessary				
	accessories like C channel, threaded rods, bolts, nuts etc				
	complete for Power wiring/Lighting/CCTV/UPS Circuits.				
5.1	19mm Dia 2mm Thick	120	Mtrs		
	TOTAL OF PART-B				

SUBJECT: C - BILL OF MATERIALS FOR NETWORKING ,CCTV AND TELEPHONE WORKS					
Sl#	Description	Qty	Units	Rate Rs.	Amount
C	NETWORKING				
C.1	SITC of UTP 4 pair 23 AWG CAT 6 LAN Cable in the existing surface/ recessed steel/ PVC conduit as required. 4 Pair CAT6 Unshielded, Twisted /truncking.23AWG. Approved Make.				
		4300	Mtrs		
C.2	SITC of Single Port Face Plate Flush & surface mount. Polycarbonate Hi-Grade Plastic FR Grade with ABS underplate & CRCA metal fram & UV Resistant 850 degree C/ Glow Wire Test. The face plate Size should be of minimum 86x86mm Shall Exclude back box) Approved Make.				
		80	Each		
C.3	SITC of Dual Port Face Plate Flush & surface mount. Polycarbonate Hi-Grade Plastic FR Grade with ABS underplate & CRCA metal fram & UV Resistant 850 degree C/ Glow Wire Test. The face plate Size should be of minimum 86x86mm accessories.(Rate Shall Exclude back box) Approved Make.				
		20	Each		
C.4	SITC of Dual Port Face Plate Flush & surface mount. Polycarbonate Hi-Grade Plastic FR Grade with ABS underplate & CRCA metal fram & UV Resistant 850 degree C/ Glow Wire Test. The face plate Size should be of minimum 86mm x 146mm accessories.(Rate Shall Exclude back box) Approved Make.				
		10	Each		

C.5	SITC of Cat6 Tool less Information outlet for Data & Voice. Cat6 UTP RJ45 socket with built in crimping mechanism with capability of retermination without refreshing the wires. Toolless RJ45 Information outlet with insertion cycle (in & out) should be 2500 times (I/O) along with front side Label holder and transparent shutter. The Information Outlet connector shall be of gold/nickel, thickness of gold > 0.8 µm. The connectors shall be compatible as per IEEE 802.3bt standard for POE++ application. White Color				
	(Rate Shall Exclude back box & face plate. But includes test certificates) Approved Make.				
		180	Each		
C.6	Supply, Installation, testing and commissioning of 24 port Cat 6 19" Modular Toolless Patch Panel (loaded) enable all possible combinations of the various types of cable (UTP, FTP, SFTP) mounted on the same panel by using various toolless connector blocks/modules. Have a metal structure enabling them to be durably fixed to the uprights of the 19" chassis and assuring automatic grounding between toolless RJ-45 connectors, the panel, and the 19" uprights of the enclosure. Include rear cable support with plastic cable guides to hold cable without need for cable ties. Include quick mounting system to mount the panel into the 19" rails without use of cage-nuts. These may be used to secure the connections of wifi access points, IP cameras, servers, or other critical devices. Front Removal IO's option for maintenance and trouble shooting with 6 Different Colours Labels for Labelling & Identification of Individual Ports. Tested and guaranteed under dual circuit IEEE PoE++ more than 90W for up to 2500 on-load connections / disconnections. Approved Make.				
		5	Each		
C.7	Supply and fixing of White color CAT6 blank plate.				
		15	Each		
C.8	Supply 42Ux800Wx1000D Rack with Multi hollow extrusion Aluminium profile frame, Modular Constuction of the rack made of 4 vertical , 4 horizontal & 4 depth extruded aluminum alloy multi hollow profiles bolted and joined together with Links and Corner Block. 2/3 pairs of support channel to equate the load evenly, TOP Cover bolted with cable entry Front Lockable hexagonal Perforated steel Door - Single & Rear Lockable hexadonal Perforated steel Door - Double with Cam Lock Power distribution unit - 10 Socket 6/16 amp, Metal Cable manager - 1U - 4, Hardware packet - 20 Set - 2 Pkt. Monitor Shelf - 1. 4 Fan Mount provision on top cover Standard - IS 9606-1980, UL 2416, IEC EN 60529, IEC EN 62262, ISO 9001:2008, ISO14001: 2015, IP 20 according to IEC 60529:2013, IK08 according to IEC EN 62262:2002, Salt spray test according to ISO 9227 (NSS test) and IEC EN 60068-2-11 (Ka test) for 168 hours: degree of Rusting Ri1 according to ISO 4628-3, propagation ≤1 mm according to ISO 4628-8.				
		0	Each		
C.9	SITC of CAT6 UTP Patch Cord - 2 mtr with cross separator , Manufactured from stranded wires for longer flex-life, Conforming to the following standards like EN 50173, ISO/IEC 60603-7 & 11801/IEC 60332-1, UL VW-1 with tensile strength >50N number of insertion is 750. Approved Make.				
		90	Each		
C.10	SITC of CAT6 UTP Patch Cord - 1 mtr with cross separator , Manufactured from stranded wires for longer flex-life, Conforming to the following standards like EN 50173, ISO/IEC 60603-7 & 11801/IEC 60332-1, UL VW-1 with tensile strength >50N number of insertion is 750. Approved Make.				

		90	Each		
C.11	Wall mount rack (9U)				
	SITC of Wall Moun 9Ux600Wx600D Top and bottom cover with precut cable entries (upper and lower - 300x50mm Centered in width) which can be knocked with a mallet and to be equipped with the brush. 2 Fans provision at the top, The door is made of a flat colourless transparent glass of 4mm thick with screen-printing of charcoal grey RAL 7016 on the vertical edges and is fitted with locking bolt. The door is removable and reversible. Rear with Wall Mounting brackets Four 19" uprights are perforated with 9.5 x 9.5mm square holes, 19" uprights with dual marking of the Us and can be adjusted in depth by 25mm steps. Glass Door/6U/WM(GD-6-550) Horz. Cable Organiser/1U/Loop(HCO-1-L) Server /IT Rack mount power distribution unit, 1Ph, 230V, 5A, 50/60Hz, Zero U standard with 3 X Indian Round Pin, 5A, Inlet Plug type 6A Indian Round Pin, 5A Fuse - PDU Rating 1.2KVA/ Side feed- 1 mt/ Black with Mounting Hardware-CR (Pack of 20) ,Cantilever Shelf/Type2/1U Epoxy polyester paint applied by electrostatic dusting with 60-80 micron thickness, All components- RAL 7035 . Approved Make. Horizontal power distribution unit, Metal Cable manager, Hardware packet and Cantilever Shelf, 2 Fan Mount provision on top cover Standards - IEC 60529 EN 60529, IEC 62262 EN 62262, DIN 41494, EIA 310, IEC 60297, UL Certified				
		0	Each		
C.11	Floor mount rack (22U)-Floor mount Supply & Erection of following 22URack Frame/600x600/Steel/FM/Casters Type 2 with Glass door and metal door,Horz. Cable Organiser/1U/Loop Glass Door/6U/WM(GD-6-550) Horz. Cable Organiser/1U/Loop(HCO-1-L) Server /IT Rack mount power distribution unit, 1Ph, 230V, 8A, 50/60Hz, 2U standard with 6 X Indian Round Pin 5A. Inlet Plug type 6A Indian Round Pin. 8A PDU-H-1-IND-A6-X2-Y1-Z0				
	ITE / Server Rack Air Circulation module/Tower Mount/180CFMy	1	Each		
	and necessarys accessories . Approved Make.				
C.11	TELEPHONE CABLE AND TAG BLOCK				
	Supply & Erection of following pair Krone type telephone tag block mounted in lockable enclosure IP-42 grade with all necessary accessories complete. Rate shall also include end termination of cables.existing conduit with all necessary accessories like GI pull wire, etc etc complete. Approved Make.				
C.11.1	50 Pair Unarmoured 0.5mm Dia copper telephone cable laid	r/0	Mtrs		
	in exisitng P.V.C conduit .				
C.11.1	30 Pair Unarmoured 0.5mm Dia copper telephone cable laid	50	Mtrs		
	in exisitng P.V.C conduit .				
C.11.2	2pair 0.5mm copper tele. wire in exisitng P.V.C conduit laid	800	Mtrs		
	Make :Anchor/Havells/RR				
C.11.2	1.5sq mm speaker cabel	r/0	Mtrs		

	Make :Anchor/Havells/RR				
C.11.3	30Pair	1	Each		
C.11.3	50Pair	r/0	Each		
C.11.4	Co-axial TV outlet	0	Each		
C.11.5	RJ-11 Telepone outlet	40	Each		
C.12	END TERMINATION OF TELEPHONE CABLE End terminations of the below listed multi pair tel. cable using all necessary accessories like glands, ferrules, hard ware etc etc complete. Approved Make.				
C.12.1	30 Pair	1	Each		
	TOTAL OF PART C				
SUBJECT: D - BILL OF MATERIALS FOR Airconditioning Work					
D1	BLUE STAR / LG / VOLTAS / APPROVED MAKE 2 TR 4WAY CASSETTE AC INVERTER	1	NOS		
D2	BLUE STAR / LG / VOLTAS / APPROVED MAKE 4 TR 4WAY CASSETTE AC INVERTER	5	NOS		
D3	Supply of Drain pipe with necessary fittings - Hi wall / cassette AC	70	Mtr		
D4	Supply of cable 4core comunnication - Hi wall / cassette AC	150	Mtr		
D5	Standard installation charges for cassette AC	6	NOS		
D6	Supply of Outdoor stand for caseette AC	6	NOS		
D7	Supply of copper pipe with insulation for Cassette AC	100	NOS		
	TOTAL OF PART D				
	TOTAL OF (A+B+C+D)				
	GST 18%				
	GRAND TOTAL INCLUDING GST				