

**BOQ WITH SCHEDULE OF SPECIFICATIONS AND QUANTITIES FOR ELECTRICAL WORKS OF BO-EGRA,  
PURBA MEDINIPUR-- UCO BANK**

**ELECTRICAL WORK**

**A. DB'S, CABLING AND WIRING WORK**

SL. NO.	ITEM DESCRIPTION	UNIT	QTY.	RATE (Rs.)	AMOUNT (Rs.)
1.1	<u>SWITCH FUSE UNIT</u>				
	Supply & fixing of Switch Fuse Unit ( IS : 13947 )Siemens/L&T make with <b>HRC</b> type fuse in sheet steel enclosure with cable end box, mounted on M.S. frame / M.S. legs on wall. The rate shall be inclusive of supply of all materials, painting, making holes, mending good the damages & making connection etc as required.				
1.1.1	100A TPN SFU ( for supplies incomer )	Each	1		
1.1.2	63A TPN SFU ( for DG incomer )	Each	1		
1.2	<u>INTERCONNECTION</u>				
	Supply, laying, testing & commissioning of following 1.1 KV grade PVC insulated, copper conductor cable (from Meter & DG to Switch Fuse Unit) in flexible conduit. The rate shall be inclusive of supply of all materials, making interconnection, wall / salb cutting & making good the same.				
1.2.1	4x10 sq. mm PVC wires. ( for WBSEB incomer )	Set	1		
1.2.2	4x10 sq. mm PVC wires. ( for DG incomer )	Set	1		
1.3	<u>SUPPLYING &amp; LAYING OF CABLE</u>				
	Supplying & laying of 1.1 KV grade ( IS : 7098 ) following size PVC insulated and PVC sheathed armoured aluminium conductor cables of Finolex/Polycab/CCI/Nicco make on wall / column, including supply and fixing of cable end connections, M.S. clamps / galvanised bar saddles @ 300 mm apert, making holes and mending good damages, painting etc. as required.				
1.3.1	3.5 core 50 Sq.mm. ( from Main Switch to Main DB )	Mtr.	86.00		
1.3.2	4 core 16 Sq.mm. ( from DG set to Change Over Switch to LDB )	Mtr.	99.00		
1.4	<u>ON LOAD CHANGE OVER SWITCH</u>				
	Supply & fixing of 63A, 4P, ON LOAD Change Over Switch of Havells/HPL/L&T make in sheet steel enclosure on MS angles/legs on wall. The rate shall be inclusive of supply of all materials, painting, making holes, mending good the damages & making connection etc. as required.	Each	1		
1.5	Supply & Installation of 1 Set 63A Busbar.	Each	1		
1.6	<u>MCB DISTRIBUTION BOARD</u>				
	Supply, installation, testing and commissioning of following MCB Distribution Board in sheet steel enclosure with double door and suitable for mounting on wall by chase cutting and flushed with finished level to the position shown in the Electrical Layout complete in all respect, mending good all damages to the original finish, painting, interconnection, etc. as required. Short circuit I.C. of all MCBs should be 10 KA (minimum) and RCBO's should have earth leakage, overload and short circuit protection.				
	Name plate of DBs to be fixed / written on front door alongwith switch board numbers / DBs at the outgoing.				

1.6.1	<u>Main Lighting Distribution Board (ML DB )</u>				
	TPN 4 way vertical type MCB DB complete with busbar and following MCCB / MCBs :				
	<u>Incoming :</u>				
	1 no. 415V, 63A, 4P, MCB (25 KA min).				
	<u>Outgoing :</u>				
	1nos. 415V, 40A TP, MCB				
	5nos. 415V,20-25A SP, MCB				
	3nos. 240V,16A, SP, MCBs				
	Complete board as above.	Each	1		
1.6.2	<u>Lighting Distribution Board ( LDB )</u>				
	TPN 4 way Vertical type MCB DB complete with busbar and following MCB's :				
	<u>Incoming :</u>				
	1 no.240V, 40A TP, MCB				
	<u>Outgoing :</u>				
	2 nos, 415 V, 25A, TP, MCB				
	6 nos. 6/10A SP MCBs				
	Complete board as above.	Each	1		
1.6.3	<u>DB with 25A SPN MCB</u>				
	Double pole one way MCB DB in sheet steel enclosure with 1 no. 25A SPN MCB complete with interconnection, etc. as required for operation of Glow Sign Board ( at main gate of the Branch ).	Each	1		
1.7	<u>SUBMAIN WIRING</u>				
	Submain wiring with 1100 V grade, single core, PVC insulated flexible copper conductor cable ( IS:694 ) through suitable size specified conduit/casing capping ( ISI marked embossed on conduit surface ) complete with junction box, circular box, elbows, bends and other accessories surface on wall above false ceiling or concealed by chase cutting on wall, as per site condition, mending good all damages to original finish, interconnection, painting etc. as required to be completed in all respect.				
1.7.1	Through <b>HMS gradePVC conduit</b> (Customer Lobby,Cash, Manager room etc.)(Make of conduit isPrecision/AKG)				
1.7.1.1	With 2 nos. 6 sq.mm. + 1 no. 2.5 sq.mm. ( green colour for earth ) PVC insulated copper wire(Finolex/Havells) in 25 mm dia PVC conduit / casing capping. (for Glow Sign Board)	Mtr.	45.00		
1.7.1.2	With 2 nos. 2.5 sq.mm. + 1 no. 1.5 sq.mm. ( green colour for earth ) PVC insulated copper wire( Finolex/Havells) in 20 mm dia PVC conduit / casing capping. (for Switch Board, 16A socket outlet etc.)	Mtr.	38.00		
1.8	<u>CABLE GLAND AND FINISHING THE END</u>				
	Supplying and fixing of compression type brass cable gland alongwith rubber rings for dust and moisture proof entry of 1.1 KV grade aluminium conductor PVC insulated and PVC sheathed armoured cable and finishing the end by crimping method including supply and fixing of "Dowell" make solderless socket, tapes and jointing materials as required to be completed in all respect.				
		Set	2		
1.8.1	3.5 core 50 sq.mm	Set	6		
1.8.2	4 core 16 sq.mm				

1.9	<b>POINT WIRING</b>				
	Point wiring through <b>specified conduits</b> of approved brand with 1100 V grade 3 nos. single core 1.5 sq.mm. (1 for phase, 1 (black colour) for common neutral by looping method and 1 (green colour) for common earth by looping method) PVC insulated flexible FR copper conductor cable complete with junction box, circular box, elbows, bends, couplers and other accessories on surface above false ceiling or concealed by chase cutting on wall from light & fan switch board to light, fan, stepped regulator for fans & 6A socket outlet on the same switch board or separately mounted switch board. The work includes supply and fixing of all materials such as modular type 6A switch for each light and fan point, 6A 2/3 pin shuttered socket outlet with switch, 3 plate ceiling rose / angle or batten holder etc. as required.				
	The <b>point wiring</b> also includes <b>circuit wiring</b> with 1100 V grade 2 nos. single core 2.5 sq.mm. (1 for phase and 1 (Black colour) for neutral) + 1 no. single core 1.5 sq.mm. (Green colour for earth) PVC insulated flexible (FRLS) copper conductor cable (IS:694) through suitable size specified conduit as described above from DB to switch board, interconnection, mending good all damages to original finish, painting etc. as required to be completed in all respect. All connections of wires to be done by means of "Wago" type connectors. (All wiring in strong room, locker room, records & stationery room will be of surface conduit type).				
1.9.1	<b>Through PVC conduit</b>				
1.9.1.1	1 Light control by 1 switch	Each	4		
1.9.1.2	2 Light control by 1 switch	Each	5		
1.9.1.3	Red light & incandecent light point	Each.	1		
1.9.1.4	2/3 pin 6A switch shuttered socket outlet with switch on light and fan switch board.	Each	5		
1.9.1.5	2x6A 2/3 pin shuttered socket with individual controlling switch on light fan switch board for cash counter.	Each	2		
1.9.1.6	1x6A 2/3 pin shuttered socket with switch on separate switch board other than light / fan switch board.	Each	8		
1.9.1.7	Wall mounted bracket fan point	Each	8		
1.9.1.8	Call bell point with bell push.	Each	1		
1.9.1.9	Buzzer	Each	1		
1.9.1.10	Exhaust fan point	Each	4		
1.9.1.11	Ceiling fan point with supply and fixing of Electronic Regulation (2 module step , 280 watt (mtn.)	Each	2		
1.10	<b>16A POWER POINT WIRING :</b>				
	Wiring for 6 pin 6 / 16 A shuttered socket outlet with controlling switch from Main DB with 1100 volt grade 2 nos. single core 2.5 sq.mm. + 1 no. 1.5 sq.mm. ( Green colour for earthing ) PVC insulated flexible FR copper conductor cable ( IS : 694 ) through suitable size <b>Heavy duty PVC. conduit</b> ( ISI marked embossed on conduit surface ) complete with 1 no. 6A / 16A, 6 pin, modular type socket with 16A control switch in suitable size modular box with front plate, junction box, circular box, elbows, bends, couplers and other accessories surfaced on wall above false ceiling or concealed by chase cutting on wall ( for Printer, Xerox m/c. etc. ) & making connection complete.	Each	9		

1.11	<u>A.C. POWER POINT :</u>				
	A.C. power point wiring from Main DB to A.C. Power points with 1100 volt grade following rating ( Green colour for earthing ) PVC insulated flexible FR copper conductor cable through suitable size HMS grade PVC conduit ( ISI marked embossed on conduit surface ) complete with junction box, circular box, elbows, bends, couplers and other accessories surfaced on wall above false ceiling or concealed by chase cutting on brick / wooden wall. The work includes supply & fixing by chase cutting on wall, 'North-West' make A.C. power unit having suitable rating <b>MCB(20-25A SP )</b> socket with plug, plug-top & starter in sheet steel enclosure complete with interconnection, mending good all damages to original finish, painting etc. as required. All connections of wires to be done by means of 'Wago' type connectors.				
	With 2 nos. 4 sq.mm. + 1 no. 2.5 sq.mm. ( green colour for earth ) PVC insulated copper wire in 25 mm dia PVC conduit / casing capping.	Each	5		
1.12	<u>EARTHING GENERAL</u>				
	Earthing the installation as per I.E Rules conforming to I.S : 3043 - 1987 or its latest ammendment by making earth sation with 3 meter long 50 mm dia G.I earth Pipe ( Partly Perforated ) to be installed such that its top end shall be at 300 mm below ground level after preparation of ground with charcoal & Salt and connecting with 25 mm x 6 mm G.I earth lead-in-strip upto 16 metre length by bolting and then brazing, complete with nut, bolt, washer etc. as required. The earthing station shall be provided with 300 mm x 300 mm x 300 mm inside dimension masonry inspection Pit with C.I. hinged cover.	Each	2		
1.12.1	Extra for earth lead-in-strip exceeding 10 meter as mentioned in above Item with supply and fixing of 25mm x 6mm G.I Strip to be fixed on wall or directly buried in ground including connection complete.	Mtr	80.00		
<b>B. INSTALLATION OF LIGHT FITTINGS &amp; FAN</b>					
2.1	<u>INSTALLATION OF LIGHT FITTINGS</u>				
2.1.1	Installation, testing and commissioning of 2'x2'38 watt led light fittings with interconnection between light points and fittings with 2 nos. single core / 1.5sq.mm. PVC insulated flexible FR copper conductor cable, painting etc. as required.	Each	2		
2.1.2	Installation, testing and commissioning of 1X28 watt T-5 led light fittings on wall / ceiling including supplying and fixing of M.S. clamps or hard wood round block properly shelac polished suitable for wall / ceiling mounting including interconnection between light points and fittings with 2 nos. single core / 1.5sq.mm. PVC insulated flexible FRLS copper conductor cable, painting etc. as required.	Each	2		
2.1.3	Installation, testing and commissioning of 1x14 watt PL light fittings with 1x14watt true light on wall / ceiling including supplying and fixing of 2 nos. M.S. clamps or hard wood round block properly shelac polished with 2 x 20 mm dia MS pipe suitable for wall / ceiling mounting including interconnection between light points and fittings with 3 nos. single core / 3 core 1.5sq.mm. PVC insulated flexible FRLS copper conductor cable, painting etc. as required.	Each	0		
2.1.4	Installation, testing and commissioning of 1x18 watt led down lighter fittings with / ceiling including supplying and fixing of 2 nos. M.S. clamps or hard wood round block properly shelac polished with 2 x 20 mm dia MS pipe suitable for wall / ceiling mounting including interconnection between light points and fittings with 3 nos. single core / 3 core 1.5sq.mm. PVC insulated flexible FRLS copper conductor cable, painting etc. as required.	Each	2		
2.2	<u>INSTALLATION OF FAN FITTINGS</u>				

2.2.1	Installation, testing and commissioning of heavy duty type ISI marked 300mm dia. Exhaust fan suitable for 240V single phase 50 Hz. A.C. supply complete with Al. louvre, interconnection between fan points and fan with 3 nos. single core/ 1.5sq.mm PVC insulated flexible copper conductor cable, making suitable size holes on wall to accommodate the fan, mending good to the original finish, painting etc. as required.	Each	3		
2.2.2	Installation, testing and commissioning of heavy duty type ISI marked 400 mm dia. wall bracket fan suitable for 240V single phase 50 Hz. A.C. supply complete with all accessories and interconnection between fan points and fan with 3nos 1.5sq.mm ( 1 for earth, green colour ) PVC insulated flexible FR copper conductor cable, painting, mending good etc. as required.	Each.	9		
2.2.3	Installation, testing and commissioning of 1200 mm sweep capacitor type ceiling fan complete with blades, down rod and all other accessories to the position as shown in the drawing, painting the down rod and interconnection between fan points and fan with 2 nos. single core/ 1.5sq.mm PVC insulated FR flexible copper conductor cable as required.	Each.	2		
2.3	<b>RED LAMP &amp; INCANDESCENT LAMP</b>				
	Supply, installation, testing and commissioning of red lamp / 60 watt incandescent lamp on existing wall mounted holder.	Each.	1		
<b>C. SUPPLY OF LIGHT FITTINGS &amp; FANS</b>					
3	Supply of light and electrical fittings including lamp and all necessary accessories :				
3.1	<u>Recessed mounted luminaries</u>				
a)	CFL based luminaries 2'x2' led 38 watt (Philips make or equivalent)	Each	25		
b)	Supply of led base down lighter ( Philips make or equivalent approved make).	Each	1		
c)	Supply of 1x14 watt PL light fittings for cash of Philips or equivalent approved make with 1 x 14WCFL lamps.	Each	0		
3.2	<u>Surface mounted /Suspended luminaries</u>				
	1x28 watt T-5 4' led Light fittings ( Philips or similar approved make ) .	Each	8		
3.3	Supply of fan fittings with all necessary accessories.				
3.3.1	<u>Exhaust Fan</u>				
	300 mm dia (Havells,Polar,EPC,Crompton,GEC) witout mounting ring & louvre complete	Each	3		
3.3.2	Wall bracket fan: 400mm dia. ( Havell"s,Polar,Crompton, ).	Each	9		
3.3.3	Ceiling fan (Havells,Polar,Crompton,Orient. )				
	1200 mm dia.	Each	2		
	900 mm dia.	Each	0		
3.4	<u>SUPPLY &amp; FIXING OF CALL BELLS</u>				
	Supplying and fixing on wall call bell buzzer ( approved by Consultant ) suitable for 240 volt single phase A.C. supply including interconnection, etc. as required.	Each.	1		
<b>D. COMPUTER POWER WIRING</b>					
4.1	<u>INDUSTRIAL TYPE SOCKET AND PLUG DB</u>				
	Supply and installation of Industrial type socket and match plug with controlling MCB in sheet steel enclosure for UPS incoming & outgoing only :				
4.1.1	20A, 3P+E, 5 pin industrial type socket with matching plug and 20/25A,TP /20A DP MCB control including interconnection. at UPS incoming.	Each	2		

4.1.2	20A, 2P+E, 3 pin industrial type socket with matching plug and 20A/25, DP MCB control including interconnection. At UPS outgoing.	Each	2		
4.1.3	Supply and installation of 2 no 32A 4P on load change over switch, 100A copper busbar, 3 nos 20A SP MCBs etc. in sheet steel enclosure for computer distribution system.	Each	1		
4.2	<u>COMPUTER DISTRIBUTION BOARD</u>				
	Supply and installation of f metallic double door MCB Distribution Board with MCB having breaking capacity of 10 KA (minimum) or RCBO of 300 mA sensitivity complete with neutral earth link interconnection, painting, mounted on flat iron frame on wall/flushed with finished wall by chase cutting, mending good to original finish painting etc. as required. Name plate & number of DBs are to be fixed up on front door of DBs for their identification.				
4.2.1	SPN12 way consumer unit double door MCB DB complete with neutral of earthlink and the following RCBO / MCBs.				
	Incoming :				
	1 no. 240 V 25 A DP MCB				
	Outgoing :				
	10nos. 240V, 6A/10A, SP, MCBs	Each.	2		
4.3	<u>SUBMAIN WIRING :</u>				
	Submain wiring with 1100 V grade, single core, PVC insulated flexible copper conductor cable ( IS:694 ) through suitable size <b>heavy duty PVC. conduit</b> /casing capping ( ISI marked embossed on conduit surface) complete with junction box, circular box, elbows, bends and other accessories surface on wall above false ceiling or concealed by chase cutting on wall, as per site condition, mending good all damages to original finish, interconnection, painting etc. as required to be completed in all respect.				
4.3.1	From L.D.B. to plug socket D.B. & from outgoing of plug socket DB with 4 nos.6 sq.mm + 2 no. 2.5 sq.mm. ( green colour for earth ) PVC insulated flexible FR copper conductor cable in suitable size PVC.conduit/casing saping.	Mtr.	50.00		
4.3.2	From outgoing of UPS plug socket to CDB with 2 nos. 6 sq.mm + 1 no. 2.5 sq.mm. ( green colour for earth ) PVC insulated flexible FR copper conductor cable in suitable size PVC. FRconduit.	Mtr.	55.00		
4.4	<u>COMPUTER SOCKET OUTLET CLUSTER POINT WIRING</u>				
	Computer socket outlet cluster point wiring with 1100 V grade 3 nos. single core (1 for earth, green colour) 2.5 sq.mm. PVC				
	insulated flexible FRLS copper conductor cable conforming to IS : 694 through 20 mm PVC conduit (ISI mark embossed on conduit surface) and conduit accessories partly through concealed in wall, embedded in floor, partly on surface above false ceiling and partly through partition or through flexible conduit from DB to computer socket outlet cluster as detailed below and upto connection of 2 nos. socket clusters in 1 (one) circuit connecting by looping method. The work includes supply and fixing of modular type socket outlet clusters components as detailed below.				
4.4.1	With 2 nos. 2.5 sq.mm. + 1 no. 1.5 sq.mm. ( green colour for earth ) PVC insulated copper wire in 20 mm dia PVC conduit / casing capping. (for each computer power point)	Mtr.	120.00		

4.4.2	Each computer switch socket outlet cluster comprising the following :				
	2 nos. 6A 2/3 pin modular type shuttered socket (below table)				
	2 no.16 /6A 6 pin modular type shuttered socket(below table)				
	1nos. 16A modular type controlling switch (above table)				
	1 nos. Modular type front cover of suitable size				
	1nos.Modular type MS / PVC box of suitable size				
	1nos. Indicating lamp	Each	7		
4.5	<u>EARTHING ( COMPUTER )</u>				
4.5.1	Earthing the installation as per I.E. rules conforming to IS:3043-1987 or its latest amendment by making earth station with 600mm x 600mm x 6mm (minimum) thick G.I. plate electrode to be installed such that its top edge shall be at a minimum depth of 3.0 metre below ground level after preparation of ground with charcoal and salt and connecting the 25mm x 6mm G.I. earth lead-in-strip (upto 10 metre length) by bolting and then brazing to the copper plate complete with copper bolts of suitable length double nuts and washers including supply and fixing of 50mm dia. partly perforated G.I. pipe with funnel for watering arrangement. The G.I. earth lead-in-strip shall be PVC sleeved / insulated throughout the total length and the underground portion to be laid through suitable size heavy duty rigid PVC conduit (ISI mark embossed on conduit surface) at an average depth of 500mm below ground level.				
	The earthing installation should be provided with 300mm x 300mm and 300mm depth inside dimension masonry inspection pit with C.I. hinged cover having locking arrangement and restoring the surfaces duly rammed	Each	1		
4.5.2	Earth lead-in-strip exceeding 10 metre length as mentioned in above item . with supply and fixing of 25mm x6mm G.I strip having PVC sleeved / insulated to be fixed on wall surface with tinned copper bar saddles / clamps at an interval of 300mm etc. as required to be completed in all respect. Minimum clearance between wall surface and copper earth lead-in-strip should be 6 mm.	Mtr.	10.00		
<b><u>E. TELEPHONE SYSTEM</u></b>					
5.1	<u>SUPPLYING AND LAYING OF P.V.C. CONDUIT</u> Supplying and laying of 25mm dia heavy duty rigid PVC conduit complete with junction box, circular box, elbows, bends, couplers and other accessories as required by chase cutting on wall through partition. The work includes making good all damages to original finish, painting etc. as required.	Mtr.	150.00		
5.2	<u>TELEPHONE SOCKET</u> Supply and fixing on wall / furniture / partition modular type Telephone socket outlet ( RJ 11) with M.S./PVC box & hylan sheet cover as shown in the drawing complete with chase cutting, mending good etc. as required.	Each	0		
5.3	<u>COMPUTER DATA SOCKET</u> Supply and fixing on wall / furniture / partition recessed type D - Link make Computer data socket ( RJ 45 ) with mounting box & front plate as shown in the drawing complete with chase cutting, mending good etc. as required.	Each	7		
5.4	<u>TELEPHONE JUNCTION BOX</u> Supply and fixing of 10 pair telephone junction box "Krone" make on wall /furniture/partiion with hinged cover and screwed type tag strips complete with chase cutting, mending good, painting etc. as required.	Each	0		
5.5	<u>TELEPHONE WIRING</u> Supplying and lying of 2 pair 0.50 mm dia Telephone cable through pre - laid rigid PVC conduit as shown in the drawing or otherwise as directed by the consultant from Telephone Junction box to Telephone socket outlet including interconnection, mending good, etc, as required to be completed in all respect.	Mtr.	0.00		
5.6	<u>COMPUTER DATA WIRING</u> Supplying and laying of CAT – 6 cables through pre-laid rigid PVC conduit as shown in the drawing or otherwise as directed by the consultant from server to Computer Data Socket ( through HUB, if required ) including interconnection mending good, etc. as required to be completed in all respect.	Mtr.	150.00		
5.7	<u>TELEPHONE CABLE</u> Supplying and laying of 5 pair 0.50 mm dia unarmoured Telephone cable on surface by M.S. bar saddles complete with termination etc, as required.	Mtr.	0.00		

	<b>F. HVAC</b>				
<b>6</b>	<b>Supply, installation, Testing, commissioning of Air-conditioning Systems (5 star- inverter) as follows (including 1yr on site warranty)</b>				
6.1	Hi- wall split air conditioning system, of required tonnage, complete with outdoor units, indoor units , Remote control unit,mounting Racks, MS cage with lockabio door, wiring etc.all complete Make: Blue star/carrior/voltas				
a	Tonnage:2.0 TR	unit	4		
b.	Tonnage:1.0 TR	unit	2		
6.2	ceiling mounted cassette split air-conditioning system,of required tonnage,complete with outdoor units,remote control unit mounting rack, ms cage with lokabio door,winning etc all complete. make: Blue star /carrior/voltas				
a	Tonnage:2.0 TR	unit	1		
6.3	Supply and installation cu Refrgerant piping with insulation	rft	150		
6.4	Supply and installation soft drain pipe for hi wall units	rft	120		
6.5	Supply and installation of bracket for outdoor units including chishing and plastering of wall for cooper and drain and electrical line	unit	7		
<b>TOTAL COST AGAINST ELECTRICAL</b>					
<b>Less Discount if any</b>					
<b>SUB TOTAL</b>					
<b>Add GST 18%</b>					
<b>GRAND TOTAL</b>					