



**PRICE BID**

**Annexure-III**

**BOQ for Electrical Installation & Air Conditioning Works at new premises of RBO Munger**

**Part I : BOQ for Electrical Installation Works at new premises of RBO Munger**

Sl.No.	Description	UOM	Qty.	Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
1	<p><b>MAIN INCOMING SOURCE PANEL (MISP) :</b> Supply, installation, testing and commissioning of main incoming (MIP) Panel suitable for wall /floor mounted indoor type, air insulated, totally enclosed vermin-proof , dead front, cubicle type, 2 mm thick sheet steel enclosure use on 415 V, 3 Ph., 4 wire, 50 Hz. A.C. system, instrumental panel, CTs, incoming and outgoing cable compartment. The Panel shall be complete in all respect as per site requirement, interconnection, G.I. earth busbar of adequate size covering the total length of switch board with drilled holes, G.I. bolts, nuts, washers etc. as directed by E-I-C. The cubicle should be painted with two coats of light grey synthetic enamel paint over two coats of zinc chromate primer. The complete fabrication, construction shall be done as per the site condition and conforming to the relevant IS. Approval of Manufacturer's drawings from E-I-C.</p>				
	<p>The Panel consists of the following</p> <p><b>INCOMING :</b></p> <p>1 No. : 415V, 400 A 4P MCCB (36 KA) with over voltage protection , overload and short circuit adj protection , for Main Line ,</p> <p>1 No. : 415V, 250 A 4P MCCB (36 KA) with overload and short circuit adj protection , for DG Incoming ,</p> <p>1 No. : 415V, 250 A 4P On-Load Changeover Switch</p> <p>2 No. : Digital Multi Function Meter (MFM) one for DG and one for main Line</p> <p>6 Nos.: LED Phase indicating lamps.</p> <p>6 Nos.: Suitable CTS</p> <p>PVC sleeved TPN Tinned suitable Copper Busbar with suitable Double Bus bar System (such that DG Set should feed power to UPS Panel ,Spare/Lift, Raw power and lighting power VTPN of 1st &amp; 2nd floor in case of power failure through on load change over switch)</p> <p>G.I. EARTH BUSBAR 25mm x 3mm covering the total length of panel.</p> <p><b>OUTGOING :</b></p> <p>Termination-I: (To be connected with Change over)</p> <p>2 No: 100A 4P MCCB (36 KA) for UPS panel and spare/lift</p> <p>2 No: 63 A 4P MCCB (36 KA) for Raw Power &amp; Lighting power VTPN (for 1st &amp; 2nd floor)</p> <p>Termination-II: (Not to be connected with Change over)</p> <p>2 No: 125A 4P MCCB (36 KA) for AC VTPN (for 1st &amp; 2nd floor) MCCBs Make - Legrand/L&amp;T(d sine model)/SIEMENS/ABB(XT model)/Schneider Electric or equivalent.MCCBs must have thermal &amp; magnetic release,with overload and short circuit adj protection</p>	SET	1		
2	<p><b>UPS Panel :</b> Supply, installation, testing and commissioning of UPS Panel suitable for wall /floor mounted indoor type, air insulated, totally enclosed vermin-proof , dead front, cubicle type, 2 mm thick sheet steel enclosure use on 415 V, 3 Ph., 4 wire, 50 Hz. A.C. system, instrumental panel, CTs, incoming and outgoing cable compartment. The Panel shall be complete in all respect as per site requirement, interconnection, G.I. earth busbar of adequate size covering the total length of switch board with drilled holes, G.I. bolts, nuts, washers etc. as directed by E-I-C. The cubicle should be painted with two coats of light grey synthetic enamel paint over two coats of zinc chromate primer. The complete fabrication, construction shall be done as per the site condition and conforming to the relevant IS. Approval of Manufacturer's drawings from E-I-C.</p>				

SI.No.	Description	UOM	Qty.	Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
	The Panel consists of the following <b>INCOMING :</b> 1 No. : 415V, 100A 4P MCCB (36 KA) with overload and short circuit adj protection , for UPS Main Line from main panel , 1 No. : Digital Multi Function Meter (MFM) for main Line 3 Nos.: LED Phase indicating lamps. 3 Nos.: Suitable CTS PVC sleeved TPN Tinned suitable Copper Busbar G.I. EARTH BUSBAR 25mm x 3mm covering the total length of panel. <b>OUTGOING :</b> Termination I: 2 No: 63 A 4P MCCBs for UPS	SET	1		
3	<b>Sub-main line:-</b> Wiring in MS conduit of IS specification of Proper size with core PVC insulated stranded copper wire 1.1KV grade (Finolex/Havells/Polycab/ RR Kabel/ Richa/KEI or equivalent) and with supply ,installation, commissioning of all the materials required including proper termination, connection in complete as required from main DB to various DBs of approved Make:-				
i)	With 2 nos. 6 Sq.mm + 1 no. 6 Sq.mm. (green colour for earth) PVC insulated copper wire in MS conduit for LDB/ RPDB/ CDB or as per site requirement.	RM	360		
ii)	With 4 nos. 10 Sq.mm + 1 no. 6 Sq.mm. (green colour for earth) PVC insulated copper wire in MS conduit for 7.5/10 KVA UPS or as per site requirement.	RM	25		
iii)	With 2 nos. 10 Sq.mm + 1 no. 6 Sq.mm. (green colour for earth) PVC insulated copper wire in MS conduit from 7.5/10 KVA UPS to UPS DB or as per site requirement.	RM	25		
iv)	With 2 nos. 6 Sq.mm + 1 no. 6 Sq.mm. (green colour for earth) PVC insulated copper wire in MS conduit for (for 2.0 Tr AC) AC Wiring or as per site requirement.	RM	300		
v)	With 2 nos. 2.5 Sq.mm + 1 no. 1.5 Sq.mm. (green colour for earth) PVC insulated copper wire in MS conduit as per site requirement.	RM	180		
4	Supply ,installation ,testing and commissioning of distribution board manufactures made sheet steel enclosure With the following MCBs (DB, MCB and MCCB approved make) and connecting the same to the system.Make - Legrands/L&T/SIEMENS/ABB or equivalent)				
i)	Computer DB, SPN double door with 40A (30mA-100 mA sensitivity) DP RCCB as incomer & 8 nos 10A SP MCB as outgoing.	No.s	6		
ii)	Raw Power DB, SPN double door with 40A (30mA-100 mA sensitivity) DP RCCB as incomer & 8 nos 10A SP MCB as outgoing.	No.s	6		
iv)	B) UPS OUTGOING DB for UPS : Supply of all required materials and fixing of output UPS box (Company made) having provision of the following arrangement complete with all respects as per the direction of engineer in charge. Incoming: 1 no. 63 A DP MCB Outgoing: 5 No. 40A (10KA) DP MCB		2		
v)	DB with 25 A DP RCCB (30mA to 100 mA), AC Socket & Top for AC complete in all respect	No.s	13		
vi)	VTPN Double Door Distribution Board with provision of fixing MCCB as incomer,having vertical fish bone busbar, with all internals such as DIN channels,neutral link,internal wiring ,termination of circuits complete in all respects with housing of following:-63 A 4 Pole MCCB ( 36kA) as incomer and ,12 Nos. 40 A SP MCB's,at outgoing of approved make	Set	2		
vii)	VTPN Double Door Distribution Board with provision of fixing MCCB as incomer,having vertical fish bone busbar, with all internals such as DIN channels,neutral link,internal wiring ,termination of circuits complete in all respects with housing of following:-125 A 4 Pole MCCB ( 36kA) as incomer and 12 Nos. 32A SP MCB's at outgoing of approved make	Set	2		
viii)	LDB : Consumer unit SPN MCB DB complete with all respects and the following MCBs. INCOMING : 1 No. 240V 32A(10KA) (30mA-100mA) DP MCB OUTGOING : 8 Nos. 240V 6A-16A (10 KA) SP MCB	Set	4		

Sl.No.	Description	UOM	Qty.	Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
5	Supplying, installation, testing & commissioning, laying, lugging, etc of PVC insulated aluminium armoured 1.1 KV grade 3.5 cored cable of following size with making proper trench/support on wall as per IS specification and complete with all respect as per the instruction of Engineer-In-Charge(E-I-C)				
	i) With 3.5 core x 35 sq. mm cable	RM	220		
	ii) With 3.5 core x 185 sq. mm cable	RM	90		
6	Copper bonded Rod Earthing. SITC of OBO Betterman/JK/JEF eco safe/ make earthing system - * - UL Listed Earth Electrode - Copper bonded low carbon steel electrode, coating 250 microns - Tested as per IEC 62561-2 - Meets the requirement of IS 3043 and In one set it should include: a) One nos of Earthing rod-Type 17 3000 CCER, Length - 3000 mm Outer Dia - 17.2 mm Copper bonded low carbon steel Electrode WITH 250 microns copper bonded b) One bag (10 KG) Earth Enhancement Compound confirming to IEC 62561-7 c) One nos of universal clamp . Product Certificate of company must be provided. Earth Test Report to be submitted.	No.s	4		
7	SITC of Earth distribution Box (Bus Bar Station) to be installed in the branch near Main Panel and UPS, comprising of a bus bar of 3x25x180mm Cu strip .	SET	4		
8	Supply and laying of 8 SWG Cu cotton coated wire in 20mm dia rigid PVC conduit for earthing From the earth pit to the Main panel/UPS.	Mtr.	260		
9	<b>Computer Socket Outlet:</b> Computer point wiring in MS conduit of IS specification of proper size with 2 Nos. 2.5 Sq.mm. + 1 x 2.5 Sq.mm. (green colour for earth) PVC insulated copper wire (1.1 KV grade FRLS/FR-LSH) in pre - laid (as per ISI) single core PVC insulated stranded copper wire 1.1KV grade(Finolex/Havells/Polycab/RR Kabel/ Richa/KEI or equivalent) and with all material supply installation and commissioning complete from CDB/PDB(Raw) .The wiring shall be carried out on surface above false ceiling by chiseling the existing surface and plastering the same with cement etc. after fixing the MS conduit with all accessories like saddles screws, bends T-joint etc. 2 coats of painting Matching to the surface including supply installing, testing, commissioning of modular plate type switch and socket:Each computer socket outlet cluster consists of following <b>4 nos 6/10A 5 pin modular type international sockets with single 16A Modular type controlling switch with indicator on table top.</b> (Legrands / MK /ABB or equivalent) for computer terminal on sheet steel enclosure (cadmium plated),duly fitted with screw to the steel conduit and fixed to the wall partition furniture with all interconnection and proper earthing .All the opening shall be covered with blank plate and be sealed to make the box vermin proof.B48	No.s	40		

Sl.No.	Description	UOM	Qty.	Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
10	Raw Power point wiring in MS conduit of IS specification of proper size with 2 Nos. 2.5 Sq.mm. + 1 x 2.5 Sq.mm. (green colour for earth) PVC insulated copper wire (1.1 KV grade FRLS/FR-LSH) in pre - laid (as per ISI) single core PVC insulated stranded copper wire 1.1KV grade(Finolex/Havells/Polycab/RR Kabel/ Richa/KEI or equivalent) and with all material supply installation and commissioning complete from RPDB/PDB(Raw) .The wiring shall be carried out on surface above false ceiling by chiseling the existing surface and plastering the same with cement etc. after fixing the MS conduit with all accessories like saddles screws, bends T-joint etc. 2 coats of painting Matching to the surface including supply installing, testing, commissioning of modular plate type switch and socket:Each computer socket outlet cluster consists of following : <b>2 nos 16/20A 5 pin modular type international sockets with single 16/20A Modular type controlling switch.</b> (Legrands / MK/ABB or equivalent) for computer terminal on sheet steel enclosure (cadmium plated),duly fitted with screw to the steel conduit and fixed to the wall partition furniture with all interconnection and proper earthing .All the opening shall be covered with blank plate and be sealed to make the box vermin proof.B48	No.s	42		
11	<b>POWER SOCKET OUTLET AND ITS WIRING</b> Raw power socket outlet cluster point including supply and fixing of modular type socket outlet clusters components and wiring 1100V grade, FRLS complete in all respect as detailed below. 1Nos. 16/20A 5 pin modular type International sockets and 1 No. 16/20A modular type controlling switch with 2 Nos. 4 Sq.mm. + 1 x 2.5 Sq.mm. (green colour for earth) PVC insulated copper wire in pre - laid (as per ISI) M.S. conduit including interconnection, painting etc. as required to be completed in all respect from DB to UPS/RAW Power Outlet. Proper colour code must be followed.	No.	12		
12	Wiring for light/fan/exhaust fan points using 3 X 1.5 Sq MM 1.1 kV grade PVC insulated stranded copper conductor wire(Finolex/Havell's/Richa/RR kebel/KEI/Polycab or equivalent) for phase, neutral and earth in 25 mm dia heavy duty MS conduit along with associated accessories like MS junction boxes, bends, saddles, screws et. concealed in wall, floor, under flooring, below false ceiling or on surface as well as suspended from ceiling with 25mm X 3 mm MS flat suspenders duly painted above false ceiling from individual light/Fan/Exhaust Fan point outlet. etc. to individual modular type switch boards, 10 Amp modular plate type switches etc.(MK/Legrands/Havell's/L&T/ABB or equivalent), as required complete including circuit wiring with 3 X 2.5 sqmm. 1.1 kV grade PVC insulated stranded copper conductor wire and as per site requirement and as instructed by Engineer-In -Charge.				
i)	One light controlled by one switch	No.s	160		
ii)	Wall fan point with 3 pin socket	No.s	24		
iii)	Glow sign board wiring	No.	2		
iv)	6/10 A modular socket & switch at same board	No.s	14		
v)	Ceiling Fan Point with electronic modular type regulator ( 2 module step, 120 watt rating)	No.s	2		
vi)	UPS light points	No.	5		
vii)	Exhaust fan point	No.	10		

Sl.No.	Description	UOM	Qty.	Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
<b>Part B- SUPPLY AND INSTALLATION OF ELECTRICAL FITTINGS</b>					
13	Supply ,Installation ,testing & Commissioning of 36W-2'x2' LED Panel light/Luminaire recessed mounted complete with all accessories. lumens >3000. Make: Philips/Wipro/GE/Crompton Greaves/Syska/Havells	No.s	39		
14	Supply ,Installation ,testing & Commissioning of 15W LED Downlighter recessed mounted of make complete with all accessories Make: Philips/Wipro/GE/Crompton Greaves/Syska/Havells	No.s	92		
15	Supply installation testing and commissioning of 18W LED Batten with glare free light fitting complete with all respect. Make: Philips/Wipro/GE/Crompton Greaves/Syska/Havells	Nos	22		
16	Supply & fixing of 35W LED Street Light with suitable mounting pipe & CFL Lamp etc. of Make: Philips/Wipro/GE/Crompton Greaves/Syska/Havells complete in all respect	Nos	4		
17	Supply and installation of Wall Mounted fan 450 mm ,3 pin Metallic Blade ,1400 rpm of crompton/bajaj/usha/orient/Havells/ Polar make or equivalent	No.s	24		
18	Supply and installation of Ceiling fan 1200 mm crompton greaves/bajaj/usha/havell's/orient make	No.s	2		
19	Supply and installation of Exhaust Fan complete with all respect .Make: crompton/bajaj/usha/havell's/Orient make	No.s	10		
<b>Part C- LAN CABLING WORK</b>					
20	Supply and laying of E-Cat 6 UTP cable for the Data Circuit through the PVC conduit ,Rate to include for termination on both end or as directed by E-I-C(Make: D-Link, AMP, HCL,DIGISOL)	Mtr	1400		
21	Supply and fixing of information outlet box suitable for <b>1 nos,RJ 45</b> terminals including mounting box(PVC) & top cover , to be fixed a concealed manner in partition by necessary bolts & nuts or as directed at site,(Make: D-Link, AMP, Legrand ,HCL,DIGISOL)	No.s	42		
22	Supply of 2 mtr. Long E-CAT 6 PATCH CHORD (Make: D-LINK, AMP, HCL, Legrand, Digisol)	No.s	42		
23	Supply & installation of 9U Rack with power supply arrangement, ventilation fan, mounting racks etc. Complete with all accessories.	No.	2		
24	Hard Copy of Single Line Diagram of complete wiring of RBO including power and distribution in the premises complete in all respect.	No.	1		
				<b>Part-I Total Electrical Works (in Rs)</b>	
<b>Part -II BOQ for Supply and Installation (including Annual Maintenance Contract for 5 years) of Air Conditioners at new premises of RBO Munger</b>					
Sl.No.	Description	UOM	Qty.	Rate (Rs.) (Exclusive of GST )	Amount (Rs.) (Exclusive of GST )
1	Supply of 2.0 TR Capacity Copper Cassette type split air conditioners with Copper Condensor Coil and eco friendly refrigerants (R32 or R 410A). <b>AC Make, Voltas/Bluestar /Carrier/Daikin /LG/Hitachi /O' General</b>	Nos.	13		
2	Installation charges of the 2.0 TR Copper Cassette Type Split AC including outdoor frame / stands to withstand the full load of outdoor units and making good all the damage.	No.	13		

Sl.No.	Description	UOM	Qty.	Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
3	<b>For 2.0 TR Copper Cassette type split air conditioners:</b> Supply and laying of copper pipes with nitrile insulations, drain pipes (covered with GI pipes wherever necessary), copper wiring in GI conduits neatly drawn in professional manner from power points to outdoor / indoor units complete with all necessaries and making good all the damages.	RM	320		
4	Supply and Installation of 5 KVA Stabilizer for 2.0 TR Cassette type Acs	Nos.	13		
5	Comprehensive Annual Maintenance Contract of above mentioned <b>13 Nos.</b> of 2.0 TR Copper Cassette type split air conditioners after expiry of defect liability period of 1 year from the date of installation.	year	5		
		<b>Part-II Total AC Works (in Rs)</b>			
<b>GST on work contract will be extra as applicable</b>		<b>GRAND TOTAL ELECTRICAL &amp; AC WORKS (In Rs) =Part I+Part II</b>			