

**BILL OF QTY FOR
ELECTRICAL WORKS OF MEJHIARI BRANCH-8537, RBO-1@AO DURGAPUR**

Sl.No.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1	PART - A				
A.	MV PANELS & DISTRIBUTION BOARDS				
	MCB DISTRIBUTION BOARDS : ALL DOUBLE DOORS - ABB,SCHNIDERS,INDO ASIAN(OPTIPRO),HAVELLS,LEGRAND..ETC				
	Supply, installation, testing and commissioning of the following cubicle type 1.2 mm thick CRCA sheet steel enclosed powder coated with approved shade and partitions to segregate phase with approved covers, single / double door, factory made recessed in wall or surface mounted final distribution boards of the following description. All final DB's shall have outgoing with internal wiring brought upto terminal block for external cable connections.				
	NOTE : 1) Surface mounted DB's on walls shall be provided with suitable size frame work and neatly grouted on to wall and DB shall be fixed on to the frame work using bolts & nuts and other fixing accessories.				
	2) DB's conceald in wall shall include cut of necessary civil works and other fixing accessories.				
	3)The DB's shall be horizontal / vertical type as per configuration of incoming/outgoing feeders.				
	4)The DB's shall be factory made of approved make and necessary available higher size configured DB's shall be used.				
1.1	Supply & installation of TPN front operated 125A, 16KA, 4P MCCB (adjustable overload and fixed short circuit) in factory fabricated, powder coat painted metal enclosure complete along with statutory caution board, earthing and having wall mounting hinges etc. The box must have sufficient space for Aluminium cable termination upto 50 sqmm(3N o's R/Y/B color indicators with fuse controls) at Incomer side , and also 2 outgoing (1) for AC -MC (25 sqmm -4 core cables) & (2) for Mains to COS as RP with 4cx 25sq mm AL cables	Nos.	1		
1.2	Supply & installation of TPN front operated 63A, 10KA, 4P MCCB (adjustable overload and fixed short circuit) in factory fabricated, powder coat painted metal enclosure complete along with statutory caution board, earthing and having wall mounting hinges etc. The box must have sufficient space for Aluminium cable termination upto25/35 sqmm(3N o's R/Y/B color indicators with fuse controls) at Incomer side , and also 4c x 25 sqmm cables for COS	nos	1		
2	*Supply and installation of Double door TPN vertical DB with MCCB having breaking capacity of 16 KA.a) incoming- 1 No ...80amp ,16KA,4P MCCB b)outgoing - 04 Nos. 10-25 Amp SP MCB C series and 3X 40 AMPS TP MCB C +1x63 Amps TP MCB c-Series with Necessary blanking plate as required.(As per IS8828-96Latest)* for MAIN DB (WITH DG backup)	no	1		
3.1	12ways -SPN MCB DB of approved makes Incomer: 1 No.40A, 2P, RCBO (300mA) Outgoing: 10Nos. of 10/16/25A, SP, MCBs (C curve)	Set	1		
3.2	6 WAYS LDB / PDB FOR BRANCH ETPN MCB DB Incomer:RCBO 1 No.40A, 4P, MCB+RCCB (0-100mA) Outgoing: 16 Nos. of 6/10/16A, SP, MCBs (C curve)	Set	1		
3.3	ACDB 4 WAY ETPN DB'S Incomer:RCBO 1 No. 63A-4P MCB +(0-300MA) 4P RCCB Outgoing: 8Nos. of 25/32 A SP MCBs (D/C curve)	Set	1		
3.4	6 way SPN-ATM DB for EB and UPS supplies . 1No's RCBO of 32 Amps , (300mA) as Incomer + 4No's SP MCB's of 16/25(6KA) for out goings	Set	1		
2.7	Supply & fixing of 100A FP ON Load Change over (Front handle) including interconnection with suitable size of copper /aluminium cables . 2 Input/1 Output for Main DG supply Panels(VTPN)	Nos.	1		
3.0	Supply, installation, testing and commissioning following sizes Double door Master CONTROLS WITH 4 P MCB's within a 12 way SPN DB to accommodate 4 set of Armoured cables (for end terminations) of 25 sq mm/16 Sqmm . The isolator shall be wall mounted using necessary brackets and fixing accessories and to have sufficient space to gland of all 4 set of In-Out Cables of above ratings				
a)	1x 40 Amps + 1x 63, 4P MCB's for Branch Isolation to LDB and AC DB for total isolations of Branch	Set	1		
4.0	Supply, installation, testing and commissioning following sizes MCB in metallic enclosure. The MCB shall be wall mounted using necessary brackets and fixing accessories.				
a)	Supply & fixing on wall industrial Plug & socket DB in metal enclosure with one 63 Amps industrial socket (3P+N+E) but with 63Amps 4P MCB (Legrand)duly inter connected.	Nos.	0		
b)	Supply & fixing on wall industrial Plug & socket DB in metal enclosure with one 40 Amps industrial socket (P+N+E) but with 40Amps DP MCB (Legrand)duly inter connected.	nos	4		
B.	LT CABLES:				
1.0	Supply & Laying of 1100V grade, XLPE/ PVC insulated, PVC sheathed, Aluminium / copper conductor, steel armoured cables. The cable shall be laid in exsiting trench, cable tray / clamped on to the walls using necessary fixing accessories. The cable shall be provided with cable identification tags made out of Aluminium strip, engraved with cable size and the routing. (Note : cost of cable tray, supports, excavation, sand cushioning, brick protection and back filling measured separately)				
1.1	3x1/2 core x 35 sq.mm.	Mtrs	25		
1.2	4 core 25 sq mm	Mtr	50		
1.3	4CX16 sq mm	Mtrs	60		
2.0	End connection of above cable with heavy duty nickle plated brass compression gland crimping type socket insulation tape etc. with all concern.				
	3x1/2 C X35 sq mm	nos	2		
2.1	3x1/2 c X 25 SQ MM	nos	4		
2.2	4 c X 16 SQ MM	nos	4		
C.	POINT -WIRING SYSTEM				
1.0	*Distribution wiring(concealed) including new point wiring 660 volt grade 3x1.5 sq.mm. (cu) PVC flexible wire in 20 SWG Rigid PVC (ISI Marked medium grade) conduit along with Conduit accessories circular boxes, MS boxes, 6 Amps Modular Type switch with socket outlets 6 pin, all individual control switch etc. Conduit size & nos of wires in conduit as per code of practice with circuit wiring with (2x2.5 + 1X1.5) sq.mm. copper wire from MCB DB to respective sw board.N.B. (i)Earth & neutral may be looped but from the last point earth & Neutral has to be connected with sw board.(ii)Point wiring should be inclusive of continuous wire length up to the connection block of light fittings/fans				
a)	Light point(one switch controls one light)	Nos	40		

b)	Light point(one switch control two lights)	Nos	20		
c)	Exhaust fan point	Nos.	4		
d)	Ceiling Fan point with REGULATORS	Nos	5		
e)	Call bell point with supply and fixing of call bell	Nos.	1		
f)	Wall Mounted Fan point with 6 amp 3 pin socket including wirings from sw boards till sockets	nos	8		
g)	Board plug point 3 pin 5 Amps with switch.	Nos.	10		
h)	Supply & fixing 25 amp north-west motor starter with plugtop indicator type socket or eqv legrand/Havells	No.	8		
i)	Supply & fixing 16 amp plug top with indicator	No.	10		
k)	Supply & fixing 3cx2.5 sq.mm. PVC insulated multistrand flexible cable	Mtr.	15		
m)	Marking with printed sticker of electrical DBs,SFU,and individual circuit in UPS DB,LDB of switch board and UPS power etc.	LS.	1		
n)	Light point(one switch control 3 lights)	nos	4		
D	LIGHTING WIRING / SUB MAINS/POWER WIRING UPS WIRINGS ETC :				
	Supply & Drawing power wiring circuit /sub mains using flexible, copper conductor, FRLSHF wires of 1100V grade, PVC insulated wires drawn in 2mm thick suitable size FR PVC conduit. The rate shall also include running of PVC insulated copper conductor as earth wire. All circuits starting from the respected db should have ferrulling arrangements.				
d1	3 x 1.5 sqmm Copper wires in 20 mm dia PVC conduit	Rmtr.	30		
d2	2 x 2.5 +1x1.5 sqmm Copper wires in 20 mm dia PVC conduit	Rmtr.	350		
d3	2x 4.0 +1X2.5sqmm Copper wires in 20 mm dia PVC conduit.	Rmtr.	225		
d4	2 x 6.0 +1X2.5sqmm Copper wires in 32 mm dia PVC conduit	Rmtr.	50		
d5	4x4 sqmm +1x4 sq mm Copper wires in 25 mm dia PVC conduit.	Rmtr.	20		
d6	4x6 sqmm +1x4 sq mm Copper wires in 25 mm dia PVC conduit.	Rmtr.	30		
d7	4 x 16.0 sq.mm + 2 x 4.0 sq.mm copper wires in 38mm dia PVC conduit.	Rmtr.	4		
E.	POWER RECEPTACLES				
	DOMESTIC TYPE:				
	Supply & fixing of 3/5 pin, commercial combination type socket outlet with indicator mounted on a outlet box with necessary interconnection. The box shall be flush mounted in brick/stone wall. The switches shall be of type Anchor roma make / equivalent. The rate shall also include cost of civil works involved in fixing of boxes, replastering of walls chased. All the switch / sockets shall have stickers for identification				
1	RAWUPS- POWER SOCKET				
a)	"Supply & installation of MS Flush Metal box with front plate enclosing the following duly interconnected :a) 2 Nos 16 amp switch & 2 Nos 6 amps and 1 no. 6/16 amps socket outlet with indicatorb) 1 No. mounting box c) 1 No. front plate "	sets	20		
b)	Distribution wiring including new point wiring 660 volt grade 2x2.5+1x1.5 sq.mm. (copper) PVC insulated flexible wire in 20 mm dia. Rigid PVC (ISI Marked) conduit along with Conduit accessories circular boxes, MS boxes, 2x 6 Amps + 2x6Amps modular type switch and socket	set	12		
c)	Distribution wiring including new point wiring 660 volt grade 2x1.5+1x1.5 sq.mm. (copper) PVC insulated flexible wire in 20 mm dia Rigid PVC (ISI Marked) conduit along with Conduit accessories circular boxes, MS boxes, 1x 6 Amps + 1x6Amps modular type switch and socket	set	4		
d)	"Supply & installation of MS Flush metal box with front plate enclosing the following duly interconnected make:(Crabtree /Legrand/ Philips)a) 1 Nos 16 amp switch & 1 Nos 6/16 amps socket outlet with indicator b) 1 No. mounting box c) 1 No. front plate"	set	7		
h)	2 Nos.x 6/16A socket 3 pin outlet controlled by 1 Nos. 16A tiny Trip MCB with indicators	Nos.	1		
F	SUPPLY AND INSTALLATION OF LIGHT & FAN FIXTURES				
1.0	Supply, installation, testing and commissioning of following type light and fan fixtures with all necessary fixing accessories as required. The efficacy of the LED lamp shall be not less than 100lm/Watt				
1.1	1 x 20W, 5700K, 4 Feet LED tube, Surface/suspension light fixture with extruded Aluminium channel 4 feet with high translucent serrated milky white diffuser,robust and high performance batten. LED luminaire shall comprise of extruded channel in thermally conductive material. High translucent serrated milky white diffuser to get glare free and smooth light distribution. Efficacy : 100 lumen/watt similar to Crompton make cat no.LDL-20-CDL or equivalent matching specifications as per NIT	Nos.	22		
1.2	15W LED Recess down Lighter Slim design ,recessed round /square Die-cast Aluminium housing finished in premium white Powder coating housing with superior light output and integral driver. Efficacy min 100-120lm/w similar to Crompton make Cat type LSCRM-15w-CDL or equivalent matching spec in NIT OF OTHER APPROVED MAKES: Philips/Havells /Wipro/Bajaj /Jaquar etc Green performance Sleek with surge protection of 2.5 Volts or eqv Bajaj BPSLR 15WH RD or Wipro LD71-161SML-65-FD, Havells EDGEPRORDDLR15WLED840S eqv.36 watts,5700/6500K equivalent matching specifications as per NIT	Nos.	14		
1.3	6 W LED Recess down Lighter Slim design ,recessed round Die cast AL. housing with superior light output and integral driver. Efficacy 100lm/w similar to Crompton make Cat type LSCRM--06-CDL or equivalent	Nos.	8		
1.4	Supply of Green performance ,Sleek/Edge/backlit 600mmx600mm LED fixtures with surge protection of 2.5 KVolts ,full lit luminaire with glare free uniform illumination with longer life and less maintenance. 2X2 LED Backlite/Edge Luminaire in Recess Mounted Type comprises CRCA sheet metal body powder coated in white Efficacy : Min of 100-110 lumen/watt Make:- Crompton- LCTRLNE-36-FO-CDL for Backlit if space is available or TCR-145-36-65-SL-NWH OR or eqv Bajaj BPSLR 15WH RD or Wipro LD71-161SML-65-FD, Havells EDGEPRORDDLR15WLED840S eqv.36 watts,5700/6500K equivalent matching specifications as per NIT In other makes such as : Philips/Havells /Wipro/Bajaj /Jaquar etc	Nos.	38		
1.5	Supply and Installation of 12.5 MM Aluminium Profile strips with acrylic cover to match the size along with linear PROFILE LIGHTshaving LED STRIP lights of indoor applications of approved makes such as GM/Philips/Havells /Wipro etc with 5meter each but adjustable in turnings , wattages 24-25 w/per 5 mtrs including driver and necessary fixing accessories as required to be fixed within FALSE ceilings of specific areas.	Mts	20		
1.6	Supply and fixing of BLDC ceiling fan without fan regulator with remotes and shall be of crompton/Havells or equivalent.(prior sample/ model approvals are required)Crompton make or equivalent Energon Nstar - 5 Star BEE, 1200mm sweep , Opal White , Model No-ENERGOS-28/35w • BEE 5 STAR Rated fan(MAX 35w) , 50% Savings on electricity costs) with Smart Remote Avg Power Inputs(28Watts) , Air Delivery(min 220CFM)	Nos.	5		
1.70	Supply and fixing of 450mm wall mounted fan of crompton /equivalent.WM S storm-2 Crompton make or equivalent, 5 Star BEE, Matt Silver Black • High Air Delivery with Low noise operation, • Thermal protection for long lasting motor , • Smooth oscillation , 90watt Power Inputs(Watts),	Nos.	2		
1.8	Supply and fixing of 200-225mm dia. single phase. MEDIUM DUTY exhaust fan with necessary angle iron bracket, double ball bearing wall mounted fan (metal body) Model BAHAR-225 of Bajaj or equivalent	Nos.	4		
1.9	Supply & fixing of Timer for UPS room 2 No's - Exhaust Fans/ 2 No's -AC of E-lobby areas /and All types of Signages of load upto 20Amps without contactors with electronic time delays Programmable timings (Microcontroller based Prog timers) , etc OF APPROVED MAKES:- CAMIPRO OR EQUIVALANTS , Model No- MSCMTV01, HAVING OUTPUT CONTACTS -25A-max with ontme delays 150Seconds	Nos.	1		
1.1	Supply and fixing of Strip Lights Cat No: LSTGL 240OP-CDL/WW/NW/BLU OF 60w /5 MTRS, HAVING 240 LED'S WITH DRIVERS" LSTDRV-12V/5A-24W 830 IP20 5M OF CGL "LED flexi strip with driver." OR Eqv. make: of Bajaj/Havells/ wipro/philips but min 240 LED strips/ higher wattages / Driver of higher Amps equivalents above.(please note the STRIP lights should have high quality grade adhesives , with extra brightness, , Driver shall be having surge protection, Open & shaft ckt protections, wide range of voltage protections 140-350 V, Compact in size, surge protection upto 2.5kV , and min 2 years warranty)	Set (5mtrs LED+Driver)	4		
1.12	S & F Philips make LED titable COB Spot light(7w) or eqv. wipro/havells	Nos.	7		

H	EARTHING SYSTEM				
1.0	Supply & installation of 38mm dia, 2.5 Mtr. long G.I.pipe electrode earthing station complete with manholes, brick masonry chamber, heavy duty CI covers, funnel etc., The cost shall also include providing of salt and charcoal layer by layer, excavation and back filling etc., all complete as required and shall confirm to IS - 3043.	Set	2		
2.0	Supply & installation of 300 x 300 x5 mm, copper plate earthing station complete with GI pipe, manholes, brick masonry chamber, heavy duty C I covers, funnel, etc., The cost shall also include providing of salt and charcoal layer by layer, excavation and back filling etc., all complete as required and shall confirm to IS - 3043.	Set	1		
3.0	Supply, installation & connecting of G.I.tape /wire being clamped to walls, cable trays, ladders, run in pipes with Sleeves etc , laid underground etc.,as required including interconnection between the earth stations etc.,all complete as required. (Note : The excavation and back filling is measured separately) .				
a)	2 core armoured cable of 2x 4 sqmm Copper wires for earthing	M	40		
b)	Supply and fixing of GI earth strip of size 25 mm x 3mm with insulator at 2 feet interval and all accessories nut bolts wasser etc. as required connection complete	mtr	15		
J.	TELEPHONE SYSTEM				
1.0	Supply and laying of 2mm thick FR PVC conduit with all necessary accessories like junction boxes, pull boxes. G.I fish wires and other fixing accessories as required. The rate shall also include chasing of walls, floor and plastering of the chased portion etc; all complete as required.				
a)	20mm dia	M	20		
2.0	Supply and wiring for telephone outlet with 0.51mm dia, copper conductor, PVC insulated, unarmoured, telephone cable in existing conduit.				
2.1	2 pair	M	80		
3.0	Supply and wiring of multicore 0.51mm, copper conductor, PVC Insulated, PVC sheathed, armoured telephone cable laid drawn through existing trench/cable tray / wall supports with all necessary accessories as required.				
a)	10 Pair Cable	M	10		
4.0	Supply and installation of clip on plug type telephone outlet RJ-11 with interconnection of the outlet. The cover plate of telephone shall match with the other wiring accessories. (Telephone socket outlet shall be of modular of type Anchor roma / equivalent).	Nos.	3		
5.0	Supply, installation, testing & commissioning of telephone junction box. The junction box shall be with sheet steel enclosure enclosing krone connector and shall be provided with padlock arrangement.				
a)	10 Pair TJB.	Nos.	1		
K	MISCELLANEOUS WORKS:				
1.0	Supply and laying of 2mm thick FR PVC conduit with all necessary accessories like junction boxes, pull boxes. G.I fish wires and other fixing accessories as required. The rate shall also include chasing of walls, floor and plastering of the chased portion etc. all complete as required.				
a)	20mm dia	M	25		
2.0	Electrical safety - RUBBER mats of 1.1kV grade 1.8mx.0.9m	Nos	1		
3.0	Supply and fixing : of 1nos First aid kit, Safety chart, Danger boards-2nos , No Admission boards-1nos	set	1		
5.0	Submitting electrical SLD for entire works	job	1		
TOTAL:- (A+B+C+D+E+F+G+H+I+J+K)					
GST AS APPLICABLE SHALL BE EXTRA					TOTAL: