

BILL OF QUANTITIES FOR ELECTRICAL AND ALLIED WORKS OF SBI MAIN BRANCH, FIRST FLOOR, RBO, BETUL

S.N.	PARTICULARS	QTY	UNIT	RATE	AMOUNT (Rs.)
A	MAIN LT PANEL				
1	MAIN ELECTRICAL LT PANEL - Supply, Installation, Testing and Commissioning including transport to site with propoer required (PVC sheets / wooden frame) packing, store at site, erect in proper position of Sub-Main Electrical LT panel, floor mounted, front operated, dead back, totally enclosed, IP42, vermin proof, indoor, non-drawout, cubicle type power distribution panel fabricated out of 2mm thick CRCA sheet having gasketed hinged door on each cubicle, fully powder coated / enamel painted after seven tank treatment, incorporating horizontal and vertical sleeved copper / aluminium busbars complete with all internal wiring with suitable size approved make FRLS class-2 conductor grade colour coded wires, rotary handle, spreaders, 3mm thick gland plate, hinged type door with neoprene gasket, danger board, two earthing lugs, cable chamber, etc. as required housing below mentioned switchgears, metering instruments and accessories :-				
	Note :- GA & Control Drawing of the panel shall be approved by the consultant before fabrication. (Panel shall be manufactured from CPRI approved manufacturer only.) All test certificates for Panel shall be submitted alongwith the delivery of Panel at site. (Client / Consultant reserves the right to reject the Panel supplied without prior design approval / submission of required test certificates alongwith the delivery of Panel at site.)				
Sec-1	(MAIN ELECTRICAL LT PANEL)				
a	INCOMER				
	1 No. 160A, FP, 50kA, MCCB with Thermal Magnetic release, of approved make with over load (O/L), short circuit (S/C) & Earth Fault (E/F) protection. The Breaker shall be suitable for 415 Volts 50 Hz., AC supply. The breaker shall have breaking capacity of 36kA / 50kA for 1 Sec. as required. (Schneider / Hager / Legrand / Siemens / L&T make)				
b	METERING				
	1 No., 3 phase CT Operated (with class-1 CT) multifunction meter / Load Manager (LM) with RS 485 communication port of approved make. The Load manger should read Ammeter, Voltmeter, KWH meter and Power Factor meter.				
c	INDICATORS				
	The following indicating lamps shall be provided for Incomer Section :-				
	1 Set of R,Y,B Phase Indicating lamps, LED type of approved make.				
	1 No. Red & 1 no. Green colour LED type indicating lamps for indicating MCCB is in 'ON' or 'OFF' position.				
d	BUSBARS				
	1 Set of 200 Amps uniformly rated, continuous duty, 415V AC, 3-Phase & Neutral electrolytic grade 99.95% Purity Tinned Copper bus-bars with colour coded heat sink sleeves supported on SMC type grip supports. The Horizontal / Vertical sections of the busbars should all be uniformly rated for 200 Amps.				
	1 Set of 25 x 5 mm copper busbars of high conductivity electrolytic quality shall be provided throught out the panel for its earthing.				
e	OUTGOINGS				
	1 No. 100A, TP/FP, Switch Fuse Unit (SFU) The Breaker shall be suitable for 415 Volts 50 Hz., AC supply. (For APFC Panel Incomer - 1 no.) (Schneider / Hager / Legrand / Siemens / L&T make)				
	1 No. 125A, FP, 25kA / 36kA, MCCB with Thermal Magnetic release, of approved make with built in over load (O/L), short circuit (S/C) protection. The Breaker shall be suitable for 415 Volts 50 Hz., AC supply. The breaker shall have breaking capacity of 36 kA for 1 Sec. (For Main HVAC DB - 1 no.) (Schneider / Hager / Legrand / Siemens / L&T make)				
	5 Nos., of 40/63 Amps., FP Miniture Circuit Breaker. The MCB shall be suitable for 415Volts 50Hz., AC supply and having fault level of 10KA. The MCB Shall have "C" curve type. (For UPS - 1 No, LDB - 1 Nos, RPDB - 1 Nos, Spare - 2 Nos) (Schneider / Hager / Legrand / Siemens / L&T make)				
	2 nos, 40/32/25A, DP, MCB, "C" curve type as outgoing.				
	Full Set as above	1	Set		

S.N.	PARTICULARS	QTY	UNIT	RATE	AMOUNT (Rs.)
2	APFC PANEL - Supply, Installation, Testing and Commissioning of Automatic Power Factor Control Panel (APFC Panel) including transport to site with propoer required (PVC sheets / wooden frame) packing, store at site, erect in proper position of Sub-Main Electrical LT panel, floor mounted, front operated, dead back, totally enclosed, IP42, vermin proof, indoor, non-drawout, cubicle type power distribution panel fabricated out of 2mm thick CRCA sheet having gasketed hinged door on each cubicle, fully powder coated / enamel painted after seven tank treatment, incorporating horizontal and vertical sleeved copper / aluminium busbars complete with all internal wiring with suitable size approved make FRLS class-2 conductor grade colour coded wires, rotary handle, spreaders, 3mm thick gland plate, hinged type door with neoprene gasket, danger board, two earthing lugs, cable chamber, etc. as required housing below mentioned switchgears, metering instruments and accessories :-				
	Note :- GA & Control Drawing of the panel shall be approved by the consultant before fabrication. (Panel shall be manufactured from CPRI approved manufacturer only.) All test certificates for Panel shall be submitted alongwith the delivery of Panel at site. (Client / Consultant reserves the right to reject the Panel supplied without prior design approval / submission of required test certificates alongwith the delivery of Panel at site.)				
	IN-BUILT APFC PANEL - With inbuilt solid state automatic power factor correction arrangement having microprocessor based control circuit and contactor switching power circuit having a required capacity of 60 KVAR having capacitor bank in steps of [(1 x 15 KVAR) + (2 x 10 KVAR) + (1 x 5 KVAR) + (1 x 3 KVAR) + (1 x 2 KVAR)] , including main MCCB, MCB's, APFC relay, contactors, capacitors, indicating lamps, etc. complete with all necessary hardware & accessories as mentioned below :-				
a	INCOMER				
	1 No. 100A, TPN, Isolator switch (Switch disconnecter/ Isolator). The Breaker shall be suitable for 415 Volts, 50 Hz., AC supply. (For APFC Panel Main Incomer - 1 no.) (Schneider / Hager / Legrand / Siemens / L&T make)				
b	BUSBARS				
	1 Set of 125 Amps uniformly rated, continuous duty, 415V AC, 3-Phase & Neutral electrolytic grade 99.95% Purity Tinned Copper bus-bars with colour coded heat sink sleeves supported on SMC type grip supports. The Horizontal / Vertical sections of the busbars should all be uniformly rated for 125 Amps.				
	1 Set of 25 x 5 mm copper busbars of high conductivity electrolytic quality shall be provided throught out the panel for its earthing.				
c	INSTRUMENTS				
	1 no. 0-500V Digital Voltmeter of suitable size & 1 no. suitable size Digital Ammeter				
	1 Set of phase indicating lamps, LED type, RYB.				
	1 Set of 2A 10kA C curve SP control MCB				
	1 no. 6 stage microprocessor based digital type APFC relay 85 Tag				
	1 set overvoltage, undervoltage, phase protection relay.3no. CT				
	6 set On, Off push button, auto manual selector switch.				
	6 set On, Off LED type indication lamp				
d	OUTGOING				
	3 Nos. 40A, TP, D curve, MCB				
	1 Nos. 25A, TP, D curve, MCB				
	2 Nos. 20A, TP, D curve, MCB				
	1 No. 2 kVAR MPP heavy duty capacitor with capacitor duty contactor				
	1 No. 3 kVAR MPP heavy duty capacitor with capacitor duty contactor				
	1 No. 5 kVAR MPP heavy duty capacitor with capacitor duty contactor				
	2 No. 10 kVAR MPP heavy duty capacitor with capacitor duty contactor				
	1 Nos. 15 kVAR MPP heavy duty capacitor with capacitor duty contactor				
	The panel shall be provided with required nos of louvers in the capacitor chamber for its cooling. Also required nos of ventillation fans with auto sensing thermostate shall be provided in the panel to improve capacitor life & ventilation fans.				
	Full Set as above	1	Nos		
3	Suply and installation of 12-way, VTPN, Double door, (MCCB DB) Main HVAC Distribution Board , flush mounted on wall, interconnected wiring complete with earthing lugs housing following switchgears : (Similar to Legrand / Hager / Siemens / Schnider make)				
a	1 No. , 125A, 415V 50Hz FP MCCB complete with neutral & accessories as incomer				
b	4 Nos., 63/40A, TP, MCB as outgoing (3TR AC ODU - 4 nos.)				

S.N.	PARTICULARS	QTY	UNIT	RATE	AMOUNT (Rs.)
c	24 nos, 40/32/25A, SP, MCB outgoing (For single phase split / cassette units)				
	Full Set as above	1	Nos		
4	CABELS / MAINS				
A	Supply & Installation of 1100V grade armoured cable having sector / circular shaped aluminium / copper conductor PVC insulated cores, laid up, PVC tape wrapped inner sheathed, GI strip / wire armoured and overall extruded PVC sheathed conforming to IS: 1554, laid on wall / ceiling using GI clamps & spacers / underground at necessary depth as required as per site conditions & as per route shown / approved at site and further as directed by Consultant / Client at site in the following sizes :- (Make - Polycab / Finolex / CCI / RR / Havells)				
	NOTE :- All Armoured cables shall be provided with temporary labelling at every 5mtrs & then finally with metal identification tags showing the size & the location from/to the respective Panel / DB, at both the ends				
A.1	3 1/2 C x 95 Sq.mm Aluminium Armoured cable with 2 runs of 8 SWG GI bare wire) (For Meter room to Main LT Panel)	45	Mtrs		
A.2	3 1/2 C x 50 Sq.mm Aluminium Armoured cable with 2 runs of 8 SWG GI bare wire) (For Main LT Panel to Main HVAC MCCB DB)	25	Mtrs		
5	GLANDING & TERMINATION :- Supply & Installation of end termination of above mentioned cables including compressed type brass glands , crimping type copper lugs, insulation tape etc. as 'required complete with earthing of glands in following sizes :-				
5.1	3 1/2 C x 95 Sq.mm Aluminium Armoured cable	4	Nos		
5.2	3 1/2 C x 50 Sq.mm Aluminium Armoured cable	2	Nos		

6	EARTHING (GENERAL / DEDICATED)				
A	Special Pipe with Chemrod Earth station: Preparation of the Earth Station: a.Boring/Excavation of pit for earth station-175 mm dia.,Supply and fixing of G.I. Class dia duly welded at joints-17 meter c.Supply and fixing of chemrod electrode of size 50 mm dia, emeter long and well welded with the above pipe with reducer etc. d.Supply and welding clamp of 50mmx6mmx0.5 Meter long with 12 mm dia 2nos. Hole e. Supply and pouring of chemical powder in the bore around the chem rod an in total boring upto ground level. f. Construction of earth pit chamber including necessary brick work concrete,plastering,s/f of C.I cover of size 12"x12" complete as per site req.	1	Set		
B	Providing & fixing 25 mmx 5mm Cu Strip on surface or in recess for connection etc. as required	30	RM		
c	Providing & fixing 6 SWG dia. G.I. Wire on surface or in recess for loop earth as required	20	RM		
d	Providing and fixing 25 mm X 5 mm copper strip in 40 mm dia G.I. pipe from earth electrode including connection with brass nut, bolt, spring, washer excavation and re-filling etc. as required.	40	Metre		

S.N.	PARTICULARS	QTY	UNIT	RATE	AMOUNT (Rs.)
7	A.C.Point with 32 Amp.D.P. switch & 25 Amp. Socket complete set. with 4.0 sq.mm. wire and 20 mm dia. 16 swg stove enameled rigid steel conduits. No extra cost for wiring and conduits is payable (i.e. inclusive of mains wiring).	11.00	Nos.		
8	LIGHTING FIXTURES				
	Note :- All Light Fixtures, Fans, Exhaust Fans & other fittings samples shall be approved by the Client / Architect / Consultant before placing order to the Light Fixture Vendor / Supplier. All Light Fixtures shall be of Philips / Wipro / GE make only unless & otherwise other makes are specified. Client / Architect / Consultant reserves right to approve / select final Light Fixtures from any make as required.				
A	Supply and fixing of recessed mounting type Led light fixture, LED of 1 to 3 W each assembled on single MCPCB, having color temp 6500K & having 50000 burning hrs life with minimum @ L 70, system lumen output should be minimum with efficacy>80lm/W. LED driver, PF 0.95 & THD < 20%. The colour rendering index of LED light should be more than 70. Housing made of CRCA with glare free diffused polycarbonate cover. Submission LM 80-08 Form LED Source Manufacturer & LM79-08 / IS16106 from NABL approved lab. Manufacturer mandatory i/c connection wire, testing etc. to complete the job. 2 Yrs Guarantee certificate from manufacturer.				
A.1	LED luminaire 2' X 2', 36W, 4-6.5K	40.00	Nos.		
B	Supplying and fixing testing and commissioning recessed /surface mounting LED down lighter, environment friendly, energy efficient, decorative LED of 8 to 10 W each assembled on single MCPCB,				
B.1	8 W , 100/150mm	45.00	Nos		
9	DATA CABLING				
	Supplying, Installation, Testing & Commissioning of following raceways /conduits in flooring. The rate shall be inclusive of removing the flooring by cutter & back filling the same with required Sand, Cement etc. and giving the finishing upto the floor level as per instructions of Architect If conduits are required to be fixed on wall it shall be done by making chase cutting on wall through partition. The work includes making good all damages to original finish, painting etc as required.				
A	50mm X 25mm X 1.6mm thick Raceways. (Make - MK Underfloor M Traks UMD 50/1/6) WITH JOINTING SLEEVES AND VERTICAL ACCESS UNIT	90	RM		
B	225mm X 38mm X 1.6mm thick Raceways. (Make - MK Under floor M Traks UMDX 225/3/6) WITH JOINTING SLEEVES AND VERTICAL ACCESS UNIT	10	RM		
10	FLOOR JUNCTION BOX: -				
	Supplying, Installation, Testing & Commissioning of following MS junction boxes in floor of 14 SWG thick duly painted. The rate shall be inclusive of providing Sand, Cement etc. and finishing the same upto the floor level as per instructions				
A	225mm X 225mm X 2.3mm thick junction box with stainless steel cover plate. MK make junction box JB 150	2	nos		
B	50mm X 50mm X 1.5mm thick junction box with stainless steel cover plate. MK make junction box JB 150	10	nos		
11	Supply, installation , testing & commissioning of 18 ports Jack panel with sockets for termination of voice	1	nos		
12	Supply,installation,testing commissioning of 18 ports Jack panel suitable for CAT-6 cable	1	nos		
13	Supply, installation,testing &commissioning of 19", 12 U wall mountable rack for installation item no (22) &(23) of APW/Wall rack/ Rittal make, equipment with power strip having 6 amp 6 sockets with suitable for Indian/International standard heavy duty cord with 3 pin top and Cooling Fan	1	nos		
14	Data Outlet Box for Computer Outlet Supply, Receiving, Fixing & Commissioning of empty Mounting Boxes for Data I/Os face plate of D-Link/Systemax make or equivalent as required.	34	nos		
15	S & I of cat 6 Data cable	200	RM		
16	S & I of Patch cords - (1 mt.)	17	Nos.		
17	S & I of Patch cords - (2 mts.)	17	Nos.		
	Total (Excluding GST) (A)				
	GST@.....% (B)				
	Grand Total(C)=(A)+(B)				

Amount in Words:-.....