



PRICE BID

ELECTRICAL INSTALLATION AND AIR CONDITIONING WORK AT RACPC-II , PATNA

Part- A Electrical Installation Work

Schedule of Quantities for Electrical Installation Work

Sl. No.	Description	Quantity	Unit	Unit Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
01	L.T. Cable				
	Providing & laying following Armoured,PVC insulated & PVC sheathed cable or XLPE of 1.1 KV grade with aluminium conductor of IS : 1554 P-I of approved make in trays/duct as per IS : 1255 including providing required cable tray, making necessary connection, testing etc. as required of size and as per recommended makes enclosed.				
a)	3.5 core, 240 Sqmm.	80	Mtr.		
	Make : Poly cab / Havells / KEI				
02	L.T. Cable Termination				
	Supplying and making one end termination with heavy duty single compression brass gland SIBG type, aluminium lugs duly crimped with crimping tool, PVC tape etc for following size of Armoured PVC insulated & PVC sheathed / XLPE aluminium conductor cable of 1100 volt grade as required of size.				
a)	3.5 Core, 240. Sqmm.	10	Set		
Sl. No.	Description	Quantity	Unit	Unit Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
03	MAIN INCOMING SOURCE PANEL				
	Supply, installation, testing and commissioning of switchboard with following switchgear. The cubicle panel shall be compartmentalised and fabricated with 14 SWG M.S. sheet and suitable size frame work.				
	The panel shall be self standing on base channel frame work and mounted over floor. The panel shall be totally enclosed,dust and vermin proof. The finished paint shall be powder coated light dove grey (RAIL 7032).				
	The doors shall have neoprene gasket and shall have copper braid connection for effective earthing				
	The design of panel shall be such as to offer maximum safety and ease of maintenance. The busbar shall be of Copper(CU). The support for the busbar shall be non hygroscopic non inflammable epoxy cast resin insulators. The minimum clearance between live parts and earth shall be at least 25mm.				
	The cable termination shall be from bottom for incomer and for outgoing feeders. The detachable gland plates of adequate thickness shall be provided for cable terminations. Feeder nameplates shall be provided.				
	The panel shall have the following switchgear including interconnection with copper wire between busbar and switchgears.				
	INCOMER:				
	1 no. 400A, 415V, 4P, 50 KA MCCB with rotary drive kit including door interlock, defeat , padlocking facility	1	PC		

	1 no. 160A, 415V, 4P, 35 KA MCCB with rotary drive kit including door interlock, defeat , padlocking facility	2	PC		
	1 no.250A, 415V, 4P, 35 KA MCCB with rotary drive kit including door interlock, defeat , padlocking facility	1	PC		
	MCCB Make : Schneider / L&T/Siemens/GE				
	1 set of 0-100A Amtmeter, accuracy class 1.0 with Amtmeter Selector Switch .	1	SET		
	Make : AE / Kaycee				
	1 set 100/5A current transformer,class 1.0				
	Make : AE / Kappa				
	1 set of 0-500V Voltmeter, accuracy class 1.5 with Voltmeter Selector Switch with 3 nos. protection fuses.	1	SET		
	Make : AE / Kaycee / GE				
	250 AMP 4 Pole-On Load Changeover Swicth	1	pc		
	Make Siemens/L&T/Havells				
	OUTGOING:				
	63A, 415V, 10 KA TP&N, MCCB with rotary drive kit including door interlock, defeat , padlocking facility	5	pc		
	Make : Siemens / L&T/Havells				
		1	1 Set		
Sl. No.	Description	Quantity	Unit	Unit Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
Sl. No. 03	Earthing (Power)				
a	Supply & Fixing 25 mm PVC Pipe with 8 SWG 2no, Copper wire for Earthing.	Mtr.	100		
b	Supplying & laying / fixing of 40mm. x 6mm. G.I taps from earthing station to earth bus-bar / testing link including excavation of earth & refilling, G.I fixing, jointing accessories etc. as required.	Mtr.	100		
c	Providing earthing station at loca-tion as called for including provid-ing 600 mm x 600 mm x 6 mm thick tinned GI electrode 2 Nos 50 x 6 mm GI strip up to ground level 20mm dia medium class GI pipe (India Tube Company make or approved equal) CI funnel with 20 gauge GI wire mesh, masonry chamber with concrete base, CI man-hole cover with frame (300mm x 300mm) and bitumastic paint and packing the fixture of charcoal and common salt around plate electrode complete as per I.S. (Minimum depth shall be 3.0 M) (for Body earthing) - The resistance of the earth system shall not exceed 1 ohm - This Earthing will be used for Body earthing of all Equioment	Nos.	2		
d	Providing earthing station at loca-tion as called for including provid-ing 600 mm x 600 mm x 3 mm thick tinned copper electrode 2 Nos 50 x 6 mm copper strip up to ground level 20mm dia medium class GI pipe (India Tube Company make or approved equal) CI funnel with 20 gauge GI wire mesh, masonry chamber with concrete base, CI man-hole cover with frame (300mm x 300mm) and bitumastic paint and packing the fixture of charcoal and common salt around plate electrode complete as per I.S. (Minimum depth shall be 3.0 M) (One for equipment earthing & technical earthing, another for Neutral earthing) - The resistance of the earth system shall not exceed 1 ohm - This Earthing will be used for Electronic Earthing	Nos.	2		
e	Providing Earth distribution Box (Bus Bar Station) to be installed in the branch near DB's and UPS, comprising of a bus bar of 3x25x180mm Cu strip .	Nos.	4		

Sr. No.	Description	Unit	Qty.	Unit Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
A	DISTRIBUTION BOARDS.				
	Supply and installation of following metallic double door MCB Distribution Board with MCB having breaking capacity of 10 KA (minimum) complete with busbar, 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				
1	MAIN AIRCONDITIONER DB - Distribution Board with provision of fixing MCCB as comer, 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:- 160 A 4 Pole MCCB (36kA) as incomer and 6 Nos. 25A TP MCB's and 12 nos. 25 Amps SP MCBs at outgoing. (MCCB/MCB Make - Havells/Legrand/L&T/MDS)	Nos.	2		
2	DG supported Air Conditioner DB SPN MCB DB complete with all respects and the following MCBs. INCOMING : 1 No. 240V 63A(10KA) DP MCB OUTGOING : 4 Nos. 240V 25 (10 KA) SP MCB	Nos.	1		
3	12-WAY TPN MCB DB with 40 A TP & N MCB as main (Lighting)16 A SPMCB-12 Nos., 10 AMPs SP MCB-24 Nos, Neutral Bar-01 set	Nos.	2		
4	12-WAY TPN MCB DB with 40 A TP&N MCB as main (RAW POWER)16 A SPMCB-12 Nos., 10 AMPs SP MCB-24 Nos, Neutral Bar-01 set	Nos.	4		
5	63A, 415V, 10 KA TP&N, MCCB with rotary drive kit including door interlock, defeat , padlocking facility in a Metal Enclosure as UPS INCOMING	Nos.	2		
6	Supplying, installation and Termination of UPS out-going power distribution system with 16 way SPN DB comprising of 16 x 16 AMPs SP MCB and 32 AMPs DP RCBO 300 MA as main (MDS/Havells make) IP-42 protection with double door.	Nos.	5		
Sr. No.	Description	Unit	Qty.	Unit Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
	CABLES AND CABLE END TERMINATION				
B	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) . Use MS Conduit for overhead above the fall ceiling				
1	Supply & Fixing 4 C X 70 Sq.mm Al. Ar. Cable From panel to MAIN AC DB	Mtr	100		
2	Supply & Fixing 3.5 C X 35 Sqmm Al. Ar. Cable From panel to Lighting DB	Mtr	100		
3	Supply & Fixing 3.5 C X 35 Sqmm Al. Ar. Cable From panel to Raw Power DB	Mtr	100		
5	Supply & Fixing 4.0 Nos. Single 25 Sqmm Cu. PVC Insulated Flexible wire in PVC Conduit / MS Conduit for overhead above fall ceiling (from panel to UPS INCOMING ENCLOSURE)	Mtr	150		
6	Supply & Fixing 3.0 Nos. single 25 Sqmm Cu. PVC Insulated wire in PVC Conduit (from UPS to UPS DB) - Use MS conduit for overhead above fall ceiling cable laying	Mtr	60		
7	Supply & Fixing Cable End Termination.				
a	3.5 C X 70 Sqmm Al. Ar.	Set	72		
c	3.5 C X 35 Sqmm Al. Ar.	Set	40		
d	1.0 C Copper Flexible	set	36		

Sr. No.	Description	Unit	Qty.	Unit Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
C	WIRING				
1	Wiring for Light Point with 20 mm PVC pipe with 2x1.5 Sqmm wire and 1x1.5 Sqmm green earth wire for light Points as reqd. complete with modular switch with front plate - Use MS conduit for overhead above fall ceiling cable laying				
a	One light controlled by 6A switch	Nos.	44		
b	Two light controlled by 6A switch	Nos.	40		
c	Three light controlled by 6A switch	Nos.	53		
d	Exhaust fan point with 6 A sw complete with modular switch plate & M.S conceal box & 3 pin ceiling rose	Nos.	8		
e	Ceiling fan point with supply and fixing of Electronic Regulator (2 module step, 120 watt rating) N	Nos.	6		
f	Wall Fan point complete with modular switch plate & M.S conceal box & 3 pin ceiling rose	Nos.	60		
g	Call bell point with push type switch, modular plate & M.S. conceal box with buzzer or ding dong type bell	Nos.	9		
2	RAW POINT WIRING -The wiring shall pass through MS pipe of 25 mm dia with ISI mark to conceal on wall below false ceiling mending good all the damage				
a	Supply, laying of circuit line 2x2.5 sq.mm +1 x 1.5 Sq.mm in in 20 mm concealed PVC conduits from MCB type RAW POWER DB to 16/20 amp plug points (2 nos. 1620 Amps plugs to be connected from one circuit line) -Use MS conduit for overhead above fall ceiling.	Mts.	1000		
b	Supply and Fixing of 2 nos 16/20A 5 pin modular type international sockets with single 16/20A Modular type controlling switch for raw power socket outlet for each work station.	Nos.	70		
c	Wiring for Power Point 6/10 A Switch & Socket with 25mm concealed PVC conduit with 2x2.5 Sqmm wire and 1x1.5 Sqmm green earth wire for Power Points as reqd. This line has to be drawn from the power DB. (02 nos. plugs to be connected with one circuit)-Use MS conduit for overhead above fall ceiling.	Mtr	500		
d	Modular type 6/16 A switch. with 16A 5 pin socket . Mounted on suitable front plate	Nos.	50		
Sr. No.	Description	Unit	Qty.	Unit Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
3	UPS WIRING				
a	Wiring for Power Point 6/16 A Switch & Socket with 25mm PVC pipe with 2x2.5 Sqmm wire and 1x1.5 Sqmm green earth wire through M.S. conduits 20 mm dia 16 SWG with ISI mark to lay from UPS MCB DB to plug point board -Use MS conduit for overhead above fall ceiling.	Mtr	1000		
b	Supply and fixing of 4 nos 6/10A 5 pin modular type international sockets with single 16A Modular type controlling switch with indicator on table top for computer/ups socket outlet	Set	60		
c	Do- but 3 x 6/16 , 6 pin socket with three control switch to provide near HUB Rack and line printer to be connected from UPS power.	Set	6		
d	Supplying, installation of UPS incoming 63 Amps industrial socket with 40 Amps SPMCB (2 nos. for out going and 2 nos. for incoming)	Nos.	30		
Sr. No.	Description	Unit	Qty.	Unit Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
D	DATA/ TELEPHONE-LOW VOLTAGE SYSTEM				
1	Supplying, laying and connection of telephone points with 2 pair .51 sq.mm tinned Cu conductor through PVC casing ISI mark from telephone point to Krone DB complete with RJ 11 telephone socket modular type in PVC concealed box.	Nos.	10	360	
2	Do- 10 pair 0.51 sq.mm copper conductor telephone cable in 20 mm dia PVC pipe	Mtr.	300		

3	Supply, fixing and connection of 20 pair KRONE connector DB complete with PVC moulded Telephone DB box with locking system	set	1		
4	Supply & Connecting Telephone Handset.Beetal M51 or C51 black Colour Corded land line phone	set	10		
5	Providing & Laying Wiring for Data points From server to computer Table CAT 6E Cable. (Make : Cat 6e D -Link)	Mtr.	2500		
6	Providing & Fixing modular type RJ - 45 I/O Box Single Outlets in Complete.(RJ45 socket,Patch Panel,)	Nos.	60		
7	Supply of 2 mtr. Long E-CAT 6 PATCH CHORD (Make: D-LINK, AMP, HCL, Legrand, Digisol)	Nos.	60		
7	Providing and laying PVC pipe complete as reqd. for Data/Telephone-Low Voltage System				
a	20 MM	Mtr.	300		
b	25 MM	Mtr.	250		
8	Supply & installation of 9U Rack with power supply arrangement, ventilation fan, mounting racks etc. Complete with all accessories.	Nos.	1		
Sr. No.	Description	Unit	Qty.	Unit Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
E	FIXTURES.				
1	2'-0"x2"-0" Surface LED (Wipro /Crompton Greaves/PHILIPS/GE make)	Nos.	83		
2	Supply and Fixing of 1x36/40 Watts 4' length Slim LED Tube Light (Wipro /Crompton Greaves/PHILIPS/GE make) ,cobe light.	Nos.	100		
4	Supply and Fixing of 1x18 Watts 2' length LED Tube Lights (Wipro /Crompton Greaves/PHILIPS make)	Nos.	7		
5	Supply and Fixing of Recessed mounted Downlighter 15 watts- Model CROM LED15-Cat. No. LCDD-15-CDL-CG make.	Nos.	85		
	Supply and Fixing of ModularSport Light of 100mm size with 9watts Led (Wipro /Crompton Greaves/PHILIPS make)	Nos.	22		
6	9" heavy duty exhaust fan with louvre in toilet / pantry inclusive of hole cutting in the wall and finished with plastering complete	Nos.	8		
7	Wall Hung fan complete 450 mm ,3 pin Metallic Blade ,1400 rpm wall mounted fan with all fitting and mending good all damages (Havells /Orient/bajaj make)	Nos.	50		
8	Ceiling Hung fan complete with all fitting and mending good all damages	Nos.	6		
F	A / C SYSTEM				
1	Suppy & fixing of starter of 240V 25 A with 3 pin plug in recessed MS box suitable for 2 TR Hi wall Split Unit	Nos.	18		
2	Supply and Fixing in 25mm MS conduit with 3x 6 Sqmm Cu. Cable For Single phase A/C Point Complete & reqd.	Mtr	950		
3	Supply and Fixing in 25mm MS conduit with 4 corex 6 Sqmm Copper flexible PVC insulated for three phase A/C Point Complete & reqd.	Mtr	300		
Sr. No.	Description	Unit	Qty.	Unit Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
G	GLOW SIGN BOARD				
a	Supplying, laying of main line with 2 x 2.5 sq. mm + 1 x 1.5 sq. mm through M.S conduit from main panel to glow sign board	Mtr	180		
b	Supplying , fixing of 16 Amps DP MCB at main entrance with Glow sign board timer (24 hours in original housing)	set	3		
c	Supplying , fixing of SBI CEILING LOGO LIGHT (6' x4)' AS PER DRAWING (FRONT)	No.	1		

H	EARTHING (For Room)				
1	Supply & Fixing 25 mm PVC Pipe with 8 SWG 2no, Copper wire for all electial Equipment Earthing.	Mtr.	100		
TOTAL AMOUNT FOR ELECTRICAL WORKS (A) in Rs					
Part- B Air Conditioning Work					
		QTY	UNIT	Unit Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
1	Supply of units				
a.	2.0 TR SPLIT (5 star inverter) - - Make- Daiken, Hitachi carrier,voltas,bluestar.'o' general	3	No		
b.	3.0 TR CASSETTE - Make- Daiken, Hitachi carrier,voltas,bluestar.'o' general	5	No		
c.	2.0 TR CASSETTE - Make- Daiken, Hitachi carrier,voltas,bluestar.'o' general	11	No		
2	ANCILLARY WORK				
2.1	Installation of units				
2.1.2	3 TR CASSETTE	5	Nos		
2.1.3	2.0 TR CASSETTE	11	Nos		
2.1.4	2.0 TR SPLIT	3	Nos		
2.2	Frame Work:				
	Fabrication, supply and installation of paited MS base stand	19	Nos		
2.3	Copper Refrigerant Piping for all Ac TR (beyond 5RMT per AC)	180	Rmt		
2.4	Nitrile Insulation cover for Ac Copper Refrigerant Pipe.	180	Rmt		
2.5	Electrical cabling between indoor and outdoor unit	180	Rmt		
2.6	PVC Drain Piping	320	Rmt		
2.7	Supply & installation of Wall Mounted voltage stabilizers Three Phase 6.0 KVA.(v.gard/Microtec)	5	Nos.		
2.8	Supply & installation of Wall Mounted voltage stabilizers for 2 Tr cassatte AC and split 5.0 KVA.(v.gard/Microtec)	22	Nos.		
TOTAL AMOUNT FOR AIR CONDITIONING WORK (B) in Rs					
GRAND TOTAL (ELECTRICAL WORK A + AIR CONDITIONING WORK B) in Rs					

GST on work contract will be extra as applicable.

Necessary metal platform to be made and M. S. Grill with lock and key to be made for outdoor unit as per Architect's choice. Making of Platform and outdoor unit installation location to be fixed as per requirement. No extra charges to be paid for height or other inconvenience.