



BOQ for Electrical Installation Works and Air Conditioning Works at Extended portion of Centralised Cyber Cell, Patna Main Branch Building

PRICE BID

ANNEXURE-III

SUB HEAD--A

Electrical Installation Works

		QTY	UNIT	RATE (Excluding GST)	AMOUNT (Excluding GST)
1 Sub-main line:-	Wiring in MS conduit of IS specification of Proper size with core PVC insulated stranded copper wire 1.1KV grade FRLS/FR-LSH (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 from Light,Raw power VTPN DB to Raw power DB-1,2,3,4,5 and Light DB-1 and 2 or as per site requirement.	190	RM		
ii)	With 2 nos. 6 Sq.mm + 1 no. 6 Sq.mm. (green colour for earth) PVC insulated copper wire in MS conduit from UPS VTPN DB to UPS DB-1,2,3,4,5 or as per site requirement.	125	RM		
iii)	With 2 nos. 6 Sq.mm + 1 no. 6 Sq.mm. (green colour for earth) PVC insulated copper wire in MS conduit for 1.5Tr & 2.0 Tr Cassette ACs or as per site requirement.	195	RM		
2	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 : 2 nos 16/20A 5 pin modular type international sockets with single 16/20A Modular type controlling switch. (Legrands / MK/ABB/Havells 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	57	No.s		
3	Computer Socket Outlet: 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 4 nos 6/10A 5 pin modular type international sockets with single 16A Modular type controlling switch with indicator on table top. (Legrands / MK/ABB/Havells 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	61	No.s		
4	POWER SOCKET OUTLET AND ITS WIRING 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.	21	No.		

5	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 etc. 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/Legrand's/Havell's/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	99	No.s	
iii)	Wall fan point with 3 pin socket	21	No.s	
iv)	Glow sign board wiring	1	No.	
v)	6/10 A modular socket & switch at same board	9	No.s	
SUPPLY AND INSTALLATION OF ELECTRICAL FITTINGS				
6	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	23	No.s	
7	Supply ,Installation ,testing & Commissioning of 15W LED Downlighter recessed mounted of make complete with all accessories Make: Philips/Wipro/GE/Crompton Greaves/Syska/Havells	60	No.s	
8	Supplying and fixing recess mounted 3/5 watt COB LED complete with all accessories and replaceable electronic driver, directly on false ceiling including connection with 1.5 sq.mm FR PVC insulated copper conductor cable and earthing the body etc. as required.	16	No.s	
9	Supply installation testing and commissioning of 18W LED T5 Batten with glare free light fitting complete with all respect. Make: Philips/Wipro/GE/Crompton Greaves/Syska/Havells	4	No.s	
10	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	17	No.s	
11	MAIN ELECTRICAL PANEL			
	Supply & fixing of indoor cubicle extensible type fully compartmentalized Distribution panel suitable for operation on 415 volts 50 Hz 3 phase 4 wire AC distribution system, suitable for 35 KA short circuit rating, conforming to IP:42 degree of protection, made up of 1.6 mm thick CRCA sheet, wall/ floor mounted, dust & vermin proof enclosure, having hinged and earthed cover on front, having neoprene gasket/ katings stuck to the doors, duly painted with 65- 75 microns thick dry epoxy powder paint after 7 tank process of degreasing, derusting etc comprising of the following switchgears complete with all interconnections with suitable size of copper strip/hard drawn PVC insulated copper cable i/c keeping the panel in position, minor civil works as necessary, painting, sign writing etc complete as required (as per specifications of Panel attached) TEST REPORT: FOLLOWING REPORTS HAVE TO BE PROVIDED BY THE VENDOR AT THE TIME OF SUBMISSION OF BILL: 1) FINAL AS BUILT PLAN IN THREE COPIES DRAWN TO THE SCALE, PRINTED IN CASE OF CAD AND BLUE PRINT, IN CASE OF MANUAL DRAWING. 2) QUALITY REPORT INDICATING THE ITEMS USED WITH THEIR MAKES. 3) PANEL MANUFACTURER'S CPRI TEST REPORT. 4) ROUTINE TEST REPORT OF PANEL FOR IR & HV TEST.	1.00	set	
	INCOMING:			
	a) 200 amp 4 pole MCCB not less than 50 KA having Thermo magnetic type release for a range of 80% to 100% for Overload and short circuit complete with rotary handle etc as reqd.: 2 no (One in main panel)			
	WIRING			
	Wiring from 200A MCCB to bus bar by copper strip 32X 5MM			
	METERING:			
	a) Multifunctional meter displaying A/V/PF & Hz along with 3 nos Suitable size CTs 200/5A & 2-6A MCB protection etc as reqd:			
	c) LED type phase indicating lamp in phase distinguishing colors with 2-6A MCB : 3nos			
	BUS BAR:			
	Main Bus Bar: 4 strip (32X5 mm) 250 amp bus bar made of electrical grade copper strip enclosed in separate bus bar chamber, provided with DMC/ SMC bus bar support duly insulated with heat shrinkable sleeves in distinct colours as reqd: 1 set			
	OUTGOINGS:			
	125A amp 25 KA C series FP MCCB: 2 nos.(For UPS Panel)			
	100 amp 18 KA C series FP MCCB: 2 nos.(For Light & Raw power VTPN DB)			

	100 amp 18 KA C series FP MCCB: (For spare)				
	Wiring from bus bar to 125A MCCB by 4X25 sq. mm copper wire				
	Wiring from bus bar to 100A MCCB by 4X25 sq. mm copper wire				
12	UPS PANEL				
	SITC of indoor cubicle type UPS panel suitable for operation on 415 volts 50 Hz, 3 phase 4 wire AC distribution system, AC supply, suitable for 35 KA short circuit rating, confirming to IP:42 degree of protection, made up of 1.6 mm thick CRCA sheet, wall/ floor mounted, dust & vermin proof enclosure, having hinged and earthed cover on front, having neoprene gasket/ katings stuck to the doors, duly painted with 65- 75 microns thick dry epoxy powder paint after 7 tank process of degreasing, derusting etc comprising of the following switchgears complete with all interconnections with suitable size of copper strip/hard drawn PVC insulated copper cable i/c keeping the panel in position, minor civil works as necessary, painting, sign writing etc complete as required.	1.00	Set		
	INCOMER				
	a) 125 amp 4 pole MCCB not less than 25 KA having Thermo magnetic type release for a range of 80% to 100% for Overload and short circuit complete with rotary handle etc as reqd.: 1 nos				
	WIRING				
	Wiring from MCCB to bus bar by 4X25 sq. mm copper wire.				
	METERING:				
	a) Multifunctional meter displaying A/V/PF & Hz along with 3 nos Suitable size CTS 125/5A & 2-6A MCB -6 nos. protection etc as reqd:				
	b) LED type phase indicating lamp in phase distinguishing colors with 2-6A MCB : 6nos				
	BUS BAR:				
	Main Bus Bar: 4 strip (25X5 mm) 200 amp bus bar made of electrical grade copper strip enclosed in separate bus bar chamber, provided with DMC/ SMC bus bar support duly insulated with heat shrinkable sleeves in distinct colours as reqd: 1 set				
	OUT PUT(For panel charging)				
	a) 2 nos. 100 amp 4 pole MCCB not less than 18 KA having Thermo magnetic type release for a range of 80% to 100% for Overload and short circuit complete with rotary handle etc as reqd.: 2 no				
	Wiring from bus bar to MCCB by 4X25 sq. mm copper wire.				
	INCOMER(UPS OUTPUT)				
	a) 2 nos. 100 amp 4 pole MCCB not less than 18 KA having Thermo magnetic type release for a range of 80% to 100% for Overload and short circuit complete with rotary handle etc as reqd.: 1 no				
	BUS BAR:				
	Main Bus Bar: 2 nos. 4 strip (25X3 mm) 100 amp bus bar made of electrical grade copper strip enclosed in separate bus bar chamber, provided with DMC/ SMC bus bar support duly insulated with heat shrinkable sleeves in distinct colours as reqd: 1 set				
13	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/ Havells/L&T/SIEMENS/ABB/Schneider Electric/Hager or equivalent)				
	i) Computer(UPS) DB , 16Way SPN double door with 40A (30mA-100 mA sensitivity) DP RCCB as incomer & 13 nos 10A SP MCB as outgoing.	5	No.s		
	ii) Raw Power DB , 16way SPN double door with 40A (30mA-100 mA sensitivity)DP RCCB as incomer & 13 nos 10A SP MCB as outgoing.	5	No.s		
	iii) Light DB , 12 way SPN double door with 40A DP MCB as incomer & 8 nos 10A SP MCB as outgoing.	2	No.s		
	vi) Box with 25 A DP RCCB (30mA to 100 mA), AC Socket & Top for AC complete in all respect	6	No.s		
	vii) Light and Raw power 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 (18kA) as incomer and ,12 Nos. 40 A SP MCB's, at outgoing of approved make(for RPDB/LDB/BM AC/Server AC power etc)	1	Set		
	viii) UPS 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:- 100 A 4 Pole MCCB (18kA) as incomer and ,9 Nos. 40 A DP MCB's, at outgoing of approved make	1	Set		
	ix) AC 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 (25kA) as incomer and ,12 Nos. 32 A SP MCB's, at outgoing of approved make(for ACs)	1	Set		

14	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 (From panel to Light Raw power VTPN DB)	30	RM	
ii)	With 3.5 core x 35 sq. mm cable (From Main electrical panel main branch ground floor to AC VTPN DB)	55	RM	
iii)	With 3.5 core x 95 sq. mm cable (From main electrical panel main branch ground floor to floor panel)	65	RM	
iv)	With 3.5 core x 50 sq. mm cable (From floor panel to Ups panel)	15	RM	
v)	Supply and laying of 4X16 sq mm + 1X6sq mm earth copper FRLS wire connected from Ups panel to online UPS and from online UPS to Ups panel MCCB	20	Mtr	
15	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 – 50 mm Copper bonded low carbon steel Electrode WITH 250 microns copper bonded b) two bag (50 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.	4	No.s	
16	Supply and laying of 10 SWG Cu cotton coated wire in 20mm dia rigid PVC conduit for earthing from the earth pit to the Main panel/UPS.	250	Mtr.	
		Total Sub Head-A (in Rs)		
Sub Head B- LAN CABLING WORK & INTERCOM WORK				
1	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)	4100	Mtr	
2	Supply and fixing of information outlet box suitable for 1 nos,RJ 45 terminals including mounting box(PVC) & top cover , to be fixed in a concealed manner in partition by necessary bolts & nuts or as directed at site,(Make: D-Link, AMP, Legrand ,HCL,DIGISOL)	116	No.s	
3	Supply of 2 mtr. Long E-CAT 6 PATCH CHORD (Make: D-LINK, AMP, HCL, Legrand, Digisol)	116	No.s	
4	INTERCOM			
a	Supply & fixing of approved make including square face plate and M.S. housing box with RJ-11 socket etc complete in all respect conduits as required.(Each Section Head work station have 2 no. of RJ 11 Socket) with Supplying and drawing 4 pair 0.5 sqmm FR PVC insulated annealed copper conductor, unarmored telephone cable in PVC conduit as required.	110.00	Each	
b	Supply & fixing of 100pairs MDF tag block with crone termination	2.00	Each	
5	Supply and laying of 10 SWG Cu wire in 20mm dia rigid MS conduit for earthing with 50sq. mm and 35 sq mm alluminium armoured cable	150	Mtr.	
		Total Sub Head-B (in Rs)		
Sub Head C- Air Conditioning Work				
1	Supply of 5-star rated , inverter technology 2.0 Tr, 4 way Ceiling mounted "Cassette" Air- Conditioner comprising of Indoor & Outdoor units with eco friendly refrigerant. Outdoor unit will comprise of inverter type Rotary/Scroll compressor, condenser coil & fan, Cordless remote controller etc. MAKE-- LG/HITACHI/CARRIER/VOLTAS/BLUESTAR/DAIKIN/SAMSUNG	6	No	
2	Supply installation testing and commissioning of Copper Refrigerant Pipes of 9.5 mm dia & 15.88 mm dia with standard nitrile insulation between Indoor & Out door units with breaking of wall wherever required for 2.0 Tr Cassette Air conditioners complete with all necessaries and making good all the damages complete in all respect.	120	Mtr.	
3	Supply and installation of Drain Piping (UPVC) Dia 25 mm along with socket , bend, tee etc Through holes as made and including hanging in the ceiling by G.L rod	40	Mtr.	
4	Supply installation testing and commissioning of 4X2.5 sq. mm SQ. MM Copper conductor multi core wire for connecting Indoor & Outdoor Unit through holes made as above for CassetteInverter A.C.	80	Mtr.	
5	Supply, fixing and installation of M.S. outdoor stand for Cassettee AC outdoor units.(1.5 Tr/2.0 Tr) complete in all respect	2	Nos	
6	Installation testing and commissioning of 1.5 Tr/2.0 Tr cassettee AC unit including hanging in the ceiling by GI rod, fastener etc as required complete in all respect.	2	nos	

	TOTAL OF AIR CONDITIONING WORKS (Rs.)	Total Sub Head-C (in Rs)	
	SUB HEAD-A Electrical Installation Works		
	SUB HEAD-B- LAN CABLING WORK & INTERCOM WORK		
	SUB HEAD- C- Air Conditioning Work		
	GRAND TOTAL SUB HEAD (A+B+C)		
	GST on work contract will be extra as applicable.		