SBI INFRA MANAGEMENT SOLUTIONS PVT LTD (SBIIMS) (WHOLLY OWNED SUBSIDIARY OF SBI) CIRCLE OFFICE, PATNA SCHEDULE OF WORKS: ELECTRICAL WORKS PROJECT: BARHARWA BRANCH UNDER RBO: PAKUR, AO DEOGHAR DESCRIPTION NO. UNIT QTY ELECTRICAL SUPPLY, LAYING, LUGGING, DRESSING, GLANDING, FINISHING, TESTING AND COMMISSIONING OF POWER CABLE: Following 1.1KV grade fire resistant A2XFY XLPE armored aluminium conductor cable with one no. <u>10 SWG GI wire</u>, laying of the cable by making 500MMX800MM cable trench with bricks and sand protection, partly through 40MM GI Pipe and partly on wall/column including supply and fixing with 300mm apart MS clamps/galvanized bar saddles and 1 double compression type **brass** cable gland <u>Dowel make</u> along with rubber rings for dust and moisture proof entry of the cable and finishing the ends by crimping method. It will be contractors responsibility to make the necessary arrangements for obtaining electrical connection for the bank,i.e liasioning with electricity board. Make (NICCO/RR/POLYCAB/UNIVERSAL/MESCAB) 3.5CX95 SQMM cable Main incoming cable Mtr. 90 1.1 MAIN INCOMING SOURCE PANEL (MISP) : Supply, installation, testing and commissioning of main incoming (MIP) Panel suitable for wall /floo mounted indoor type, air insulated, totally enclosed vermin-proof (IP 42), 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 compartmen. The Panel shall be complete with switches 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. Name plate of Panels Danger Board, incoming and outgoing feeders with Ampere rating of switches are to be fixed up on front door above or below the respective switches. Approval o Manufacturer's drawings from E-I-C. The Panel consists of the following INCOMING : No. : 415V, 160A 4P MCCB (36 KA). No. : 415V, 200A 4P On-Load Changeover Switch SET 1 No. : Digital Multi Function Meter (MFM) for Current, Voltage, Frequency, Power. Nos.: LED Phase indicating lamps. Nos.: Suitable CTS(200/5) PVC sleeved TPN Tinned Copper Busbar 30mm x 6mm for phases and neutral. G.I. EARTH BUSBAR 25mm x 3mm covering the total length of panel. OUTGOING Termination I: (To be connected with C.O.) 6 Nos. 32-63A (10 KA) DP MCB for UPS supply, BM AC, System AC & LDBs etc. 1 No. 63A (25KA) 4P MCCB for ATM/E-LOBBY no. 63A (10 KA) TPN MCB. Termination-II: (Not to be connected with C.O.) Nos. 63A (25KA) 4P MCCB for ACDB UPS INCOMING DB: Supply of all required materials and fixing of input UPS box (Company made) having provision 3.1 No. 1 of the following arrangement complete with all respects per the direction of engineer in charge No. 63A (10KA) DP MCB(or 2 No. 4 Pole 40A 10KA MCB if UPS is 3 Phase) UPS OUTGOING DB: Supply of all required materials and fixing of output UPS box (Company made) having provision of the following arrangement complete with all respects per the direction of engineer in charge Incoming: 1 no. 63 A DP MCB_ 3.2 No 1 Outgoing: 3 No. 40A (10KA) DP MCB ACDB / RAW POWER DB/ LIGHT DB / COMPUTER DB 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 4 original finish painting etc. as required. Name plate & number of DBs are to be fixed up on fron door of DBs for their identification. (MCB -C SERIES) DB shall be of the same make of mcb (a) ACDB: Consumer unit TPN MCB DB complete with busbar and the following MCBs. INCOMING : 1 No. 415V 63A 10KA FP MCB (a) No. 1 OUTGOING Nos. 240V 32A 10 KA SP MCB, 3 Nos. 240V 25A 10 KA SP MCB COMPUTER DISTRIBUTION BOARD (CDB) : Supply and installation of following metallic double doo ICB distribution board with RCBO of 100mA sensitivity. SPN 8 way MCB DB complete with bus ba No 3 (b) and the following RCBO Incoming: 1 no. 240V 40A DP RCBO, Outgoing: 8 no. 240V 10A SP MCB (C) LDB / RPDB: Consumer unit TPN MCB DB complete with busbar and the following MCBs. INCOMING : 1 No. 240V 40A 10KA 4P MCB 3 (c) No. OUTGOING 10 Nos. 240V 10A to 16A 10 KA SP MCB

Sheet1

	Sheet1			
э	SUBMAIN WIRING Supply & laying of submain wiring with following sizes 1100 V grade, single core,FRLS PVC insulated multi stranded copper conductor wire (IS:694) in pre - laid (as per ISI) M.S. conduit including interconnection, painting etc. as required to be completed in all respect.			
	With 4 nos. 10 Sq.mm + 1 nos. 2.5 Sq.mm. (green colour for earth) PVC insulated copper wire from Main panel to ACDBs.	Mtr	30	
	With 2 nos. 6 Sq.mm + 1 no. 2.5 Sq.mm. (green colour for earth) PVC insulated copper wire from Main panel to UPS Incoming DB/UPS Outgoing to UPS O/G DB/LDB/RPDB/CDB	Mtr	145	
	With 4 nos. 6 Sq.mm + 1 no. 2.5 Sq.mm. (green colour for earth) PVC insulated copper wire from Main panel to UPS Incoming DB/UPS (if UPS is three phase)/ RPDB/LDB	Mtr	30	
6	 COMPUTER SOCKET OUTLET WITH WIRING Computer socket outlet cluster point including supply and fixing of modular type socket outlet clusters components and its wiring from CDB, complete in all respect as detailed below. Each computer socket outlet cluster comprising the following Nos. 6/10A 5 pin modular type International sockets No. 16A modular type common controlling switch with indicator on table top with 2 Nos. 2.5 Sq.mm. + 1 x 1.5 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 CDB to Computer point. 	No.	14	
7	 COMPUTER SOCKET OUTLET AND ITS WIRING Computer socket outlet cluster point including supply and fixing of modular type socket outlet clusters components complete in all respect as detailed below. Each computer socket outlet cluster comprising the following Nos. 6/10A 5 pin modular type International sockets No. 16A modular type common controlling switch with indicator on table top with 2 Nos. 2.5 Sq.mm. + 1 x 1.5 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 CDB to Computer point. 	No.	3	
8	 COMPUTER SOCKET OUTLET AND ITS WIRING Computer socket outlet cluster point including supply and fixing of modular type socket outlet clusters components complete in all respect as detailed below. Each computer socket outlet cluster comprising the following Nos. 6/10A 5 pin modular type International sockets No. 16A modular type common controlling switch with indicator on table top with 2 Nos. 2.5 Sq.mm. + 1 x 1.5 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 CDB to Computer point. 	No.	3	
9	C) RAW 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. Each computer socket outlet cluster comprising the following 2 Nos. 16/20A 5 pin modular type International sockets. 1 No. 16/20A modular type controlling switch with 2 Nos. 2.5 Sq.mm. + 1 x 1.5 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 RPDB to Raw Power Outlet.	No.	18	
10	SITC of North-west make AC power unit having 20A, single pole rating socket, MCB with plug, plug top & starter in sheet steel enclosure at proposed AC locations at 4.5 ft from the floor. The work shall also include Wiring from DB for AC pwer point with 2X4 sq. mm 1100V grade FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No. 2.5 sq. mm 1100V FRLS PVC insulated copper conductor single core cable for loop earthing as required	No.	12	
11	(a). Copper plate Earthing: Supply of material and installation of earth electrode made out of 50mm dia class B G.I. pipe of 2.5 metre long with arrangements for fitting./termination of copper wire with G.I. nut bolts, washers and 600x600x3 mm size copper plate including cost of charcoal salt and good quality soil, water pouring arrangements, brick masonary enclosure on top with removable CI cover and complete with labour for excavation of pit conforming of IS: 3043/1987 and as per direction of Engineer-in-charge.	No.	1	
12	 (b). SITC of OBO Betterman/JK/JEF eco safe/ make earthing system - * - UL Listed Earth Electrode - <u>Copper bonded</u> low carbon steel electrode, coating 250 microns Tested as per IEC 62561-2 Meets the requirement of IS 3043 and IEC 60364-5-54 Tested for short circuit withstanding capacity High tensile strength In one set it should include: a) One nos of Earthing rod-Type 17 3000 CCER, Length -<u>3000 mm</u> Outer Dia - 17.2 mm Copper bonded low carbon steel Electrode WITH 250 microns copper bonded b) One bag (25 KG) Earth Enhancement Compound confirming to IEC 62561-7 C) One nos of universal clamp. The work shall also include required masonry work, CI cover plate & Earthing name plate. The vendor shall also submit the earth test report with required values. Pics of earthing to be shown. 	No.	1	
13	Supply and laying of 8 SWG Cu cotton coated wire in 20mm dia rigid PVC conduit for earthing From the existing earth pit to the Main panel/UPS	Mtr.	120	
	SITC of Earth distribution Box (Bus Bar Station) to be installed in the branch near Main Panel, comprising of a bus bar of 3x25x180mm cu strip .	SET	1	

Sheet1

	Sheet1				
15	POINT WIRING Point wiring with 1100 V grade 3 nos. single core 1.5 sq.mm. and 1 for common earth by looping method) PVC insulated stranded copper conductor wire (IS:694) through suitable size M.S. conduit (ISI marked embossed on conduit surface) by thred cutting, complete with junction box, circular box, elbows, bends, couplers and other accessories on surface above false ceiling or concealed by chase cutting on wall from light & fan switch board to light, fan & 6A socket outlet on the same switch board or separately mounted switch board. The work includes supply and fixing of all materials such as modular type 6A switch for light and fan point, 6A 2/3 pin shuttered socket outlet with switch in each switch board, 3 plate ceiling rose / angle or batten holder etc. as required. The point wiring also includes circuit wiring with 1100 V grade 2 nos. single core 2.5 sq.mm. + 1 no. single core 1.5 sq.mm. PVC insulated stranded copper conductor cable (IS:694) through suitable size M.S. conduit as described above from DB to switch board, interconnection, mending good all damages to original finish, painting etc. 1 Light control by 1 switch 2 Light control by 1 switch Glow sign board wiring Ups light points from emergency light DB(long points) Exhaust fan point Ceiling fan point with supply and fixing of Electronic Regulator (2 module step, 120 watt rating)	No. No. No. No. No. No.	16 12 8 1 8 5 6		
	1x16A 2/3 pin modular socket with switch on separate switch board outside the Cash Room complete with wiring Suitchle Tee to be provided for supply to Cash Room (PECORD ROOM	No.	4		
	with wiring. Suitable Top to be provided for supply to Cash Room. /RECORD ROOM Wall fan point	No.	24		
	3 pin 6/10A modular socket with switch in each board	No.	6		
16	Supply and fixing of ding-dong calling bell with complete wiring in BM's Chamber as per direction of E- I-C	No.	1		
17	MAIN TPN SFU: Supply, installation, testing and commissioning (SITC) of following TPN SFU with HRC fuses in sheet steel enclosure with cable end-box on MS Angle Frame/ MS Legs/ wall with interconnection, painting and finishing.				
	200 A TPN SFU with HRC fuses	No.	1		
18	PART B-SUPPLY AND FITTING OF ELECTRICAL FITTINGS Supply & Fixing of 36W-2'x2' LED Panel light recessed/ surface mounted of Syska / Phillips / Wipro / CG make complete with all accessories. Syska cat no. SSK-PAB-6060-B of lumens >3000.	No.	15		
19	Supply & fixing of 18W LED T5 Batten fitting Syska / Phillips / Wipro / CG complete with all respect.	No.	8		
20	Supply & fixing of 25W LED Street Light with suitable mounting pipe & CFL Lamp etc. of Syska / Phillips / Wipro / CG /Bajaj complete in all respect	No.	2		
21	Supply & fixing of 9W LED bulb Syska / Phillips / Wipro / CG / Bajaj in UPS Toilets complete with all respect.	No.	12		
22	Supply & fixing of wall fan complete with all respect. (Make: Polar, Orient, CG, Havells, Usha,)	No.	18		
	SITC of 1400MM ceiling fan Crompton/,bajaj/orient White.	No.	4		
24	SITC of 9" dia 230V,1400 rpm exhaust fan as in toilets, ups room, toilets etc. (crompton/bajaj/alstom/almonard)	No.	5		
25	SITC of LED 15W light & fixture recessed type with all interconnection and fixing arrangements as required.(philips/Bajaj/GE/crompton/Havells)(lumens>1200,watt<15)	No.	28		
26	Double pole MCB DB in sheet steel enclosure with Incoming: 1 no. 25A DP ELCB, Outgoing: 2 no. 10A SPN MCB complete with interconnection, timer(QT-31) & contactor (2P 25A) for glow sign board and Street Light of branch & elobby (L&T/ABB/SCHNEIDER/legrand)	No	1		
	PART C- LAN CABLING WORK Supplying and installation of switch 24 ports 10/100 BASE-TX ports, (D link) managed as approved by				
27	the Bank. (Make: CISCO)	No.	1		
28	Supply of 2 mtr. Long E-CAT 6 PATCH CHORD (Make: D-LINK, AMP, HCL, Legrand)	No.	20		
29	INTERNET SOCKET WITH DATA CABLE:: SITC of modular RJ-45 internet sockets with suitable mounting box (modular type) including all inter-connections as required with front plate D link or equivalent make approved by the bank connections etc as required all complete job as per the standard specification and direction of the bank for BM, SWO, A/C, FO. Along with supply and wiring of CAT6 DATA cable wiring in recessed surface/ recessed PVC conduit pipe connection etc as required all complete job as per the standard specification and direction of the bank. D link or equivalent		24		
30	Supply & installation of 9U Rack with power supply arrangement, ventilation fan, mounting racks ect. Complete with all accessories.	No.	1		
			тс	DTAL (Rs.)	
	The rate quoted shall be firm and shall include all costs, allowances, Charges, levies, Royalties, Cess,transportation etc. but excluding GST as applicable which will be reimbursed by the Bank as per Government norms prevailing from time to time.	GRAND TOTAL (Excluding GST)			

Sheet1

	NOTE:			
1	The work must be guaranteed for a period of 12 months for its satisfactory performance from the date of completion and all defects cropping up within this period must be rectified at contractor's cost immediately. Contractors must visit the site before submitting their quoatations.			
2	Earthing test report, Meggar test report & test certificates for the cables will be provided to the Electrical Engineer			
3	Measurement sheet for the work done, load calculation sheet, GA drawing for Main panel .THE CONTRACTOR SHOULD SUBMIT THE BUILTUP SLD OF PANEL, SLD OF DIFFERENT DBS TO DIFFERENT SWITCHBOARDS WITH NUMBERING, SLD OF DATARACK TO DIFFERENT I/O POINTS WITH NUMBERING, TELE. KRONE BOX TO DIFFERENT TELE. POINTS WITH NUMBERING, ETC. AFTER EXECUTION OF THE BRANCH. – 2 SETS OFCOPIES – 1 WITH LAMINATION. All work to be carried without hampering banking operations. Dismantling wherever required in scope of vendor.			
4	Work completion certificate including required dismantling work if any will be provided by the branch manager.			
5	All cable and wire terminations must be proper with suitable lugging. There must not be any loose wiring/ cabling. There should not be any jointing in the cables/wires. All wiring accessories should be explosion proof only.			
6	Additional inter-connections within the main panel and TPN SFU has been included in the rate of main panel.			
7	Distance between power and electronic earthings must be at least 3.5 Mtr. In electrical room, ups room, there must be one emergency light point other than raw light point.			
8	All cables except the ones mentioned separately in the estimation have been included in their relevant sections.			
9	Proper load distribution is to be done by the vendor. Load variation over 10% will be unacceptable.			

CONDUIT							
MS	- BEC/ NIC/ AKG/ BHARAT/ JINDAL						
PVC RIGID	- BEC/ AKG/ PRECISION						
GI FLEXIBLE	- BEC/ NIC/ AKG						
GALVANISED STEEL	- BEC/ NIC/ AKG						
PVC CASING CAPING	- PRECISION/ PRESTO-PLUS/ CLASSIC/ MODI						
CABLES & WIRES							
11KV AL	- NICCO/ HAVELLS						
1100V PVC/ XLPE INSULATED	- HAVELLS/ POLYCAB/ FINOLEX/ L&T						
PVC INSULATED CU	- HAVELLS/ POLYCAB/ FINOLEX/ L&T						
TELEPHONE	- FINOLEX/ DELTON/ BONTON						
PROTE	CTIVE DEVICE						
TPN & SPN SFU WITH HRC FUSES	- L&T/ SCHNEIDER/ ABB/ GE						
MCCB/ MCB/ MCB DB/ RCBO/ RCCB/ A	ACB/ ELCB - L&T/ SIEMENS/ ABB/ GE						
CHANGE-OVER-SWITCH	- L&T/ C&S/HPL SOCOMEC						
СТ	- L&T/ KAYCEE/ KUPPA/ SIEMENS						
SWITCH	ES & SOCKETS						
6A/16A SWITCHES, SOCKET, TELE/LAN SOCKET, ELECTRONIC REGULATOR/ DIMMER - NORTH-WEST/ LEGRAND/ L&T/ROMA							
ON/ OFF SELECTOR SWITCHES	- SIEMENS/ L&T/ KAYCEE/ CROMPTON/ GEC						
METAL CLAD SOCKET & PLUG	- SIEMENS/ L&T/ LEGRAND						
BUZZER/CALL BELL	- BAJAJ/ ANCHOR/ SSK						
INDICATING/ MEASURING	- AE/ IMP/ L&T/ GE/ TELEMECANIQUE/ PROK						
KITKAT	- GECO/ ANCHOR						
LIGHT FIXTURES	- PHILIPS/ WIPRO/ CG/ GE/SYSKA/ WIPRO						
LED FIXTURES	LED FIXTURES - PHILIPS/ CG/ GE/SYSKA/ WIPRO						
CAPACITORS	- L&T/ CROMPTON						
APFC PANE	L- L&T/ SCHNEIDER/ SIEMENS						
CEILING/ WALL FAN	CEILING/ WALL FAN - CROMPTON/ BAJAJ/ ORIENT/ POLAR						
CABLE GLAND	CABLE GLAND - HMI/ BRACO/ COMET						
CABLE LUGS	- DOWELL/ 3D						
HRC FUSES/ BASE	HRC FUSES/ BASE - AE/ IMP/ MECO/ ENERCON						
RELAYS	RELAYS - KAPPA/ IMP/ AE/ KALPA						
EXHAUST FAN	EXHAUST FAN - CROMPTON/ BAJAJ/ ORIENT/ POLAR						
BUS BAR TAPPING BOX	BUS BAR TAPPING BOX - SIEMENS/ SCHNEIDER/ ABB						
OTHERS	- ISI/ IS						

RECOMMENDED MANUFACTURERS