

**BOQ OF ELECTRICAL WORKS IN NEW PREMISES AND ON SITE A.T.M. ROOM AT Barkuhi -RBO
Chhindwara, M.P.**

S.No.	Description of Item	Qty	Unit	Rate	Amount
A	Part - A : Electrical Works :				
1	ELECTRICAL WIRING				
	<p>Providing, fixing, testing and commissioning of POINT WIRING of any length for light point/Wall fan point/Exhaust fan point/ Call bell point/ including call bell/ including fan box(if required), 'S' type fan hook etc with 3 X 1.5 Sq.mm(P/N/E) PVC 650V/1100V Grade FRLS WIRE insulated copper conductor single core multi streded wire in 16 SWG(Medium Gauge) stove enamelled rigid steel conduit 20mm/25mm with conduit accessories like bend, junction box etc in concealed/surface manner as per site requirement with suitable Modular Switches/Sockets with plate and Metal/PVC box, Scaddle, angle bracket (if required), 3 plate ceiling rose/bulb holder etc. The floor/roof/wall junction box should be of MS(heavy duty) box of suitable size and covered with Steel finish Steel cover sheet by screw tight and gasket to avoid water/dust insertion. The item includes Circuit wiring from DB to the switch board with 3x2.5 Sq.MM. The above wiring carried out surface or recess in wall/floor/roof should be cutting by cutter/chiesling, replastering, curing, painting with uniform and smooth finish by specialised workman ship and making the surface neat afterwards complete in all respect as per direction of Bank Engg. (EACH Circuit to take NOT MORE than 7-8 points) The conduit/ Flexible conduit/junction box/metal modular box etc must be joined by gland and check nut at both ends. (each circuit to be controlled by one MCB). The colour code of wire are as under: Phase- Red, Neutral- Black, Earth-Green Make of Material for items of BOQ:- (i) Modular Type Switch/socket/step electronic fan regulator, plate, box, TV/telephone, bulb holder/3 pin ceiling rose with all accessories:- Lergand/ Anchor(Roma)/MK/ Crabtree (ii) MS conduit/PVC conduit with all accessories:- BEC/AKG/NIC/Precision (iii) PVC insulated copper wire(FR) 650V/1100 V grade:- Finolex/RR cable/ Havells</p>				
i	Providing and fixing of point wiring with above specifications. One light point controlled by one switch.	50	Nos.		
ii	Providing and fixing of point wiring with same above specifications. Two light points to be controlled by one switch.	15	Nos		
iii	Providing and fixing of point wiring with same above specifications. Three light points to be controlled by one switch.	2	Nos		
iv	Call bell point with ceiling rose/ 6amp. 3 pin socket controlled by one 6 amp. Push Modular switch. With call bell	1	Nos		
v	Providing and fixing of Ceiling fan point controlled as under (i) one 6 amp switch (ii) one no stepped electronic regulator of two module type.	12	Nos.		
vi	Providing and fixing 6 Amps Plug Points with same specs as above and install along with same light switchboard	10	Nos		
vii	6 amp. Modular switch as serial no 1 on seperate Board using 2*2.5 + 1*2.5 Sqmm Copper Conductor FRLS wires from DB to first 6A, 5 Pin modular socket controlled by one 6A switch and looped to the nearest second point with same 2*2.5 + 1*2.5 Sqmm copper conductor wires FRLS insulated 1100V grade (max 3 points per circuit).	6	Nos		
xiii	Same as serial no.1, but wiring for 16 Amp, 6-pin sockets by using 2*4 sq.mm. PVC insulated 1100 V grade copper conductor wire with independent 1* 4.0 sq.mm earth wire from D.B. to first point 1 st socket and 1 st to 2 nd , socket with 2*2.5 sq.mm. and 1*2.5 earth wire including providing and fixing of 16 Amp, 6 –pin socket with 16 Amp. Switch. (Modular type switch/ socket/ plate etc. complete assembly) max 2 points per circuit.	12	Nos		

2	SPECIAL POINTS : (For Computers) . Supply, fixing, testing and commissioning of following Modular type switch socket with cover plate, PVC modular box on Surface / sheet steel box in concealed manner i/c electrical connections and making good all the damages, painting, cleaning the site etc complete including all accessories as per site requirement and as directed. 2 Nos. 6 A Switch + 3 Nos. 6 A, 3 pin Socket (Minimum two and Maximum three points are loop with one circuit as mentioned below)	6	Nos	
3	AC & Power Point (Single Phase) . Supply, Installation, Testing and commissioning of the surface / recess mounting A.C. / GEYSER power point with the followings : Metra Plug and Socket DBs with one Nos 20 Amp SP MCB, 20 Amp plug and socket with complete Enclosur plate and box.- 1 set i/c electrical connections and making good all the damages, painting, cleaning the site etc complete including all accessories as required as per site requirement and as directed by Bank Engineer. OR Modular 32A DP 1 way switch with plate & box 1 set. + 25A & 10A twin socket (Only one point is connected with one circuit as mentioned below)	10	Nos	
4	AC Point (Three Phase) . Supply, Installation, Testing and commissioning of the surface / recess mounting A.C. Cassette power point with the followings : Metal enclose Four way with one Nos 32 Amp FP MCB with complete Enclosur plate and box.- 1 set i/c electrical connections and making good all the damages, painting, cleaning the site etc complete as required as per site requirement and as directed. (Only one point is connected with one circuit as mentioned below) including 5 X 4 Sqmm. Copper multistrend FRLS wire in suitable size of 16 SWG (MMS) steel conduit (For Cassette AC)	2	Nos	
5	CIRCUIT WIRING :(FRLS WIRE) <i>Supply , installation, testing & commissioning of FRLS circuit wiring measured in numbers with suitable size of MS conduit 1.6 mm thick and 25mm dia. The wiring in MS conduit is as per IS code. The average length of wiring around between(25-30) Mtr.</i>			
a	3 X 2.5 sqmm (For UPS Circuit/6 amp Separate Board) in suitable size of 16 SWG (MMS) steel conduit as per IS code.	12	Nos	
b	3 X 4.0 sqmm (For 1 ton, 1.50, 2.00 & 2.00 Cassette AC / Power Circuit) in suitable size of 16 SWG (MMS) steel conduit as per IS code.	8	Nos	
c	5 X 4 Sqmm. Copper multistrend wire in suitable size of 16 SWG (MMS) steel conduit (For 3 TON Cassette AC)	2	Nos	
6	MAIN PANEL AND METER BOARD			
	Designing, fabrication, supply, installation, testing and commissionings of front operated cubicle type compartmentalised, front access, free standing on 75MM "I" MS channel, dust and vermin proof (IP 42 degree protection) panel suitable for use at 415V, 3 phase, 4-wire 50Hz system suitable for fault level of required value symmetrical at 415V fabricated from 2mm thick CRCA MS sheets with hinged, gasketted (Metal based neoprene) locable doors having structural reinforcement including 3mm thick gland plates on top and bottom, lifting hooks, GI earth strip of required size with 2 nos earth terminals, 2 nos 230V AC operated 250mm X 250mm size axial fans for exhaust of heat with On-Off toggle switches including 2 coated primer and 2 power coated paint finish of approved shade over metal surface cleaned and treated with seven tank process complete with interconnections etc as per specifications as required.main panel board of approved make (KRYPTON POWER NTROLS/ NEPTUNE /TRICOLITE/AMPTECH Or should be CPRI Approved, Type of Approval as instructed by the SBI/Architect)as per the following specifications,should be CPRI Approved.			
	All live accessible parts shall be shrouded and all equipment shall be finger touch proof. The busbars insulation shall be withheat shrinkable sleeves SMC/ DMC shrouds and busbar supports shall be used. Padlocking facility shall be provided on all outgoing feeders doors and switch handles shall be locable in OFF position.			

	Suitable arrangement shall be made for termination of multiple incoming cables.			
	All kA values indicated shall be lcs breaking capacity			
	GA drawings shall be got approved by SBI			
a	Fabrication, supply, installation, testing and commissionings of cubicle type floor/wall mounted L.T. panel made out of 2 mm thick CRCA sheet including connection,inter-connection alongwith 4 strip aluminium busbar as per CPWD specifications,(Part IV-Sub-station) etc. as required. (Meter Board)			
	Incoming :-			
	i) 1no. 125 Amp 4P MCCB (25 KA) thermal over current, instantaneous, Short circuit release,Earth fault.			
	ii) _Busbar :-125 Amps 4P aluminum conductor bus bar (BPTM type Heat-shrinkable busbar insulation) supported by DMC / FRP insulators.			
	Space shall be provide for the BSES Meter			
	Meter board shall be lockable.			
	Complete panel described as above.			
b.	Floor panel shall consists of : -			
	INCOMER			
	1no. 125 Amp 4P On Load Change over switch with 1 No. 125 Amps,TPN MCCB (25 KA) with extendeble rotary handle each thermal over current, instantaneous, Short circuit release,Earth fault.			
	BUSBARS			
	125 amps TPN pole busbar chamber of suitable length with copper busbars. All busbars and interconnections shall be of suitable size copper strips.			
	INDICATING PANEL			
	Digital flush type class-1.0 accuracy multifunction meter showing V, A, PF etc. with 3 Nos. current transformers of 100/5A ratio, 10 VA Class-1.0 metering. - 1 sets			
	Red/Green/Amber ON/OFF/TRIP indicating lamps with 2A SP MCB backup protection.			
	1 set of three phase indicating lamps along with 2A SP MCB backup protection.			
	Restricted Earth fault relay with 3 Nos. current transformers of 160/5 ratio, 15 VA Class 5P 10 (Numeric Relay not required.)			
	Undervoltage, Overvoltage & phase reversal relay for persisted voltage of 105-180% & 20-95% of rated voltage. (Numeric Relay not required.)			
	OUTGOINGS:-			
	4 Nos 63A MCCB (16 kA) terminals suitable to receive cable on one side and wire connection to Bus bars. For capacitor Bank AND AC VTPN,			
	2 Nos 63A TPN MCB (10 kA) terminals suitable to receive cable on one side and wire connection to Bus bars. (For PDB,UPS)			
	1 Nos 40A TPN MCB (10 kA) terminals suitable to receive cable on one side and wire connection to Bus bars. (For LDB)			
	2 Nos 40A DP MCB (10 kA) terminals suitable to receive cable on one side and wire connection to Bus bars.			
	The electrical panel as described above and specifications complete.	1	Set	
a	6-way TPN DB (LIGHT DB)	1	Set	
	Incomer:-			
	1 No. 32 Amp TPN (10 KA) MCB with 40 A DP RCCB (100 MA) each phase			
	Outgoing:-			
	10-12 Nos.6/10/25 Amp (10 KA) SP MCB			

b	4-way TPN DB (POWER DB)	1	Set		
	Incomer:-				
	1 No. 63 Amp TPN (10 KA) MCB				
	Outgoing:-				
	10 Nos.16 Amp (10 KA) SP MCB				
c	4-way V-TPN DB (LIGHT)	1	Set		
	Incomer:-				
	1 No. 80 Amp 4 Pole (16 KA) MCCB				
	Outgoing:-				
	4No. 40 Amp (16 KA) TP MCB				
	5 Nos. 25 Amp (10 KA) SP MCB				
d	8-way V-TPN DB (AC)	1	Set		
	Incomer:-				
	1 No. 80 Amp 4 Pole (16 KA) MCCB				
	Outgoing:-				
	4No. 40 Amp (16 KA) TP MCB				
	5 Nos. 25 Amp (10 KA) SP MCB				
e	4-way TPN DB UPS ROOM	1	Set		
	Incomer:-				
	1 No. 63 Amp TPN (10 KA) MCB with 40 A DP RCCB (100 MA) each phase				
	Outgoing:-				
	2Nos. 40 Amp (10 KA) DP MCB, For UPS outgoings tto individual SDB				
f	12-way SPN DB (For UPS Sub DB)	2	Set		
	Incomer:-				
	1 No. 40 Amp DP (10 KA) MCB with 25 A DP RCCB (100 MA)				
	Outgoing:-				
	8-10 Nos.6/10Amp (10 KA) SP MCB				
g	KIT KAT 200 AMP.	1	Set		
	Providing and fixing of Kit Kat Rewirable Porcelian fuse carrier & base with wooden frame of 200 amp/415 Volt near meter box				
7	CABLES				
	Supplying, unloading, storage, laying, testing and commissioning of PVC/XLPE insulated (Heavy Duty) Al/Cu conductor armoured cable suitable for working voltage upto and including 1100 V grade, laid and tied on existing overhead cable trays, or laid and tied over MS supports in masonry trenches with copper/al cable lugs, single compression brass cable glands, tapping, crimping etc. as required and all cables run with double run(2 No.) of GI wire of 8 SWG size .The size of cables are as under:- Make of Material:- (i) PVC/XLPC Armoured cable:- Finolex, Havells, RR cable, CCI(Cable Corp. of India) (ii) Cable Termination:- Dowells, Comet				
i	3.5 X 50 Sq.mm XLPE. Al. armoured Cable (AC VTPN, BUS BARS & A.C. DB)/Main cable	30	Mtr		
ii	Supplying, laying, testing & commissioning of 4 C X 10 sq.mm. at 1100 volts grade PVC insulated copper conductor armoured cable with 10 gauge earth copper wire including cables end termination using appropriate Lugs, Glands, termination accessories, Clamps etc. as required as per specification from Main board to UPS Room	60	Mtr		
iii	Supplying, laying, testing & commissioning of 4 C X 25 sq.mm. at 1100 volts grade PVC insulated aluminum conductor armoured cable with 10 gauge earth copper wire including cables end termination using appropriate Lugs, Glands, termination accessories, Clamps etc. as required as per specification Pane to (POWER/UPS) DB	50	Mtr		

iv	Supplying, laying, testing & commissioning of 4 C X 16 sq.mm. at 1100 volts grade PVC insulated aluminum conductor armoured cable with 10 gauge earth copper wire including cables end termination using appropriate Lugs, Glands, termination accessories, Clamps etc. as required as per specification (Light DB).	40	Mtr		
v	Supplying, laying, testing & commissioning of 4 C x 50 sq.mm. at 1100 volts grade PVC insulated aluminum conductor armoured cable with 10 gauge earth copper wire including cables end termination using appropriate Lugs, Glands, termination accessories, Clamps etc. as required as per specification (Mains).	20	Mtr		
8	EARTHING				
a	COPPER PLATE EARTH STATION: Preparation of the Plate Earth Station:(As per IS:3043) (a) Excavation of hard rocky earth, soft murrum, hard murrum etc and back filling with black cotton soil for the earth station, the earth pit size is 1000 mm X 1000 mm X 2500 mm. (b) Supply and fixing of Copper Plate of Size 600 mm X 600 mm X 3.0 mm thick. (c) Fixing of 50 mm X 6 mm, 3 Mtrs copper strips from Copper Plate to earth terminal including brazing/welding at plate etc. (d) Supply and laying in position 19 mm, 2 Mtrs G.I "B" Class pipe for watering with reducer/funnel with mesh. (e) Supply and Fixing of the following in the earth station. (i) 75 Kg. Charcoal. (ii) 15 Kg. Original Salt. (iii) Black Cotton soil of adequate amount. (f) Construction of earth pit chamber including necessary brick work concrete, plastering, S/F of C.I Cover of size 12" X 12" complete as per site requirement.	2	Nos		
b	G.I.PLATE EARTH STATION : Preparation of the Plate Earth Station: (as per IS:3043) (a) Excavation of rocky earth, soft murrum, hard murrum etc and back filling with black cotton soil for the earth station, the earth pit size is 1000 mm x 1000 mm x 2500 mm deep. (b) S/F of G.I. plate of size 600 x 600 x 6.0 mm thick. (c) S/F fixing 50 mm x 6 mm, 3 mtrs G.I, strips from G.I.plate to earth terminal including brazing / welding at plate etc. (d) Supplying and laying in position 19 mm, 2 mtrs G.I. 'B' class pipe for watering.with reducer/funnel with mesh. (e) S/F of the following in the earth station. 75 Kg. Charcoal, 15 Kg. Original Salt. and Black Cotton soil of adequate amount. (f) Construction of earth pit chamber including necessary brick work concrete, plastering, S/F of C.I. Cover of size 12" x 12" complete as per site req.and marking its value & identification etc.	2	Nos		
d	Providing and fixing of Copper / GI strips in surface or in recess for loop earthing etc. as required.				
i	25 mm x 3 mm copper strip with proper clamps	20	Mtr		
ii	25 mm x 5 mm GI strip	20	Mtr		
iii	Providing and fixing 2 X 8 SWG dia. Cu earth wire in PVC conduit on surface or in recess for loop earthing along with the existing surface/ recess cable as required.	120	Mtr		
e	OCCUPANCY SENSORS:- Supply, installation , testing and commissioning of occupancy sensor surface/recess mounted as per site condition complete with all wiring/conduit/Switch etc complete in all respect as per site condition as required Honeywell Make K5015/16, Siemens/Johnson Control OR Equivalent as per Bank's approved.	2	Nos		
9	TELEPHONE POINT				

(i)	Two pair, 0.61 mm dia. telephone cable tinned copper conductor, P.V.C. insulated and sheathed , fire retarding, anti termite, colour coded twisted pairs and rip cord, Double outlet The length of telephone cable upto 35 meter length or less as per site condition with shutter modular type Telephone Outlets (RJ — 11) wth suitable size MS / PVC modular boxes and it laying, fixing, testing and commissioning in suitable size 20/25 mm dia,16 SWG (Medium Gauge) thickness rigid PVC conduit with conduit accessories like bend/junction box / cover plate/ sheet steel/PVC box on surface/ concealed manner i/c electrical connections and making goods all the damages, replastering, painting, cleaning the site etc complete as required as per site condition. The floor/roof/wall junction box shuold be of MS(heavy duty) box of suitable size and covered with Steel finish Steel cover sheet by screw tight and gasket to avoid water/dust insertion. Make of Material:- Delton/Finolex/RR cable	6	Nos	
(ii)	Supplying and fixing of krone telephone tag block on surface/ recess mounted with its accessories suitable for the multi core telephone cable and shall accommodate tin-plated phosphor bronze connectors, the connectors shall splice unskinned cables up to 0.61 mm dia and shall be terminate both incoming and out going lines, the tag blocks shall be mounted inside, water proof box and locking arrangement and shall be fully accessible. (A) 20 Pair tag block	1	Nos	
10	DATA CABLING FOR LAN			
a	Providing, fixing, testing and commissioning of all nodes of four pair UTP CAT 6 LAN cables length upto 30 meter length or less as per site condition in suitable size 20/25 mm dia, 16 SWG wall thickness rigid PVC conduit with conduit accessories like bend/junction box/ fan box etc on surface/recessed manner and making good all the damages, painting, cleaning the site etc complete as required as per site condition and as directed as required. Junction box shuld be covered with Stainless steel plate with screw with gasket for protection of water/dust. Providing, fixing, testing and commissioning of modular type Information Outlets with suitable size of MS/PVC modular boxes complete, all accessories with insulation displacement connectors etc suitable for CAT 6 UTP cabling with RJ-45 socket with testing and commissioning of STP cabling with scanner for all the nodes/switches/jack panel complete (Each point/circuit/cable from both load and source end to be marked with ferrules.) Make of Material:- (i) Data Cable, Cat 6 cable, Switch, Jack panel, Rack, Patch cords & Other accessories:- D-Link, Legrand	12	Nos	
b	Providing and fixing Patch Panels 30 port (100 base TX) CAT 6 patch/jack panel with connector, out lets and necessary connectivity complete as required & (D-Link make)	1	Nos	
c	Providing, assembling, fixing, testing and commissioning Floor/Wall mounted RACKS for gig switches, patch panels etc including cooling DUAL fan trays, a 10 Point PDU, Fixed Trays as necessary complete. 9 U wall mounted RACK	1	Nos	
d	Providing and fixing of flowing factory fabricated Patch cords. (UTP/CAT 6 complte with connector on both side.)			
i)	for 1 Mt. long	12	Nos.	
ii)	for 2 Mt. long	12	Nos	
e	Providing, fixing,testing and commissioning of four pair CAT 6 LAN cable in suitable size of 20/25mm PVC medium gauge 16SWG conduit including all accessories to interconnect the switches from different location.	30	Mtr	
11	TV POINT:- Supply, installation, testing and commissionig of TV point(Modular) with RG-6 cable in the Medimum Gauge 1.6 mm PVC Conduit with all accessories complete in all respect	1	Nos	
12	Supply and installation of Vinyl sticker for on Electrical DBs like, " Switch Off at Night" , Switch Off For Safety, etc	10	Nos	
13	Making & Providing of 3 sets of Asbuilt Drawing with coloured print for entier Electrical work (Power/UPS/Light/Data/ Telephone/AC etc.) as advised by the Bank's Authority.	1	Lum sum	
	Description of light / fan fixture			

14	LED LUMINAIRES:- 2' x2' (FULL GLOW TYPE) LED light fittings (600 X600mm) dimension suitable for grid/gypsum ceiling complete with its electronic driver as required per instruction of Bank's Model No are as under:- PHILIPS:- RC380B G2 LED 35S-6500 PSU OD WH LED (FULLGLOW) WIPRO:- CRCO1ORO 38 HP57 HAVELLS:- LHECDIL7IL1W036 (Edge- Lit) CG:- LCTAR3-40-CDL	22	Nos		
15	LED DOWNLIGHTER: 15 Watt, recessed mounted circular down lighter , 6" dimension with complete its electronic driver are as under:- PHILIPS:- GREENLED-DN193B LED-12S-6500 PSU WIPRO:- IRIS LED LD 71-121-XXX-50-XX HAVELLS:- LHEBJNP ZPZ 1W 015(ENDURA LOW DEPTH) CG:- LC DD-15-CDL,	28	Nos		
16	LED Spot Light, 3 Watt, 2/3" (Inches) size as per site requirement. PHILIPS, WIPRO, HAVELLS, CG	10	Nos		
17	LED COVE / STRIP LIGHT WITH ITS ELECTRONIC DRIVER(BLUE COLOUR) :- Supply, installation, testing and commissioning of bright LED strip light with its electronic driver complete as required. PHILIPS, WIPRO, HAVELLS, CG	80	Mtr		
18	Providing & fixing of "Digital Clock" /Digital Panel indicating Time, Day, Date, Temperature at outside of big size,(Ajanta - OLC-1070) as suitable over the facade as advised by the Bank with standard power back up. Make:- Ajanta, Titan	1	Nos		
19	BOX TYPE LUMINAIRES: LED TUBE FITTINGS, 1200mm, 18/20 Watt - PHILIPS/WIPRO/HAVELLS/CG	10	Nos		
20	CEILING FAN: FIVE STAR RATING BLDC FAN Single phase heavy duty grease filled double ball bearing, aerodynamically designed heavy gauge aluminium blades, copper wound and impregnated silicon stamping motors etc 1200 mm sweep, brilliant white CG/USHA/ ORIENT/HAVELLS	12	Nos		
21	WALL FAN:- (Only Metallic Body) Oscillating wall fan with regulator i/c connections etc complete as required as per approved make, Sweep 400/450 mm , RPM 1300 make are as under: CG/USHA/ ORIENT/HAVELLS	2	Nos		
22	EXHAUST FAN:- Single phase, 300mm sweep, 900 rpm, metallic exhaust fan of the following single phase Exhaust fan continuously rated, capacitor start and run type, totally enclosed and ruggedly built, pre lubricated double ball bearing, copper wound, A & E class insulation, dynamically balanced, below 40 db sound level etc, front cover with grill/gravity louver for protection purpose with 12 mm plywood complete in all respect make as under: CG/USHA/ ORIENT/HAVELLS/ALMONARD/ALSTOM	4	Nos		
Sub Total : Part A (Electrical Works)					

Note:- The rates quoted includes all other taxes,duties, loading, unloading,transportation,other expenses etc to site.

GST will be paid additionally as applicable

Seal & Signature of Contractor