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N.O.W. - ELECTRICAL WORK OF STATE BANK OF INDIA
BILL OF QUANTITIES FOR BO LARHA (GALORE) HAMIRPUR, HIMACHAL PRADESH
(ELECTRICAL INSTALLATION)

S. No	Item	Quantity	Units	Rate	Amount
1	<u>SUB HEAD 1 (COMPUTER POINTS AND DISTRIBUTION)</u>				
1	Supply all materials, receiving, storing, handling, fixing and laying 3 x 2.5 sq.mm PVC insulated copper conductor armoured cable and fixing of cable on wall with suitable size of clamps/saddles or laid in floor or recessed wall including cutting of floor/wall for computer points with suitable size GI Box with modular plate and cover in front including providing and fixing 3 no. 5 amp 5 pin modular sockets controlled by 1 no. 5 Amp switch with indicator, connection end terminations with suitable size of glands etc. complete as required. (Only two points can be connected in series with single cable) (Make: Anchor/Crabtree/North West/ REO)	19	Each		
	3 points for BM Cabin, 1 points for Networking Equipment's in Banking Hall, 2 per Officer, SWC & 2 for Grahak Mitra .				
2.1	As per item 1 above but with 2 no. 16 amp 5 pin modular sockets controlled by 1 no. 16 amp modular switch and 6 amp indicator Lamp including the cover plate.	2	Each		
	1 for BM and 1 for N/W Rack				
2.2	As per item 1 above but with 1 no. 5 amp 5 pin modular sockets controlled by 1 no. 5 amp modular switch including the cover plate. (For T.V on Pillars / Swayam Machine/ As per Branch Requirement)	7	Each		
3	Providing and fixing, testing and commissioning of Heavy Duty modular air-conditioning plug & socket arrangement:				
3.1	20/25 amp with 20/25 amp SPMCB (1 each for making the plug socket arrangement for the AC so that the supply is connected only when the plug is inserted in the socket)	6	Each		
	As per the Plan provided by the Architect				
4(a)	<u>Circuit Wiring:</u>				
	Circuit wiring from the MCB/MCCB from the Distribution Board to the Switch Board with 2 x 2.5 sq.mm + 1-1.5 sq.mm copper conductor (FR) in PVC Conduit concealed/open and making good the damaged surfaces as per direction of the Engineer-in-charge. including the cost of the PVC conduit 2mm thick. At least 9 points of Point Wiring shall required to be connected with single circuit. (Inclusive of point wiring)				
4(b)	<u>Point Wiring:</u>				
1.1	Supply and Installation of Points for Wiring for Lights, Exhaust Fans with 2 x 1.5 sq.mm + 1 x 1sq.mm copper conductors from Switchboard to outlet or fixture/fixtures, including the modular switches and plates. Including the cost of the PVC 2mm thick copper conduits And ceiling rose. 6 Amp Switch controlling 1 light point. (Inclusive of circuit wiring)	24	Each		
1.2	6 Amp switch controlling 2/3 light points.(Inclusive of circuit wiring)	27	Each		

2	Supply and Insatllation of Points including modular socket of 5 Amp and 5 Amp Switch Dependent type.	7	Each		
	2 - 36watt LED /or 4 - 15 watt LED to be provided per point, for Toilets Pantry Extensions to be done from Landlord Wiring Points.				
4(c)	Supply and Installation of Points for Wiring for power plug point (heating point) 16A with 2 x 4 sq.mm + 1 x 1.5sq.mm copper conductors , including the modular switches, sockets and plates. Including the cost of 2mm thick PVC conduits. To be provided as 2 for water cooler , 1 for Pantry, 1 for every seat, 2 fror B.M and 2 as per Branch Requirement. {Two Points to be provided per circuit.}	13	Each		
	<u>Extension of wall fans:</u>				
5	Extension of points with 2 x 1.5 sq.mm. PVC insulated copper conductor cable in suitable dia MS conduit in recess conduit wiring system for wall fan points with modular switches of 6 amp {to be fixed at Normal Height} and 5 amp 5 pin modular sockets { to be fixed 1.5 foot below false ceiling} as per requirement and filling chassis etc complete as reqd.	11	no.		
6	Providing & laying following sizes of PVC insulated copper conductor cable of 1100 V in flexible/PVC conduit with accessories such as glands. bends etc.(as per requirement) including making necessary Inter connection etc complete as reqd.				
a)	2 x 10 sq.mm with 1 no. suitable PVC insulated earth wire	20	mtr.		
7	Supply Installation, testing & commissioning of factory fabricated Double Door IP 43 distribution board rust inhibited, powder coated sheet fabricated comprising of incoming & outgoing isolator & MCB's neutral link or neutral bus,top and bottom detachable entry earthing bolts Interconnection and grouting bolts etc complete as require as per details below:-				
a)	8 way MCBDB comprising of 1 no. 63 amp DPMCB "C"Series and 6 no. 6/10amp SPMCB's "C" SERIES. (for the UPS points each DB to be connected to 12 UPS points i.e only two points shall be connected with one MCB) { 2 for UPS }	1	each		
b)	6 way MCBDB comprising of 1 no. 63 amp DPMCB "C"Series and 4 no. 6/10amp SPMCB's "C" SERIES. (for the UPS points each DB to be connected to 8 UPS points i.e only two points shall be connected with one MCB) { 1 for UPS }	1	each		
c)	4 way TPNDDB comprising of 1 no. 100 amp 4 pole isolator and 6no. 32 amp DPMCB (for AC's). [DPMCB must be of C Series.]	1	Each		
d)	4 way TPNDDB comprising of 1 no. 63 Ampere TPN MCB "C" Series and 12 nos. 16-20 amp SPMCB "C" Series. (For Power Point Circuits of the Branch)	2	Each		
e)	4 way TPNDDB comprising of 1 no. 63 Ampere TPN MCB "C" Series and 12 nos. 6-10 amp SPMCB "C" Series. (For Light Point Circuits of the Branch)	2	Each		
f)	4 way DB comprising of 1 no. 63 amp 4 pole Isolator (for UPS I/C Branch).	1	Each		
g)	4 way DB comprising of 2 no. 32 amp DPMCB "C " Series .(for UPS O/P Branch).	2	Each		
h)	4 way TPNDDB comprising of 1 no. 63 amp 4 pole isolator and 6no. 32 amp DPMCB (for ATM's). [DPMCB must be of C Series.]	1	Each		
8	Supply, fixing and testing of following 3 pin metal clad industrial type plug & socket arrangement with plug top cap & chain controlled by 1 No. MCB				

a)	20/25 amp with 20/25 amp SPMCB (1 each for making the plug socket arrangement for the Cash / Store/locker room so that the supply is connected only when the plug is inserted in the socket outside the record room for fire safety and 4 for UPS O/P)	6	no.		
b)	32 amp with 32 amp SPMCB (3 for UPS I/P)	6	no.		
9	Providing & fixing suitable size of MS box fabricated with 16 S.W.G.M.S. sheet either In recess wall or on surface to accommodate dedicated earth from earth electrode and further distribution of earth to computer points including providing 5mm bakalite sheet on base connector strip and painting of box etc complete as reqd.	1	job		
TOTAL SUB-HEAD -1					
SUB HEAD 2(PANELS & CABLES)					
1	Providing & fixing 3 No. 200 amp kit-kats (fuse carrier & base) with 1 no. neutral link on suitable size of bakalite sheet of thickness not less than 6 mm etc. Complete as reqd.	1	job		
MAIN PANEL					
2	Supply at site installation, testing & commissioning of panel fabricated with 16 S.W.G.M.S. sheet. The panel shall be free standing type totally enclosed dust & vermin proof construction with rubber gaskets. The floor mounting panel shall have ISMC mounting channels, G.1. earth bus bar, bus bar chamber cable alleys interconnections with solid bar/PVC insulated copper conductor as per requirement, and suitable supports of bus bars. The panel shall be painted with 2 coats of enamel paint (grey shade)over the primer and shall also be provided with designation of incoming & outgoing feeder as per details below-				
In Panel for MCCB connected with rating of 100 Amp and above the interconnections must be with solid Bus bar only.					
INCOMING					
a)	200 amp MCCB 4 pole with 36 KA breaking capacity at 415 Volts.				
b)	1 set of 250 amp TPN aluminium bus-bar chamber				
c)	1 no. 0-500 V Voltmeter with selector switch in a separate compartment and amp meter with selector switch and one set of CT's (3 no.) with CT ratio 200/5 A with LED type indication lamps with protection fuses in a separate compartment				
OUTGOING					
a)	4 No. 100 amp 3 pole MCCB , 2 No. 63 amp 3 pole MCCB. (MCCB'S WITH 25 KA BREAKING CAPACITY at 415 Volts. (For A.C, UPS, Lighting & Heating)	1	set		
3	Supply, installation, testing & commissioning of PVC insulated PVC sheathed armored cable of 1100 V (IS-1554 part I) and fixing of cable on wall with suitable size of clamps/ saddles or laid in floor/recess wall including cutting of floor/wall and making good the damages etc. complete as reqd. of following sizes:-				
a)	3.5 x 50 sq.mm. aluminium conductor with 2 no. 8 S.W.G.G.1. wire (from the Meter to the Change Over and from the Genset to the Change over and from change over to the Main panel I/C)	40	per mtr.		
b)	3 x 2.5 sq.mm. copper conductor . (A.C Wiring)	60	per mtr.		
c)	3.5 x 25 sq.mm. aluminium conductor with 2 no. 8 S.W.G.G.1. wire. (from the main panel to the AC DB and the Heating DB and to UPS I/C)	80	per mtr.		
d)	3 x 6 sq.mm copper conductor (for UPS DB)	60	per mtr.		
e)	4 x 10 sq.mm. aluminium conductor with 1 no. 8 S.W.G. G.1. wire (from the Main panel to the Lighting DB)	40	per mtr.		

4	End termination with Brass compression glands including providing lugs/ferruls and making necessary connections etc. complete as reqd. of following sizes:-				
a)	3.5 x 50 sq.mm. aluminium conductor	4	each		
b)	3 x 2.5 sq.mm. copper conductor	10	each		
c)	3.5 x 25 sq.mm. aluminium conductor with 2 no. 8 S.W.G.1. wire	22	each		
d)	3 x 6 sq.mm copper conductor	10	each		
5	Providing & fixing suitable size of angle iron frame suitable for installation on wall/floor including grouting of frame & painting etc. complete as reqd. comprising of the following:				
a)	Change Over Switch Four Pole 160 amp., 415volts (With Sheet Enclosure)	1	job		
6	Providing & fixing 16 S.W.G. M.S. Sheet adapter box, and also base frame for installation of M.C.B. D.B.'s plug & socket arrangement and to cover cables in system room including painting etc. complete	1	sqmt.		
7	Cost of Maintaining and keeping the branch in working condition 24x7 without disturbance from Date of Commencement to Date of Completion of Work and removal of all waste, old electrical material from the branch.	1	job		
TOTAL SUB -HEAD 2					
SUB-HEAD 3 (EARTHING)					
1.1	Supply & fix copper plate earth station with 600x600x3 mm thick copper plate including all accessories such as watering pipe & funnel and providing masonry enclosure at top with cover plate i/c excavation of pit supplying & filling of salt charcoal, refilling of pit etc complete as reqd as per IS 3043-1987. The voltage between neutral & earth must be below 1 volt.	1	set		
1.2	Supply & fix G.I. plate earth station with 600x600x6 mm thick G.I. plate including all accessories such as watering pipe & funnel and providing masonry enclosure at top with cover plate i/c excavation of pit, supplying & filling of charcoal, refilling of pit etc complete as reqd as per IS 3043-1987 (for the neutral earthing from the point of neutral link beside the fuse connection and second for the body earthing connected to both panel body and the ups base panel)	2	set		
NOTE: chamber for the earthing shall be available at site without it the earthing cost shall not be paid for all the Earthing You are also required to provide picture of earthing taken at the time of execution of the same.					
2.1	Supplying and laying 20 mm X 3 mm copper strip at 0.50 meter below ground as strip earth electrode, including connection/ terminating with nut, bolt, spring, washer etc. as required	10	mtr.		
2.2	Supplying, fixing & termination of 20 mm X 3 mm GI strip with earth station below ground level and on wall saddle etc complete as reqd.	20	mtr.		
3.1	Providing & fixing 8 S.W.G Copper earth wire on surface or in recess for loop earthing etc. as reqd.	80	mtr.		
3.2	Providing & fixing 8 S.W.G G.I. earth wire on surface or in recess for loop earthing etc. as reqd.	80	mtr.		
4	Supply & laying following dia 2 mm in thickness PVC pipe under floor or in recessed walls from earth electrode to UPS room for computer dedicated earthing, for data cabling, electrical cabling etc. including providing 1 no. G.I. pull wire for data cabling making good the damages etc. wherever reqd.				
a)	25mm	60	mtr.		
TOTAL SUB-HEAD -3					

<u>SUB HEAD 4 (NETWORKING)</u>				
1	Wiring for computer networking starting from mounting rack with UTP CAT-6 cable in 2 mm thick 25mm dia ISI mark PVC conduit with accessories such as bends, junction boxes including providing and fixing I/O plates and SMB complete with all networking accessories etc complete as reqd. (2 points /Seat and 3 for ATM)	18	no.	
3 points for BM Cabinand ATM, 2 per Officer, SWC and 2 in Banking Hall for Machines as per the requirement				
2	Installation, testing and commissioning of 24-port unmanaged switch 10/100 full duplex complete as reqd. (to be supplied by the bank)	1	no.	
3	Supply, installation, testing and commissioning of 24-port Patch Panel	1	no.	
4	Supply installation. testing and commissioning of mounted rack 12U height made of powder coated MS sheet.	1	no.	
5	Supply, fixing and commissioning of patch cable Cat-6 complete with 2 no. connectors etc. complete as reqd.			
a)	1m long	18	no.	
b)	2m long	18	no.	
6	Supply, fixing and commissioning of cable Cat-6 complete with 2 no. connectors or as required etc. complete as reqd including upvc 19mm dia. pipe conduit of heavy duty.			
a)	50mm	120	mtr.	
7	Wiring for telephone points with 0.6 mm dia 2 pair insulated annealed tinned electrolatic copper conductor in 2 mm thick 25 mm dia ISI marked PVC conduit complete with accessories such as bends, junction boxes etc. with suitable size of G.I. box modular plate and cover in front on surface or in recess including providing and fixing modular type telephone socket outlet and making necessary connections etc. complete as reqd.	7	no.	
8	Supply, fixing and commissioning of 20 pair tag Block Box i.e FRP/PVC/Metal junction box with KRONE disconnection module necessary tag for identification for the telephone points. (box and strips Krone make)	1	no.	
9	Supply, installation, testing and commissioning of 20 pair telephone unarmoured cable as required. (Make-finolex/delton/polycab)	70	mtr.	
TOTAL SUB -HEAD 4				
<u>SUB-HEAD 5 (AIR CONDITIONING PIPING WORK)</u>				
1	Removing of existing Air Conditioners installed in the branch premises including the Indoor unit,outdoor unit , stabilizers etc as per the requirement of the branch.	0	no.	
2	Supplying & Laying of following COPPER REFRIGERANT PIPING Thickness 22 SWG For Hi-wall Split AC complete with fittings Suction / Discharge line insulated with 12 mm SUPERLON / ARMAFLEX suction line. Multi-runs between Indoor & Outdoor units shall be considered as ONE length for the purpose of measurement. (Make: Total Line/Armacell)			
a)	1/4" + 1/2" Refrigerant piping - For Hi wall Split AC's	48	per mtr.	
3	Supply and laying following dia 3.38mm (confirming to ASTM D1785 standard) in thickness, heavy duty PVC pipe under floor or recessed in walls for AC drains, To nearest To including bends, Tees etc as required complete in all respect. (Make: Diplast/Supreme)	54	per mtr.	
4	Electrical flexible cable of 3 x 2.5sq.mm FRLS Cu cable multi strand suitable for 2 Tr H.W Split & 1.5 Tr H.W Split. Multi-runs between Indoor & Outdoor units shall be considered as ONE length for the purpose of measurement. (Make: Havells/ RR Kable / KEI/Finolex)	80	per mtr.	

	TOTAL SUB-HEAD 5				
	SUB HEAD 6 (INSTALLATION OF FANS AND FIXTURES.)				
1	Installation of 36 watt. LED fitting crompton greaves (or equivalent) LCTLR-36-FD-CDL complete as required. (including the cost of earthing connection)	20	no.		
2	Installation of 15/5 watt. LED fitting crompton greaves (or equivalent) LCDD-15-CDL complete as required	35	no.		
3	Installation, testing and commissioning of wall fans including making necessary arrangement for fixing on wall complete as reqd.	11	no.		
4	Installation, testing and commissioning of T5 fixtures directly on ceiling / wall including making necessary connections with suitable size of PVC insulated copper conductor wire etc. complete as reqd.	17	no.		
5	Installation, testing and commissioning of exhaust/ceiling fans including making connection with adjacent point etc. complete as reqd.	4	no.		
	TOTAL SUB-HEAD 6				
	SUB HEAD 7 (SUPPLY OF FANS & FIXTURES)				
1	Supply of 36 watt. LED fitting crompton greaves (or equivalent) LCTLRN-36-FO-CDL complete as required	20	no.		
2	Supply of 15 watt. LED fitting crompton greaves (or equivalent) LSDRMN-15 W-CDL complete as required	35	no.		
3	Supply of 450 mm sweep Metal Body and Metal Blades USHA (or equivalent) TURBO 180 wall fan etc. 1330 rpm High Flow Mode complete as required. (M/s equivalent of Bajaj / Havells V3 Model/Havells Girik Model /Crompton SSTROM 2/orient tornado wall 2)	11	no.		
4	Supply of following Batten type LED fittings complete as reqd.				
a)	LED fitting 18 watt LCTL-18-CDL OF CROMPTON OR EQUIVALENT OF PHILIPS/WIPRO	17	no.		
5	Supply of 250 mm (sweep) exhaust fans complete with self opening louvers/shutters etc. complete as reqd. (M/s Crompton cross air or equivalent of USHA / Bajaj)	4	no.		
6	LED Strip light (4.5/5 watt)for cove (M/s Phillips /Wipro / Bajaj Complete in all respects with suitable drivers. {Blue Colour Cat No.LST 20 BL (M/S Crompton)}	42	MTR.		
	TOTAL SUB -HEAD 7				
	TOTAL SUB-HEAD-1				
	TOTAL SUB-HEAD-2				
	TOTAL SUB-HEAD-3				
	TOTAL SUB-HEAD-4				
	TOTAL SUB-HEAD-5				
	TOTAL SUB-HEAD-6				
	TOTAL SUB-HEAD-7				
	GRAND TOTAL				
	ADD 5% CONTENGENCIES				
	TOTAL (A)				
	TOTAL OF SUBHEAD 1-6				
	ARCHITECTURAL FEES 3.5 % on SubHead 1-6				
	TOTAL OF SUBHEAD 7				
	ARCHITECTURAL FEES 1.5 % on Sub Head 7				
	TOTAL ARCHITECTURAL FEES ON ELECTRICAL WORKS (B)			Sum	0.00
	ADD 10% Contengencies on Total of Sub Head 1-6 (C)				0.00
	GRAND TOTAL {A+B+C}				0.00
	GST SHALL BE PAID EXTRA AS APPLICABLE				

