BOQ of Electrical & Allied works for SBI SME Branch at Dehradun,Uttrakhand.

S.No.	DESCRIPTION OF WORKS	UNIT	QTY	RATE	AMOUNT
1	Wiring for light point/ fan point/ wall fan point/ exhaust fan/ light sockets etc. with 1.5 sq.mm. PVC insulated 1100 V Grade copper conductor (FRLS) wires & 1.5 sq.mm. copper earth wire in concealed/ surface using 16 SWG MS conduits, accessories such as bends, tees, saddles, draw boxes, mounting boxes, inner plates, cover plates, ceiling rose etc (whereever required) and chromium plates brass screws/ rowel plug etc. The circuit wiring starting from DB to point control box/ switch box using 2 X 2.5 sq.mm PVC insulated 1100 V grade multi- stranded copper conductor wire & 2.5 sq.mm. PVC insulated earth wire (color code to be used). (Flexible conduit/ elbow not allowed). The conduit to be laid in ceiling with proper clamps/ wall/ floor and flling the chase with cement mortar and finishing the same in original form/ wooden partition/ above false ceiling with proper clamps etc. all complete.				
	(Wherever required as per standard specifications).				
	i) Each circuit shall have independent earth wire.				
	ii) Each point shall be earthed.				
	iii) Circuit wiring is to be included in point wiring rates.				
i	One light points controlled by one 6 amp. Modular switch	Nos.	9.00		
ii	Two light points controlled by one 6 amp. Modular switch	Nos.	36.00		
iii	Three light points controlled by one 6 amp. Modular switch	Nos.	5.00		
iv	Four light points controlled by one 6 amp. Modular switch	Nos.	3.00		
v	Five light points controlled by one 6 amp. Modular switch	Nos.	0.00		
vi	One call bell point with ceiling rose/ 6amp. 3 pin socket controlled by one 6 amp. Push Modular switch. With call bell	Nos.	2.00		
vii	One wall fan/ exhaust fan point controlled by one 6 amp. Modular switch. The switch should be at switchboard level	Nos.	10.00		
viii	One 5 pin socket controlled by one 6 amp. Modular switch complete assembly includes plate box etc.				
a	Dependent	Nos.	8.00		
ix	Same as serial no 1 but 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.				
a	Primary	Nos.	8.00		
b	Secondary	Nos.	10.00		
x	Same as serial no 1 but using 2*2.5 + 1*2.5 Sqmm Copper Conductor FRLS wires from DB to first 16 Amp MCB two Nos. , for Glow sign Board.				
a	Primary Point	Nos.	2.00		

2	**POWER POINTS**				
	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 1st socket and 1st to 2nd, 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).				
a)	Primary point	Nos.	9.00		
b)	Secondary point	Nos.	9.00		
3(a)	Same as serial no.1, but wiring for A/C socket by using 2*4 sq.mm. PVC insulated 1100 V grade copper conductor wire and earthing with 1*4.0 sq.mm. PVC insulated 1100 V grade copper conductor wire with modular type AC box(tiny trip type) with socket complete in all respects controlled by 25/32 A SP MCB to be provided near indoor unit. The point starts from DB to stabilizer to the point near the indoor unit including top.	Nos.	3.00		
4	**COMPUTER POINTS**				
a	Wiring with 2x2.5 sq.mm. + 1x2.5 sq.mm. PVC insulated 1100 V grade multi stranded copper conductor wires in 2 mm thick PVC conduit from UPS DB to computer point. Each point to have 3 nos. 6 amps. 5 pin modular type sockets, one 6 amps modular swtich with all accessories, inner/ outer plates, metal box etc. and to be fixed on wooden partitions/ by grouting on wall etc. as per requirement at site. The switch should be fixed above the top of counter with indicator and sockets under the counter.				
	Primary	Nos.	7.00		
	Secondary	Nos.	13.00		
b	Wiring with 2x2.5 sq.mm + 1x2.5 sq.mm PVC insulated 1100 V grade multi stranded copper conductor wires in 2 mm thick PVC conduit from UPS DB to computer point. Each point to have **1 nos. 16 amps 5 pin modular type sockets, 1 No's 16 amps modular swtich** with all accessories, inner/ outer plates, metal box etc and to be fixed on wooden partitions/ by grouting on wall etc as per requirement at site. The switch should be fixed above the top of counter and sockets under the counter. or as directed by the engineer incharge.				
	Primary	Nos.	2.00		
	Secondary	Nos.	2.00		

B.	**CONDUITING FOR TELEPHONE, COMPUTER & CONDUITING, WIRING FOR T.V. SYSTEM.**				
1.0	**TELEPHONE SYSTEM**				
1.1	Wiring for VOICE from Jack Panel in data rack to computer workstation with Cat-6 voice cable in PVC conduits of size 20/ 25 mm including providing ferrules at both ends and termination at both ends including providing & fixing frame for telephone socket with shutter, RJ 47 outlet, faceplate and mounting box complete of modular type. This work includes supply and laying of CAT-6 cable in PVC conduits throughout the lenght, from the I/O hub to the point.	Nos.	18.00		
1.2	Supplying, laying, effecting terminations, testing and commissioning of 0.51 mm dia Cu. Conductor, twisted, colour coded with polythene capor barrier, telephone cables in the existing tray or in conduit including providing &fixing conduit pipe or cable tray as required from building tag block to the floor as required.				
a)	Supplying & fixing 10 pair krone tag block with enclosure.	Nos.	1.00		
2	**COMPUTER NETWORKING**				
2.1	Wiring for computer networking from Jack Panel in data rack to computer workstation with Cat-6 computer cable in PVC conduits of size 20/ 25 mm including providing ferrules at both ends and termination at both ends including providing & fixing frame for Cat-6 with shutter, RJ 45 outlet, faceplate and mounting box complete of modular type, This work includes supply and laying of CAT-6 cable in PVC conduits throughout the lenght, from the I/O hub to the point.	Nos.	22.00		
2.2	Supplying and fixing 9 U (Rack with glass door, opening in the front power panel 1 (horizontal), cable manager 1 lock & key).	Nos.	1.00		
2.3	Supply, Installation, Testing & Commissioning of 24 port Jack Panel.	Nos.	2.00		
2.4	Supplying and fixing Patch Cord-2 Meter- (DBPS Mounting Cord)	Nos.	15.00		
2.5	Supplying and fixing Patch Cord-1 Meter-	Nos.	22.00		
C.	**CABLES, MAINS & SUBMAINS**				
1	Supplying all materials and laying/ pulling 1100 volts grade PVC insulated copper conductor wires (FRLS) in MS conduit with all fixing accessories after cutting the floor, wall and the like etc. and replastering the floor level to original. Conduit must be 30 mm below the floor finish level.				
i	2 X 6 sq.mm. + 1 X 6 sq.mm.	RM	35.00		
ii	2 X 4 sq.mm. + 1 X 4 sq.mm.	RM	30.00		

iii	Supplying, laying, testing & commissioning of 4 C X 10 sq.mm. at 1100 volts grade PVC insulated aluminium conductor armoured cable with 10 gauge earth copper wire including cables end termination using appropriate Lugs, Glands, termination acessories, Clamps etc. as required as per specification (, AC UNIT,).	RM	45.00		
iv	Supplying, laying, testing & commissioning of 4 C X 16 sq.mm. at 1100 volts grade PVC insulated aluminium conductor armoured cable with 10 gauge earth copper wire including cables end termination using appropriate Lugs, Glands, termination acessories, Clamps etc. as required as per specification (, LIGHT PLUG DB, Power db UPS Room,).	RM	60.00		
v	Supplying, laying, testing & commissioning of 4 C X 50 sq.mm. at 1100 volts grade PVC insulated aluminum conductor armoured cable including cables end termination using appropriate Lugs, Glands, termination acessories, Clamps etc. as required as per specification **(for Main Connection)**	RM	60.00		
2	**Cable Tray and Raceways**				
	Supplying and fixing of following size of Perforated pre paited ms Cable Trays with perforation not more than 17.5% in convenient section, joined with connector, suspended from the ceiling with M.S. suspenders including bolts & nuts, paiting suspenders etc as required. Rates shall be included tee, band reducers etc				
a.	150x40 2mm thick Cable tray (For Submain Incoming)	RM	60.00		
3	Fabricating supplying to site of installation, in floor including chase cutting of floor,leveling, refilling and making good the same 1.6 mm thick G.I raceways of height 40 mm and 2.0 mm thick openable cover, totally enclosed,The two lengths of channels and junction box shall be nut bolted together to make it dust and water proof. complete with all fixing accessories as required				
a.	150 mm (wide) x 40 mm (height)	RM	5		
D.	**DISTRIBUTION BOARD**				
	Supplying, installing, testing & commissiong of surface/ recessed mountings, Double door 415 volts TPN MCB distribution board of steel steel, 1.6mm thick dust phosphatized and painted, inclusive of 100 amps, tinned copper busbars, earthbar, common neutral link, din bar for mounting of MCB's detachable gland/ knock out plate & with built in loose wire boxl, and superior make terminal connectors for all incoming and outgoing circuits duly prewired with adequate size of PVC insulated copper wires between the bus bars and the MCB's as well as the incomer and upto the terminal connectors/ neutral link and ready for installation of following ways as required.				

	Use 'B' curve MCB's for lighting & small power circuits, 'C' curve for motor duty i.e. for pumps, AC motors, window and split AC's etc. & 'D' curve for UPS DB's i.e. for computers/ PC's circuit. Main incomer & outgoing circuit MCB's shall be selected accordingly i.e. type B,C & D. Contractor to select the MCB's accordingly as per the nature of the circuit/ load.				
	Each DB shall have separate neutral links of rating not less than 100A for each phase. The main incoming neutral link shall be in addition to three outgoing neutral links and shall be of 125 A.				
	UPS DB's shall have a dedicated Earthing link fixed on insulated supports, which will be in addition to body earth link.				
	All internal inter connecting wiring with in the DB's shall be PVC insulated flexible copper conductor wires of adequate capacity as per the current rating.				
	Inside each DB, a DB chart is to be fixed.				
a	**6-way TPN DB (LIGHT DB & 6 A raw point)**	No.	1.00		
	Incomer:-				
	1 No. 40 Amp TPN (10 KA) MCB with 40 A DP RCCB (100 MA) each phase				
	Outgoing:-				
	12 Nos.10/20 Amp (10 KA) SP MCB				
b	**6-way TPN DB (POWER DB)**	No.	1.00		
	Incomer:-				
	1 No. 63 Amp TPN (10 KA) MCB with 63 A DP RCCB (100 MA) each phase				
	Outgoing:-				
	12 Nos.10/20/25/ Amp (10 KA) SP MCB				
c	**12-way SPN DB (UPS INPUT)**	No.	1.00		
	Incomer:-				
	1 No. 63 Amp TPN				
	Outgoing:-				
	2 Nos.40 Amp DP MCB				
d	**2-way SPN DB with 40 A** DP MCB (For UPS Input / output **)**	No.	2.00		
e	**12-way SPN DB (For UPS OUTPUT)**	No.	1.00		
	Incomer:-				
	1 No. 40 Amp DP (10 KA) MCB with 40 A DP RCCB (100 MA)				
	Outgoing:-				
	8 Nos.6/10/16 Amp (10 KA) SP MCB				
f	**8-way SPN DB (For ELOBBY Normal OUTPUT)**	No.	1.00		
	Incomer:-				
	1 No. 40 Amp DP (10 KA) MCB with 40 A DP RCCB (100 MA)				

	Outgoing:-				
	4 Nos.6/10/16 Amp (10 KA) SP MCB				
g	**8-way SPN DB (For ELOBBY UPS OUTPUT)**	No.	1.00		
	Incomer:-				
	1 No. 25 Amp DP (10 KA) MCB with 25 A DP RCCB (100 MA)				
	Outgoing:-				
	4 Nos.6/10/16 Amp (10 KA) SP MCB				
E	**(LIGHT FITTINGS & ACCESSORIES)**				
	Supplying, installation with hanging support, testing and commissioning of following light fixtures with electronic Ballasts, Tubes, lamps, all fixing materials including connecting wires etc. all complete as per the directions of Engineer-in-charge (All LED Light Fixures should be covered with minimum 3 Years onsite replacement warranty).				
i	Full Glow 2 X 2 LED 36 W slim Smart Panel of make As specified in tender document or approved by SBI/ Architect.	Nos.	18.00		
ii	Supplying, fixing, testing and commissioning of 15/18 W LED commercial type down lighter of make As specified in tender document or approved by SBI/ Architect.	Nos.	43.00		
iii	Supplying, fixing, testing and commissioning of 5/7 W LED commercial type down lighter of make As specified in tender document or approved by SBI/ Architect.	Nos.	25.00		
iv	Supplying, fixing, testing and commissioning of 9 W LED commercial type down lighter external driver of make BAJAJ/CG/PHILIPS/or approved by SBI/Architect.	Nos.	20.00		
v	Supplying, fixing, testing and commissioning of 20 W LED T 8 fitting make As specified in tender document or approved by SBI/ Architect.	Nos.	2.00		
vi	LED Strip for cove lighting 15 W per 5 M with driver and necessary installation supporting fittings of Led strip light (5 mtr.) make as specified in tender document or approved by SBI/ Architect.	Nos.	12.00		
vii	Wall mounted fans 400/450 mm dia. make As specified in tender document or approved by SBI/ Architect. **(METAL BODY)**	Nos.	10.00		
viii	Supply & fixing of 230 mm exhaust fan with louvers and plastic body with all accessories etc. complete of make As specified in tender document or approved by SBI/ Architect.	Nos.	5.00		

F.	**EARTHING SYSTEM**				
1	Supply, Installation, Testing and Commissioning of Maintenace Free Earthing system made up of copper-bonded rod of 10 feet length,23 mm dia. (Minimum copper bonding shall be 0.25mm) along with Rod-to-Conductor connectors, Earth enhancement material, Pit Cover and other accessories as required and as per specification and other applicable codes (include chamber for earthing, Earthing certificate to be submitted along with the bill).	Nos	2.00		
2	Supply, Installation, Testing and Commissioning of Maintenace Free Earthing system made up of copper-bonded rod of 10 feet length, 17.2 mm dia. (Minimum copper bonding shall be 0.25 mm) along with Rod-to-Conductor connectors, Earth enhancement material, Pit Cover and other accessories as required and as per specification and other applicable codes (include chamber for earthing, Earthing certificate to be submitted along with the bill).	Nos	2.00		
3	Providing and fixing of Copper/ GI strips in surface or in recess for loop earthing etc. as required.				
i	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 eith using of copper lug at end termination	RM	110.00		
G.	**MAIN PANEL AND METER BOARD**				
1	supply, installation, testing and commissionings of cubicle type floor/wall mounted L.T. Metal D.B of reputeded make with extendeble rotary handle and extended connecting links				
	1 No. 125 Amps,TPN MCCB (25 KA) with standard enclosure as per manufacturer specification or as approved by the architect/Bank's Engineer	Nos.	1.00		

2	Designing, fabrication, supply, installation, testing and commissionings of front operated cubicle type compartmentalised, front access, free standing on 75MM "[" MS channel, dust and vermin proof (IP 42 degree protection) panel suitable for use at 415V, 3 phase, 4-wire/XLPE Cable 50Hz system suitable for fault level of required value symmetrical at 415V fabricated from 2 mm thick CRCA MS sheets with hinged, gaskettted (Metal based neoprene) locable doors having structural reinforcement including 3 mm thick gland plates on top and bottom, lifting hooks, GI earth strip of required size with 2 nos earth terminals, 1 nos 230V AC operated 250 mm X 250 mm size axial fans for exhaust of heat with On-Off toggle switches including 2 coated primer and 2 power coated paint fnish 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 (Supertech Power Control/Zeniya/Amptech/Neptune) or SBI approved vendor				
	Type of Approval as instructed by the SBI/ Architect). All live accessible parts shall be shrouded and all equipment shall be finger touch proof. The busbars insulation shall be with heat 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 Ics breaking capacity				
	GA drawings shall be got approved by **Architect / SBI**				
a.	**Floor panel shall consists of : -**				
	INCOMER				
	1 No. 125 Amps,TPN MCCB (25 KA) with extendeble rotary handle **each thermal over current, instantaneous, Short circuit realease, Earth fault. With 125 amp on load Changeover switch.**				
	BUSBARS				
	150 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 125/5A ratio, 15 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.				

	OUTGOINGS:-				
	3 Nos 40 A DP MCB (10 kA) terminals suitable to receive cable on one side and wire connection to Bus bars. (For Maintance purpose,ATM & Siganage)				
	2 Nos 63 A TPN MCB (10 kA) terminals suitable to receive cable on one side and wire connection to Bus bars. (For Power DB, UPS DB,)				
	1 Nos 40 A TPN MCB (10 kA) terminals suitable to receive cable on one side and wire connection to Bus bars. (For Ligth DB)				
	3 Nos 40 A 4 Pole MCCB (16 kA) terminals suitable to receive cable on one side and wire connection to Bus bars. 2 No Ductable Unit & Spare)				
	The **electrical panel** as described above and specifications complete.	Set	1.00		
	Supply, installation, testing and commissioning of				
	Incoming- 40A 4pole MCCB, Outgoing- 6 stage power factor relay with 3 nos. 50/5 current transformer for current sensing capasitor 1 KVR- 1 nos, 2 KVR- 2nos., 5 KVR- 3 nos., no. Contractors and TP MCB on each complete withphase indication and stage indication. MS cubical having ventilation with wiremesh, copper conductors and aluminium busbars etc complete as per direction of Architect /Bank.	Set	1.00		
H	**PUBLIC ADDRESS SYSTEM**				
1	Supply and laying Wiring of 1.5 sq mm twin core shelded type of speaker cable with Providing and fixing in position the following **FRLS PVC conduits** including all accessories concealed/exposed in F.Ceiling/Wall complete as required including 1.6/2.0 mm thick PVC junction or pull boxes with 3mm thick perspex sheet cover plate complete with 1.6 mm dia G.I. pull wires in the length of conduit. including all accessaries.	Nos.	8.00		
2	Supply, installation, testing and commissioning of following Philips (BOSCH) make Music Accessories / Equipments.				
a.	Ceiling Speaker Unit 6 Watts	Nos.	8.00		
b	Power Amplifier, min 70 Watts with output transformer etc. complete. Plena Range/ Ahuja or as approved by the Bank capable of taking Inputs from USB Also.with 6U Reck.	Nos.	1.00		

I	**DISMANTLING AND TEMPORARY SHIFTING**				
1	Dismantling and removal of unrequired existing wires, cable, conduits, fans, lights, DB's etc. and making the area free fom all debris to receive new works all complete as per the instructions of Bank's Engineer/ Architect. **Note:- Contractor to confirm before dismantling which cables/ DBs/ electrical items etc. shall be dismantled and which shall be retained.**	Job	1.00		
2	Making temporary connections and shifting of points all across the Branch and for workstations (Electrical, data, telephone and UPS) to enable smooth functioning of the branch during renovation all complete as per the instructions of Bank's Engineer/ Architect. Item to include supplying all wires, cables, conduits etc. for the same. Nothing extra shall be payable in this regard.	Job	1.00		
	TOTAL FOR ELECTRICAL WORKS				
Note:- The rates quoted includes all other taxes , duties , loading, unloading , transportation, other expenses etc					