

BILL OF QUANTITIES FOR ELECTRICAL & ALLIED WORKS AT SBI GRAETER NOIDA WEST BRANCH, GREATER NOIDA					
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 (wherever 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 filling 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.	20.00		0.00
ii	Two light points controlled by one 6 amp. Modular switch.	Nos.	30.00		0.00
iii	Three light points controlled by one 6 amp. Modular switch.	Nos.	5.00		0.00
iv	Four light points controlled by one 6 amp. Modular switch For cove light.	Nos.	2.00		0.00
v	One call bell point with ceiling rose/ 6amp. 3 pin socket controlled by one 6 amp. Push Modular switch. With call bell	Nos.	1.00		0.00
vi	One wall fan/ ceiling/ exhaust fan point with 6 amp 3-pin socket controlled by one 6 amp. Modular switch. The switch should be at switchboard level.	Nos.	22.00		0.00
vii	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 (max 4 points per circuit).				
a	Primary Point	Nos.	6.00		0.00
b	Secondary Point looped	Nos.	10.00		0.00

S.No.	DESCRIPTION OF WORKS	UNIT	QTY	RATE	AMOUNT
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 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.				
a)	Primary Point	Nos.	6.00		0.00
b)	Secondary Point	Nos.	10.00		0.00
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		0.00
3(b)	Same as serial no.1, but wiring for A/C socket by using 4*6 sq.mm. PVC insulated 1100 V grade copper conductor wire and earthing with 1*6.0 sq.mm. PVC insulated 1100 V grade copper conductor wire of weather proof type 4 way SPN DB complete in all respects controlled by with 40 Amp TPN (10 KA) MCB to be provided near outdoor unit. The point starts from DB to the point near the outdoor unit.(includes wires for terminal connection of outdoor unit from TPN)	Nos.	3.00		0.00
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 16 amps modular switch 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 b) Same as above but looped from the above 1st point to 2nd , point and 2nd point to 3rd point. (Maximum 3 points in a circuit)				
	Primary Points	Nos.	6.00		0.00
	Secondary Points	Nos.	9.00		0.00

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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 2 nos. 6 amps. 5 pin modular type sockets, one 16 amps modular switch 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 b) Same as above but looped from the above 1st point to 2nd point . (Maximum 3 points in a circuit)				
	Primary Points	Nos.	2.00		0.00
	Secondary Points	Nos.	2.00		0.00
c	Wiring with 2x2.5 sq.mm + 1x2.5 sq.mm PVC insulated 1100 V grade multi stranded copper conductor wires in 2mmthick 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 switch 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 for the rack supply e-lobby (for e-lobby the points should be in lock and key arrangement)				
	Primary Points	Nos.	3.00		0.00
d	Wiring with 2x2.5 sq.mm + 1x2.5 sq.mm PVC insulated 1100 V grade multi stranded copper conductor wires in 2mmthick PVC conduit from UPS DB to computer point. Each point to have 2 nos. 16 amps 5 pin modular type sockets, 2 No's 16 amps modular switch 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 for the rack supply in server room for 2nos. each rack , 1 nos PA rack, 1no. CCTV. b) Same as above but looped from the above 1st point to 2nd point (Maximum 2 points in a circuit)				
	Primary Points	Nos.	1.00		0.00
	Secondary Points	Nos.	2.00		0.00
B.	CONDUITING FOR TELEPHONE, COMPUTER & CONDUITING, WIRING FOR T.V. SYSTEM.				
1.0	TELEPHONE SYSTEM				

S.No.	DESCRIPTION OF WORKS	UNIT	QTY	RATE	AMOUNT
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 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 length, from the I/O hub to the point.	Nos.	12.00		0.00
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		0.00
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, HI-speed data outlet, faceplate and mounting box complete of modular type, This work includes supply and laying of CAT-6 cable in PVC conduits throughout the length, from the I/O hub to the point.	Nos.	15.00		0.00
2.2	Supplying and fixing 9U 19", 480x600x440 mm, (H x W x D), 370mm working depth (Rack with glass door, opening in the front power panel 1 (horizontal), cable manager 1 lock & key).	Nos.	1.00		0.00
2.3 a	Supply, Installation, Testing & Commissioning of 16 port Jack Panel. (1 for data GF, 1 for tele)	Nos.	2.00		0.00
2.4	Supplying and fixing Patch Cord-2 Meter- (DBPS Mounting Cord)	Nos.	15.00		0.00
2.5	Supplying and fixing Patch Cord-1 Meter-	Nos.	12.00		0.00
3.0	Supply and fixing of 1.6 mm thick G.I. Box along with RG 6 T.V Co axial socket with Cover Plate.	Nos.	2.00		0.00
4.0	Supply, drawing, connecting, testing and commissioning of T.V Coaxial cable RG 6 in existing conduit.	RM	50.00		0.00
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.				

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i	2 X 6 sq.mm. + 1 X 6 sq.mm.	RM	10.00		0.00
ii	Supplying, laying, testing & commissioning of 4 C X 10 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).	RM	30.00		0.00
iii	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 (power DB, AC & UPS).	RM	50.00		0.00
iv	Supplying, laying, testing & commissioning of 3.5C 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	RM	50.00		0.00
D.	DISTRIBUTION BOARD				
	Supplying, installing, testing & commissioning 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 box, 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 within 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.				

S.No.	DESCRIPTION OF WORKS	UNIT	QTY	RATE	AMOUNT
a	6-way TPN DB (LDB)	No.	1.00		0.00
	Incomer:-				
	1 No. 32 Amp TPN (10 KA) MCB along blanker with 32 A TPN RCCB (100 MA) each phase				
	Outgoing:-				
	18 Nos. 10 Amp (10 KA) SP MCB				
b	8-way TPN DB (P DB)	No.	1.00		0.00
	Incomer:-				
	1 No.63 Amp TPN (10 KA) MCB along blanker with 63 A TPN RCCB (100 MA) each phase				
	Outgoing:-				
	18 Nos. 16/20/ Amp (10 KA) SP MCB				
c	6-way V-TPN DB (AC DB)	No.	1.00		0.00
	Incomer:-				
	1 No. 63 Amp 4 Pole (16 KA) MCCB				
	Outgoing:-				
	3 No. 40 Amp (10 KA) TP MCB				
	6 Nos. 25/32 Amp (10 KA) SP MCB				
d	4-way TPN DB (UPS INPUT DB) in ups room	No.	1.00		0.00
	Incomer:-				
	1 No. 63 Amp 4 Pole (10 KA) MCB along blanker with blank plate				
	Outgoing:-				
	1 No. 40 Amp (10 KA) 4P MCB				
	1 Nos. 32 Amp (10 KA) DP MCB				
	4Nos. 32/10 Amp (10 KA) SP MCB				
e	12-way SPN DB (UPS DB)	No.	1.00		0.00
	Incomer:-				
	40A DP RCCB (100 MA)				
	Outgoing:-				
	10 Nos. 10 Amp (10 KA) SP MCB				
f	6-way SPN DB (For ATM DB with lock & key arrangement) if required	No.	2.00		0.00
	Incomer:-				
	32 A DP RCCB (100 MA)				
	Outgoing:-				
	4 Nos.6/10/16/25Amp (10 KA) SP MCB				

S.No.	DESCRIPTION OF WORKS	UNIT	QTY	RATE	AMOUNT
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). (WIPRO,PHILIPS,HAVELLS)				
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.	28.00		0.00
ii	Supplying, fixing, testing and commissioning of 18 W LED commercial type down lighter of make As specified in tender document or approved by SBI/Architect.	Nos.	32.00		0.00
iii	Supplying, fixing, testing and commissioning of 9 W LED commercial type down lighter of make As specified in tender document or approved by SBI/Architect.	Nos.	15.00		0.00
iv	supplying,fixing,testing and commissioning of 3W ED spot light of make,as specified in tender document or approved by the bank .Product to be approved by the consultant & Bank before proceeding for SITC	Nos.	5.00		0.00
v	LED 18 watt Tube Light with all accessories.make As specified in tender document or approved by bank	Nos.	10.00		0.00
vi	LED Strip for cove lighting 15 W per 5 M with driver and necessary installation fittings Led strip light (5 mtr.) make as specified in tender document or approved by SBI/Architect.	Nos.	5.00		0.00
vii	Profile light 25mm wide complete with LED strip 5700K with driver and necessary installation fittings as per approval of SBI/ Architect.	RM	10.00		0.00
viii	Supply, installation, testing and commissioning of following fans with all fixing materials like white Polycarbonate 2 mm Hylem sheet cover, down rods, fan box as required etc. all complete as per the directions of Engineer-in-charge.				
ix	Wall mounted fans 400/450 mm dia. make As specified in tender document or approved by SBI/Architect. (Metal Body)	Nos.	12.00		0.00
x	Supply & fixing of 1200mm sweep ceiling fans complete with regulator, hanging shackle & suitable down rod as per site conditioning complete of make As specified in tender document or approved by SBI/Architect.	Nos.	3.00		0.00
xi	Supply & fixing of 230 mm Metal Body Exhaust Fans with all accessories etc. complete of make As specified in tender document or approved by SBI/Architect.	Nos.	3.00		0.00
F.	EARTHING SYSTEM				

S.No.	DESCRIPTION OF WORKS	UNIT	QTY	RATE	AMOUNT
1	Supply, Installation, Testing and Commissioning of Waterless Maintenance Free Earthing Based on Pre-Casted Conductive Earthing Electrode i) Dimensions Length x Dia (MM) : 2000 x 100 with 15mm Solid Conductor (Cu) ii) Conduction: Non Ionic Movement of Ions iii) Multi Point Dissipation Contacts iv) Exceeds Grade 25 Concrete vi) Relative Density: 890-990 kg/m ³ vii) 3000 times more effective than Bentonite viii) Electrolytic Corrosion Resistance: >86% reduction in corrosion ix) Short Circuit Current (Tested): Peak: 40 KA RMS: 22 Kilo Amps for 1 Sec x) Mechanical Strength: >Grade 25 Concrete xi) High Fault Current Test Withstand: 1686 V for 500 ms xii) Standards: IEEE 80:2000 & BS 7430 xiii) Warranty: 10 Years Full Replacement xiv) Life of Earthing: 25 Years respectively vii) Make As approved by Bank/Architect	Nos	4.00		0.00
2	Providing and fixing of Copper strips in surface or in recess for loop earthing etc. as required.				
i	Copper Strip (PVC insulated heat shrinkable sleeves) of size 25 x 3mm as in earth continuity conductor fixed to wall or buried in ground or any other situation for loop earthing as required at site (Quantity depend on Site Requirement)	RM	50.00		0.00
ii	Providing and fixing 2 X 8 SWG dia. Cu earth wire in PVC conduit on surface or in recess for earthing along with the existing surface/ recess cable as required. From pit to the panel & UPS	RM	70.00		0.00
G.	<u>MAIN PANEL AND METER BOARD</u>				
	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 CONTROLS/NEPTUNE/TRICOLITE/SUPERTECH POWER				

S.No.	DESCRIPTION OF WORKS	UNIT	QTY	RATE	AMOUNT
	CONTROL, Type of Approval as instructed by the SBI/Architect)as per the following specifications, 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 Ics 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. 100 Amp 4P MCCB (25 KA) thermal over current, instantaneous, Short circuit realease,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 SES Meter				
	Meter board shall be lockable.				
	Complete panel described as above.	Set	1.00		0.00
b.	INCOMER				
	1no. 100 Amp 4P On Load Change over switch with 1 No. 100 Amps,TPN MCCB (25 KA) with extendible rotary handle each thermal over current, instantaneous, Short circuit realease,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.				

S.No.	DESCRIPTION OF WORKS	UNIT	QTY	RATE	AMOUNT
	Restricted Earth fault relay with 3 Nos. current transformers of 100/5 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:-				
	2 Nos 63A TPN MCCB (16 kA) terminals suitable to receive cable on one side and wire connection to Bus bars. For capacitor Bank & VTPN,				
	3 Nos 63 A TPN MCB (10 kA) terminals suitable to receive cable on one side and wire connection to Bus bars. For Power TPN & SPARE,				
	2 Nos 40A TPN MCB (10 kA) terminals suitable to receive cable on one side and wire connection to Bus bars. (For LIGHT DB & SPARE)				
	2 Nos 32A DP MCB (10 kA) terminals suitable to receive cable on one side and wire connection to Bus bars. (For ATM LIGHT DB & SIGNAGE)				
	The electrical panel as described above and specifications complete.	Set	1.00		0.00
c	Supplying, installation, testing & commissioning of 15 KVAR, APFC Panel autooperation and power factor should be nearing unity complete as required including all contactors, relays, inducting units etc. as required at site". Capacitor make: L&T/ ABB/ Siemens/ Neptune	Set	1.00		0.00
	8 nos. of capacitor duty contactors				
	1 Nos. 5 KVAR MPP type heavy duty capacitor banks along with 1 Nos. 16A TP MCB of 10 KA service breaking capacity with heavy duty solid detachable neutral link				
	4 Nos. 2 KVAR MPP type heavy duty capacitor banks along with 2 Nos. 10A TP MCB of 10 KA service breaking capacity with heavy duty solid detachable neutral link				
	2 Nos. 1 KVAR MPP type heavy duty capacitor banks along with 1 Nos. 10A TP MCB of 10 KA service breaking capacity with heavy duty solid detachable neutral link				
	TOTAL FOR ELECTRICAL WORKS				0.00
Note:- The rates quoted includes all other taxes , duties , loading, unloading , transportation, other expenses etc to site. only GST will be paid Extra					