

BILL OF QUANTITIES FOR ELECTRICAL AND ALLIED WORKS

S.N.	PARTICULARS	QTY	UNIT	RATE	AMOUNT (Rs.)
A	MAIN LT PANEL / DB'S				
1	Supply, installation, testing & commissioning of 160A IC TPN SFU with 160A HRC fuses 415 V 3 phase & neutral 50 c/s AC23 duty on MS angle iron frame fabricated out of 40 mm. x 40 mm. x 5 mm MS angle duly painted with cable end boxes, earthing, name plate danger board fixing accessories etc.	1	Set		
2	MAIN ELECTRICAL LT PANEL - Supply, Installation, Testing and Commissioning including transport to site with propoer required (PVC sheets / wooden frame) packing, store at site, erect in proper position of Sub-Main Electrical LT panel, floor mounted, front operated, dead back, totally enclosed, IP42, vermin proof, indoor, non-drawout, cubicle type power distribution panel fabricated out of 2mm thick CRCA sheet having gasketed hinged door on each cubicle, fully powder coated / enamel painted after seven tank treatment, incorporating horizontal and vertical sleeved copper / aluminium busbars complete with all internal wiring with suitable size approved make FRLS class-2 conductor grade colour coded wires, rotary handle, spreaders, 3mm thick gland plate, hinged type door with neoprene gasket, danger board, two earthing lugs, cable chamber, etc. as required housing below mentioned switchgears, metering instruments and accessories :-				
	Note :- GA & Control Drawing of the panel shall be approved by the consultant before fabrication. (Panel shall be manufactured from CPRI approved manufacturer only.) All test certificates for Panel shall be submitted alongwith the delivery of Panel at site. (Client / Consultant reserves the right to reject the Panel supplied without prior design approval / submission of required test certificates alongwith the delivery of Panel at site.)				
	(MAIN ELECTRICAL LT PANEL)				
a	INCOMER				
	1 No. 160A, FP, 36kA / 50kA, MCCB with Thermal Magnetic release, of approved make with over load (O/L), short circuit (S/C) & Earth Fault (E/F) protection. The Breaker shall be suitable for 415 Volts 50 Hz., AC supply. The breaker shall have breaking capacity of 36kA / 50kA for 1 Sec. as required. (Schneider / Hager / Legrand / Siemens / L&T make)				
	1 no. 4P Voltage Surge Protector / Arrestor including LED indicators alongwith necessary accessories.				
b	METERING				
	1 No., 3 phase CT Operated (with class-1 CT) multifunction meter / Load Manager (LM) with RS 485 communication port of approved make. The Load manger should read Ammeter, Voltmeter, KWH meter and Power Factor meter.				
c	INDICATORS				
	The following indicating lamps shall be provided for Incomer Section :-				
	1 Set of R,Y,B Phase Indicating lamps, LED type of approved make.				
	1 No. Red & 1 no. Green colour LED type indicating lamps for indicating MCCB is in 'ON' or 'OFF' position.				
d	BUSBARS				
	1 Set of 200 Amps uniformly rated, continuous duty, 415V AC, 3-Phase & Neutral electrolytic grade 99.95% Purity Tinned Copper bus-bars with colour coded heat sink sleeves supported on SMC type grip supports. The Horizontal / Vertical sections of the busbars should all be uniformly rated for 200 Amps.				
	1 Set of 25 x 5 mm copper busbars of high conductivity electrolytic quality shall be provided throught out the panel for its earthing.				
e	OUTGOINGS				
	1 No. 100A, TPN, Switch Fuse Unit (SFU) The Breaker shall be suitable for 415 Volts 50 Hz., AC supply. (For APFC Panel Incomer - 1 no.) (Schneider / Hager / Legrand / Siemens / L&T make)				

S.N.	PARTICULARS	QTY	UNIT	RATE	AMOUNT (Rs.)
	1 Nos. 125A, FP, 25kA / 36kA, MCCB with Thermal Magnetic release, of approved make with built in over load (O/L), short circuit (S/C) protection. The Breaker shall be suitable for 415 Volts 50 Hz., AC supply. The breaker shall have breaking capacity of 25 / 36 kA for 1 Sec. (For MAIN HVAC MCCB DB - 1 no.) (Schneider / Hager / Legrand / Siemens / L&T make)				
	1 Nos. 63A, FP, 25kA / 36kA, MCCB with Thermal Magnetic release, of approved make with built in over load (O/L), short circuit (S/C) protection. The Breaker shall be suitable for 415 Volts 50 Hz., AC supply. The breaker shall have breaking capacity of 25 / 36 kA for 1 Sec. (For UPS - 1 no.) (Schneider / Hager / Legrand / Siemens / L&T make)				
	5 Nos., of 40/63 Amps., TPN Miniture Circuit Breaker. The MCB shall be suitable for 415Volts 50Hz., AC supply and having fault level of 10KA. The MCB Shall have "C" curve type.(LDB- 1 No, RPDB - 1 No, E-lobby - 1 No, Spare - 2 Nos.) (Schneider / Hager / Legrand / Siemens / L&T make)				
	2 Nos., of 40/63 Amps., DP Miniture Circuit Breaker. The MCB shall be suitable for 415Volts 50Hz., AC supply and having fault level of 10KA. The MCB Shall have "C" curve type. (Schneider / Hager / Legrand / Siemens / L&T make)				
	Full Set as above	1	Nos		
3	APFC PANEL - Supply, Installation, Testing and Commissioning of Automatic Power Factor Control Panel (APFC Panel) including transport to site with proper required (PVC sheets / wooden frame) packing, store at site, erect in proper position of Sub-Main Electrical LT panel, floor mounted, front operated, dead back, totally enclosed, IP42, vermin proof, indoor, non-drawout, cubicle type power distribution panel fabricated out of 2mm thick CRCA sheet having gasketed hinged door on each cubicle, fully powder coated / enamel painted after seven tank treatment, incorporating horizontal and vertical sleeved copper / aluminium busbars complete with all internal wiring with suitable size approved make FRLS class-2 conductor grade colour coded wires, rotary handle, spreaders, 3mm thick gland plate, hinged type door with neoprene gasket, danger board, two earthing lugs, cable chamber, etc. as required housing below mentioned switchgears, metering instruments and accessories :-				
	Note :- GA & Control Drawing of the panel shall be approved by the consultant before fabrication. (Panel shall be manufactured from CPRI approved manufacturer only.) All test certificates for Panel shall be submitted alongwith the delivery of Panel at site. (Client / Consultant reserves the right to reject the Panel supplied without prior design approval / submission of required test certificates alongwith the delivery of Panel at site.)				
	APFC PANEL - With inbuilt solid state automatic power factor correction arrangement having microprocessor based control circuit and contactor switching power circuit having a required capacity of 50 KVAR having capacitor bank in steps of [(1 x 15 KVAR) + (2 x 10 KVAR) + (2 x 5 KVAR) + (1 x 3 KVAR) + (1 x 2 KVAR)] , including main MCCB, MCB's, APFC relay, contactors, capacitors, indicating lamps, etc. complete with all necessary hardware & accessories as mentioned below :-				
a	INCOMER				
	1 No. 100A, TPN, Isolator switch (Switch disconnecter/ Isolator). The Breaker shall be suitable for 415 Volts, 50 Hz., AC supply. (For APFC Panel Main Incomer - 1 no.) (Schneider / Hager / Legrand / Siemens / L&T make)				
b	BUSBARS				
	1 Set of 125 Amps uniformly rated, continuous duty, 415V AC, 3-Phase & Neutral electrolytic grade 99.95% Purity Tinned Copper bus-bars with colour coded heat sink sleeves supported on SMC type grip supports. The Horizontal / Vertical sections of the busbars should all be uniformly rated for 125 Amps.				

S.N.	PARTICULARS	QTY	UNIT	RATE	AMOUNT (Rs.)
	1 Set of 25 x 5 mm copper busbars of high conductivity electrolytic quality shall be provided through out the panel for its earthing.				
c	INSTRUMENTS				
	1 no. 0-500V Digital Voltmeter of suitable size & 1 no. suitable size Digital Ammeter				
	1 Set of phase indicating lamps, LED type, RYB.				
	1 Set of 2A 10kA C curve SP control MCB				
	1 no. 6 stage microprocessor based digital type APFC relay				
	1 set overvoltage, undervoltage, phase protection relay.				
	7 set On, Off push button, auto manual selector switch.				
	7 set On, Off LED type indication lamp				
d	OUTGOING				
	3 Nos. 32A, TP, D curve, MCB				
	2 Nos. 25A, TP, D curve, MCB				
	2 Nos. 20A, TP, D curve, MCB				
	1 No. 2 kVAR MPP heavy duty capacitor with capacitor duty contactor				
	1 No. 3 kVAR MPP heavy duty capacitor with capacitor duty contactor				
	2 Nos. 5 kVAR MPP heavy duty capacitor with capacitor duty contactor				
	2 Nos. 10 kVAR MPP heavy duty capacitor with capacitor duty contactor				
	1 Nos. 15 kVAR MPP heavy duty capacitor with capacitor duty contactor				
	The panel shall be provided with required nos of louvers in the capacitor chamber for its cooling. Also required nos of ventilation fans with auto sensing thermostat shall be provided in the panel to improve capacitor life & ventilation fans.				
	Full Set as above	1	Nos		
4	Suply and installation of 12-way, VTPN, Double door (MCCB DB), Main HVAC Distribution Board (Main HVAC DB) , having vertical fishbone busbar type, factory assembled wall mounted, sheet metal fabricated, fully powder coated, having dust proof & vermin proof hinged door with all internals such as DIN channels, neutral link, internal wiring complete with double earthing lugs including DB wiring dressing with ferruling, termination of circuits with ping type copper lugs, etc. housing following switchgears. (Schneider / Hager / Legrand / Siemens / L&T make)				
a	INCOMER				
	1 No. 125A, FP, 36kA / 25kA, MCCB with Thermal Magnetic release, of approved make with over load (O/L), short circuit (S/C) & Earth Fault (E/F) protection. The Breaker shall be suitable for 415 Volts 50 Hz., AC supply. The breaker shall have breaking capacity of 36kA / 25kA for 1 Sec. as required. (Schneider / Hager / Legrand / Siemens / L&T make)				
a	OUTGOING				
	4 Nos., 40 /63A, TP, MCB, "C" curve type as outgoing (VRV ODU - 3 Nos., Spare - 1 No)				
	5 Nos., 20/25A, TP, MCB, "C" curve type as outgoing (8 Tr. Indoor Units- 4 Nos, Spare - 1 no.)				
	9 nos, 20/25A, SP, MCB, "C" curve type as outgoing.(Indoor machines Supply)				
	Full Set as above	1	Nos		
5	Suply and installation of 6-way, PPI TPN, Double Door, Metal type, with Plain / Transperant Door (As approved by client / consultant / architect), Lighting Distribution Board (LDB), surface / flush mounted on wall , interconnected wiring complete with earthing lugs, including DB wiring dressing with ferruling, termination of circuits with ping type copper lugs, blank plates, etc. housing following switchgears : (Schneider / Hager / Siemens / Legrand make as approved by client / consultant)				
	(Note :- DB size & type selection shall be done with reference to the total number of modules / poles available in the DB which shall be suitable for housing of below mentioned switchgears & components forming a complete set.)				

S.N.	PARTICULARS	QTY	UNIT	RATE	AMOUNT (Rs.)
a	1 no., 40A, FP MCB, "C" curve type as incomer				
b	3 no.s, 25A, DP RCCB with sensitivity of 100mA, as sub-incomer.				
c	18 nos, 10/16A, SP, MCB, "C" curve type as outgoings.				
	Full Set as above	1	Nos		
6	Supply and installation of 8-way, TPN, Double Door, Metal type, with Plain / Transperant Door (As approved by client / consultant / architect), Raw Power Distribution Board (RPDB), surface / flush mounted on wall , interconnected wiring complete with earthing lugs, including DB wiring dressing with ferruling, termination of circuits with ping type copper lugs, blank plates, etc. housing following switchgears : (Schneider / Hager / Siemens / Legrand make as approved by client / consultant)				
	(Note :- DB size & type selection shall be done with reference to the total number of modules / poles available in the DB which shall be suitable for housing of below mentioned switchgears & components forming a complete set.)				
a	1 no., 63A, FP MCB, "C" curve type as incomer				
b	24 nos, 16/20/25A, SP, MCB, "C" curve type as outgoing.				
	Full Set as above	1	Nos		
7	Supply and installation of 12-way, SPN, Double Door, Metal type, with Plain / Transperant Door (As approved by client / consultant / architect), Main UPS Power Distribution Board (UPSDB), surface / flush mounted on wall , interconnected wiring complete with earthing lugs, including DB wiring dressing with ferruling, termination of circuits with ping type copper lugs, blank plates, etc. housing following switchgears : (Schneider / Hager / Siemens / Legrand make as approved by client / consultant)				
a	1 no., 63A, DP MCB, "D" curve type as incomer				
b	4 no.s 63/40/32A DP MCB's, "D" curve type as outgoings				
	Full Set as above	1	Nos		
8	Supply and installation of 4-way, SPN, Double Door, Metal type, with Plain / Transperant Door (As approved by client / consultant / architect), UPS Power Distribution Board (UPSDB) (for Server Room), surface / flush mounted on wall , interconnected wiring complete with earthing lugs, including DB wiring dressing with ferruling, termination of circuits with ping type copper lugs, blank plates, etc. housing following switchgears : (Schneider / Hager / Siemens / Legrand make as approved by client / consultant)				
a	1 no., 40/32A, DP MCB, "D" curve type as incomer				
b	2 nos, 16/20/25A, SP, MCB, "D" curve type as outgoings				
	Full Set as above	1	Nos		
9	Supply and installation of 8-way, SPN, Double Door, Metal type, with Plain / Transperant Door (As approved by client / consultant / architect), UPS Power Distribution Board (UPSDB) (for Office Area), surface / flush mounted on wall , interconnected wiring complete with earthing lugs, including DB wiring dressing with ferruling, termination of circuits with ping type copper lugs, blank plates, etc. housing following switchgears : (Schneider / Hager / Siemens / Legrand make as approved by client / consultant)				
a	1 no., 40/32A, DP MCB, "D" curve type as incomer				
b	6 nos, 16/20A, SP, MCB, "D" curve type as outgoings				
	Full Set as above	1	Nos		

S.N.	PARTICULARS	QTY	UNIT	RATE	AMOUNT (Rs.)
10	Supply and installation of 12-way, SPN, Double Door, Metal type, with Plain / Transperant Door (As approved by client / consultant / architect), UPS Power Distribution Board (UPSDB) (for Office Area), surface / flush mounted on wall , interconnected wiring complete with earthing lugs, including DB wiring dressing with ferruling, termination of circuits with ping type copper lugs, blank plates, etc. housing following switchgears : (Schneider / Hager / Siemens / Legrand make as approved by client / consultant)				
a	1 no., 63/40A, DP MCB, "D" curve type as incomer				
b	10 nos, 16/20A, SP, MCB, "D" curve type as outgoings				
	Full Set as above	1	Nos		
11	Supply & Installation of 20/32A, DP, MCB, box with 20A, metal clad / modular plug-socket including power circuit of (2x4 + 1x2.5) sq. mm FRLS copper flexible wires directly taken from the relevant DB through PVC conduits for room A/C including all necessary hardware & accessories, etc. (Schneider / Hager / Legrand / Siemens / L&T make)	1	Nos		
12	Supply & Installation of 20A, timer switch with 2 no.s of 20A DP MCB's alongwith suitable size enclosure box for switching of A.C.'s, etc. alongwith 2NO 25A 1M contactor in the same enclosure box for controlling 2 no.s of AC power circuit through Timer including power circuits of (2x4 + 1x2.5) sq. mm FRLS copper flexible wires directly taken from the relevant DB through PVC conduits for room A/C's through timer & contactor including all necessary hardware & accessories, etc. complete as required. (Schneider / Hager / Legrand / Siemens / L&T make)	1	Nos		
13	Supply & Installation of 16A AC1, Digital Timer Switch alongwith 1 no. 2NO 25A 1M contactor alongwith suitable size enclosure box for signage, etc. including power circuit wiring of (2x4 + 1x2.5 Sq.mm) FRLS flexible wires laid through PVC conduit directly taken from DB including all necessary hardware & accessories, etc. complete as required. (Schneider / Hager / Legrand / Siemens / L&T make)	2	Nos		
14	Supply & Installation of 20/32A, DP, MCB, box with 20A, metal clad plug-socket including power circuit of (2x4 + 1x2.5) sq. mm FRLS copper flexible wires directly taken from the relevant DB through PVC conduits for termination of strong room main electrical power supply into 20A metal clad plug socket mounted / installed outside near strong room entrance door alongwith 3C x 4 Sq.mm Cu. flexible cable laid through flexible metal conduit for connection into the strong room main switch board / DB including all necessary hardware & accessories, etc. (Schneider / Hager / Legrand / Siemens / L&T make)	2	Nos		
15	Supply & Installation of 63A, TPN MCCB with RYB Indicator Lamps with Enclosure for terminating supply to UPS i/p - o/p alongwith all necessary hardware & accessories, etc. complete as required. (Schneider / Hager / Legrand / Siemens / L&T make)	1	Nos		
16	Supply & Installation of 40/63A, TPN MCB with weatherproof box for terminating supply to AC's, Pump machines , etc. alongwith all necessary hardware & accessories, etc. complete as required. (Schneider / Hager / Legrand / Siemens / L&T make)	1	Nos		
17	Supply & Installation of 32/25A, TPN MCB with weatherproof box for terminating supply to AC's, Pump machines , etc. alongwith all necessary hardware & accessories, etc. complete as required. (Schneider / Hager / Legrand / Siemens / L&T make)	4	Nos		
18	Supply & Installation of 32/25A, DP MCB with weatherproof box for terminating supply to AC's, Pump machines , etc. alongwith all necessary hardware & accessories, etc. complete as required. (Schneider / Hager / Legrand / Siemens / L&T make)	1	Nos		

S.N.	PARTICULARS	QTY	UNIT	RATE	AMOUNT (Rs.)
19	Supply & Installation of 63/40A, DP MCB with suitable enclosure for terminating supply to UPS i/p - o/p alongwith all necessary hardware & accessories, etc. complete as required. (Schneider / Hager / Legrand / Siemens / L&T make)	1	Nos		
20	Supply & Installation of 40/63A, 4P, RCBO, 300mA in IP55 Metal boards enclosure (For VRV ODU's)	3	Nos		
21	Lumpsum charges for arranging temporary power supply and lighting for all the contractor at site including the required number of tubelight fittings, sufficient number of plug points with plug tops, providing temporary supply arrangements for temporary workstations and including all the necessary safety devices like ELCB etc. to ensure SAFE & CONTINUED supply at site. Also removing of all type of existing electrical installations including light fittings, conduits, switch, socket, casing-capping, DB's MCB's, etc. complete as directed by the client / consultant at site & handing over to the client / Branch Manager at site.		LS		
	TOTAL of SECTION (A)				

S.N.	PARTICULARS	QTY	UNIT	RATE	AMOUNT (Rs.)
B	CABELS / MAINS				
1	Supply & Installation of 1100V grade armoured cable having sector / circular shaped aluminium / copper conductor PVC insulated cores, laid up, PVC tape wrapped inner sheathed, GI strip / wire armoured and overall extruded PVC sheathed conforming to IS: 1554, laid on wall / ceiling using GI clamps & spacers as per route shown at site and further as directed by Consultant at site in the following sizes :- (Make - Polycab / Finolex / CCI / RR / Havells)				
	NOTE :- All Armoured cables shall be provided with temporary labelling at every 5mtrs & then finally with metal identification tags showing the size & the location from/to the respective Panel / DB, at both the ends.				
1.1	3 1/2 C x 150 Sq.mm Aluminium Armoured cable with 2 runs of 8 SWG GI bare wire (From Meter Room to Main SFU to Main MCCB in Main Electrical LT Panel, location as approved in the proposed premises)	5	Mtrs		
1.2	3 1/2 C x 50 Sq.mm Aluminium Armoured cable with 2 runs of 8 SWG GI bare wire(Main Electrical LT Panel to APFC Main incomer & Main HVAC DB)	20	Mtrs		
1.3	4C x 16 Sq.mm Copper Armoured cable with 2 runs of 12 SWG GI bare wire (Main LT Panel to UPS Input, RPDB & Main HVAC DB to VRV ODU - 2 NOS)	195	Mtrs		
1.4	4C x 10 Sq.mm Copper Armoured cable with 2 runs of 12 SWG GI bare wire. (Main HVAC DB to VRV ODU - 1 NO.)	90	Mtrs		
1.5	4C x 6 Sq.mm Copper Armoured cable with 2 runs of 12 SWG GI bare wire (Main Power DB to LDB).	15	Mtrs		
1.6	4C x 4 Sq.mm Copper Armoured cable with 2 runs of 12 SWG GI bare wire	5	Mtrs		
1.7	4C x 2.5 Sq.mm Copper Armoured cable with 2 runs of 12 SWG GI bare wire (Main HVAC DB to 8 Tr. Indoor AHU - 4 Nos)	120	Mtrs		
1.8	2C x 16 Sq.mm Copper Armoured cable with 2 runs of 12 SWG GI bare wire (Main UPS Output to Main UPSDB)	8	Mtrs		
1.9	2C x 10 Sq.mm Copper Armoured cable with 2 runs of 12 SWG GI bare wire (Main UPS Output DB to Office Area UPSDB)	30	Mtrs		
1.10	2C x 4 Sq.mm Copper Armoured cable with 2 runs of 12 SWG GI bare wire (Main UPS Output DB to Server Room UPSDB)	70	Mtrs		
1.11	2C x 1.5 Sq.mm Copper Armoured cable (APFC Panel to DG AMF Panel) (DG supply sensing cable to cut off APFC in case of DG supply)	85	Mtrs		
1.12	1C x 16 Sq.mm Copper flexible lead wire through flexible PVC conduits (UPS i/p, o/p connections, etc.)	20	Mtrs		
1.13	1C x 10 Sq.mm Copper flexible lead wire through flexible PVC conduits (UPS i/p, o/p connections, etc.)	5	Mtrs		
2	GLANDING & TERMINATION :- Supply & Installation of end termination of above mentioned cables including compressed type brass glands , crimping type copper lugs, insulation tape etc. as 'required complete with earthing of glands in following sizes :-				
2.1	3 1/2 C x 150 Sq.mm Aluminium Armoured cable	2	Nos		
2.2	3 1/2 C x 35 Sq.mm Aluminium Armoured cable	4	Nos		
2.3	4C x 16 Sq.mm Copper Armoured cable	6	Nos		
2.4	4C x 10 Sq.mm Copper Armoured cable	2	Nos		
2.5	4C x 6 Sq.mm Copper Armoured cable	4	Nos		
2.6	4C x 4 Sq.mm Copper Armoured cable	1	Nos		
2.7	4C x 2.5 Sq.mm Copper Armoured cable	8	Nos		
2.8	2C x 16 Sq.mm Copper Armoured cable	2	Nos		
2.9	2C x 10 Sq.mm Copper Armoured cable	4	Nos		
2.10	2C x 4 Sq.mm Copper Armoured cable	4	Nos		
2.11	2C x 1.5 Sq.mm Copper Armoured cable	2	Nos		
2.12	1C x 16 Sq.mm Copper flexible lead wire through flexible PVC conduits (UPS i/p, o/p connections, etc.)	8	Nos		
2.13	1C x 10 Sq.mm Copper flexible lead wire through flexible PVC conduits (UPS i/p, o/p connections, etc.)	1	Nos		
	TOTAL of SECTION (B)				

S.N.	PARTICULARS	QTY	UNIT	RATE	AMOUNT (Rs.)
C	EARTHING (GENERAL / DEDICATED)				
1	Supply & Installation of earth pit comprising of 600mm x 600mm x 6mm thick copper plate buried at a minimum depth of 1.5 meter including necessary materials like charcoal, salt etc. as required conforming to BIS standards having brick masonry chamber with hinged cover and watering arrangement. (Earth Pit - 1) (Dedicated UPS Earthing Pit)	1	Nos		
2	Supply & Installation of earth pit comprising of 600mm x 600mm x 6mm thick GI plate buried at a minimum depth of 1.5 meter including necessary materials like charcoal, salt etc. as required conforming to BIS standards having brick masonry chamber with hinged cover and watering arrangement. (Earth Pit - 2) (Electrical Earthing Pit)	1	Nos		
3	Supply & Installation of copper /GI earthing wires/strips in following sizes including all necessary hardware & accessories, etc.:-				
3.1	25 x 5 GI. Strip through PVC sleeve (Electrical Earthing) (From Electrical Earthing Pit to Main Electrical Earthing Busbar)	100	Mtrs		
3.2	1C x 16 sq.mm flexible Cu. Wire through heavy guage PVC conduit in case of wall / ceiling surface / conceled run & through heavy guage M.S. conduit in case of underground run including all necessary hardware & accessories, etc. complete as required. (Dedicated UPS Earthing)	100	Mtrs		
3.3	1C x 10 sq.mm flexible Cu. Wire through heavy guage PVC conduit in case of wall / ceiling surface / conceled run & through heavy guage M.S. conduit in case of underground run including all necessary hardware & accessories, etc. complete as required. (Dedicated UPS Earthing)	5	Mtrs		
4	Supply & Installation of (32 x 3)mm of 300mm length Cu. earthing bus with enclouser with sufficient no. of hole for connecting earthing wire with necessary accessories, hardware, etc. (UPS Earthing BUS)	1	Nos		
5	Supply & Installation of (32 x 6)mm of 300mm length GI. earthing bus with enclouser with sufficient no. of hole for connecting earthing wire with necessary accessories, hardware, etc. (General Electrical Earthing BUS)	1	Nos		
6	Supply & Installation of Cable tray (150 mm x 150 mm x 50 mm) with all required necessary hardware & accessories.	15	Mtrs		
	TOTAL of SECTION (C)				
D	INTERNAL LIGHTING & POWER WIRING				
1	Supply & Installation of concealed / ressed / surface light point / fan point / call bell point wiring using 600V FRLS grade 3R (P+N+E) x 1.5 Sq.mm copper conductor PVC insulated wires (with proper R,Y,B color code) pulled through heavy gauge PVC conduits laid concealed over false ceiling or in wall chases or on the ceiling in case of an open ceiling including 3R (P+N+E) x 2.5 Sq.mm circuit wires from the relevant DB and also including 2.5 sqmm green color copper earth wire and approved make modular type switch plate, switches, MS concealed back box, etc. as required & as approved by the consultant. (Each circuit shall not feed more than 8 points OR 800 watts as per following configuration.) <u>(The item rate shall include Lighting / Raw / UPS Power Circuit wiring from relevent DB to the switch board with 3Rx2.5 Sq.mm FRLS wires & from switch board to next switch board OR to the first light point / primary point / full point)</u>				

S.N.	PARTICULARS	QTY	UNIT	RATE	AMOUNT (Rs.)
	NOTE :- 1. Only FRLS wire shall be used; 2. Conduit carrying circuit wiring should not carry point wiring and Conduit carrying point wiring should not carry submain/circuit wiring; 3. Flexible conduits & Elbows are not allowed; 4. The wires from ceiling junction to light points / light fixture shall be drawn in flexible PVC conduit with adaptor & cover for junction box & crimp type lugs at both the ends alongwith necessary hardware & accessories, etc. as required; 5. Proper ferrules, lugs, must be used in all cabling and wiring on both load / source end; 6. Each switch board must be provided with respective ferrules representing the respective DB, Phase & Circuit numbers; 7. Looping of Neutral / Earth wire between two separate Primary / Full Points is strictly not allowed; 8. Looping of Neutral / Earth wire between two separate circuits on similar or other phase is strictly not allowed; 9. Ferruling / numbering / tagging to wires with circuit number & db name for all lighting & raw / ups power shall be strictly followed at both DB & switch board / switch socket boards ends.				
1.1	Primary light points including the cost of 5A switch	99	Nos		
1.2	Secondary light points looped from the above point	110	Nos		
1.3	Two way light point including the cost of 5A two way switch	2	Nos		
1.4	Fan Point including 120W Electronic type step regulator, anchor fastner & 'S' type fan hook in ceiling to suspend ceiling fan by cutting / chiesling / painting as required	4	Nos		
1.5	Bell point comprising of wiring as above including G-Magic Wireless Door Bell 4061 with Remote, 32-Melodies & Flashing Light.	2	Nos		
1.6	5A plug point as primary point independent mounted on wall / partition / on work station, etc. (UPS / RAW Power) (Only five workstations / independent mounted raw power points shall be looped in one raw power circuit. Whereas in measurements out of five workstations / independent mounted, four no.s of 5A s/s raw points will be considered as secondary points & 1 no. of 5A s/s raw point will be considered as primary point.)	30	Nos		
1.7	Secondary 5A Plug point on switch board or looped from above 5A primary point (UPS / RAW Power) (Only five workstations / independent mounted raw power points shall be looped in one raw power circuit. Whereas in measurements out of five workstations / independent mounted, four no.s of 5A s/s raw points will be considered as secondary points & 1 no. of 5A s/s raw point will be considered as primary point.)	45	Nos		
1.8	Exhaust fan point consisting of 5A socket near fan and switch on light switch board	5	Nos		
2	Supply & installation of 5/15A Plug Point directly taken from DB for Pantry / geyser / zerox / printer / fridge, etc. including 2 x 2.5 sqmm FRLS grade circuit wires directly taken from the relevant DB and also including 2.5 sqmm green color copper earth wire all laid through PVC conduit with all necessary hardware & accessories, etc. (UPS / Raw Power)	12	Nos		
3	Supply & Installation of point wiring for UPS or stabilized power plug points on workstations / table for computers using 3C X2.5 Sqmm FRLS grade copper conductor PVC sheathed white color flexible cable pulled through already laid floor raceways and taken upto table top using PVC rigid or flexible conduits run within wooden/metal partitions. Each point consisting of 4 nos of 5A , 2/3 pin sockets & 1 No., 15A Switch , wired together forming one point. The earth wire of 3 core flexible cable to be of yellow-green color only. (ONLY FOUR tables served by one circuit from DB)	1	Nos		
4	Supply & Installation of point wiring for UPS or stabilized power plug points on workstations / table for computers using 3C X2.5 Sqmm FRLS grade copper conductor PVC sheathed white color flexible cable pulled through already laid floor raceways and taken upto table top using PVC rigid or flexible conduits run within wooden/metal partitions. Each point consisting of 3 nos of 5A , 2/3 pin sockets below table top & 1 No., 15A Switch above table top, wired together forming one point. The earth wire of 3 core flexible cable to be of yellow-green color only. (ONLY FOUR tables served by one circuit from DB)	45	Nos		

S.N.	PARTICULARS	QTY	UNIT	RATE	AMOUNT (Rs.)
5	Supply & Installation of point wiring for UPS or stabilized power plug points on workstations / table for computers using 3C X2.5 Sqmm FRLS grade copper conductor PVC sheathed white color flexible cable pulled through already laid floor raceways and taken upto table top using PVC rigid or flexible conduits run within wooden/metal partitions. Each point consisting of 2 nos of 5A , 2/3 pin sockets & 1 No., 15A Switch , wired together forming one point. The earth wire of 3 core flexible cable to be of yellow-green color only. (ONLY FOUR tables served by one circiut from DB)	4	Nos		
6	Supply & Installation of TV socket outlet point including approved make modular switchboard / in the existing switch board including all the necessary hardware & accessories, etc.	2	Nos		
7	Supply & Installation of RG6 TV cable through heavy guage PVC conduit to be laid surface / cancelled including all necessary hardware & accessories, etc.	90	Rmt.		
	TOTAL of SECTION (D)				

E	TRENCHING / FLOOR -RACEWAYS				
1	Supply and laying Raceways / Conduits (for under floor trenches / On trays) on existing flooring. Raceways / conduits shall be fixed to the flooring with GI clamps for finished levels as per the site conditions or through partitions with all accessories. The rate shall include preparation of trenches of required sizes by carefully removing the malwa on existing floor for laying Raceways/conduits for power, data, telephone cables etc. The depth of the trenches shall be at least 2 inches from the finished floor level or upto RCC of the slab. The rate shall include the cost of the Raceways/conduits. The rate shall also include the activity of clearing the debris generated from the preparation of trenches & filling the same with PCC. (FOR THE PORTION WITHOUT FALSE FLOORING)				
1.1	80 x 40 x 1.6mm thick Aluminium Raceways	30	Mtrs		
1.2	60 x 40 x 1.6mm thick Aluminium Raceways	25	Mtrs		
1.3	32 mm heavy guage PVC conduit to be laid cancelled / surface in / on wall / floor as required as per the above mentioned specifications	55	Mtrs		
1.4	25 mm heavy guage PVC conduit to be laid cancelled / surface in / on wall / floor as required as per the above mentioned specifications	200	Mtrs		
2	Supply & Installation of floor junction boxes without top cover for above raceways, of following sizes , fabricated out of M.S. sheets, fully powder coated with provision for removable M.S. / S.S. screwed cover plates on all four sides for blocking the entry into the junction box. All the junction boxes to be (with stud) 'properly earth - bonded with the raceways pipe using 12 SWG Copper bare wire as directed at site.				
2.1	Junction Box of size (250mm x 250mm x 50mm x 2.5mm thick)	2	Nos		
2.2	Junction Box of size (300mm x 300mm x 50mm x 2.5mm thick)	2	Nos		
2.3	Junction Box of size (350mm x 350mm x 50mm x 2.5mm thick)	1	Nos		

S.N.	PARTICULARS	QTY	UNIT	RATE	AMOUNT (Rs.)
3	Supply & Installation of suitable sizes 2mm thick removable cover plate screwed on all four sides of M.S. sheet, fully powder coated, for blocking the entry into the floor junction box for following sizes of junction boxes with rounded corners as per the instruction given & sample approved by the client / architect / consultant at site. Cover plate shall have required no.s of 1' dia knockouts for flexible conduit outlets as per the requirement.				
3.1	for Junction Box of size (250mm x 250mm x 50mm x 2.5mm thick)	2	Nos		
3.2	for Junction Box of size (300mm x 300mm x 50mm x 2.5mm thick)	2	Nos		
3.3	for Junction Box of size (350mm x 350mm x 50mm x 2.5mm thick)	1	Nos		
4	Supply & Installation of Cable tray (150 mm x 150 mm x 50 mm) with all required necessary hardware & accessories.	30	Mtrs		
	TOTAL of SECTION (E)				

F	LIGHTING FIXTURES				
	Supply & Installation of lighting fixtures with lamps as per the details below including necessary hardware such as clamps, nuts, bolts, nails, screws and suspension rods as required for fixing the fixtures in position as directed by architect / consultant / client.				
	Note :- All Light Fixtures, Fans, Exhaust Fans & other fittings samples shall be approved by the Client / Architect / Consultant before placing order to the Light Fixture Vendor / Supplier. All Light Fixtures shall be of Philips / Wipro / GE make only unless & otherwise other makes are specified. Client / Architect / Consultant reserves right to approve / select final Light Fixtures from any make as required.				
1	LED Type Light fixture suitable for Modular Ceiling				
1.1	Supply & Installation of (29/30/36W) (2' X 2') LED Mirror optic Light fixture. The fitting shall be surface mounted / to be hanged from the ceiling at the height approved by architect. (PHILIPS Cat No. :- RC380B 29W or equivalent category & model in Bajaj / CGL / WIPRO / GE make as approved by client / architect / consultant.)	40	Nos		
2	LED Type Light fixture suitable for Modular / Plain Ceiling				
2.1	Supply & Installation of (15/18 W) LED Spotlight flush mounted Light fixture. (PHILIPS Cat No. :- DN193 LED 12S or equivalent category & model in Bajaj / CGL / WIPRO / GE make as approved by client / architect / consultant.)	120	Nos		
2.2	Supply & Installation of (10/12 W) LED Spotlight flush mounted Light fixture. (PHILIPS Cat No. :- Ultima DN 092 or equivalent category & model in Bajaj / CGL / WIPRO / GE make as approved by client / architect / consultant.)	10	Nos		
2.3	Supply & Installation of (3W) LED Spotlight fixed / eye ball rotating type as approved flush mounted Light fixture. (PHILIPS / HAVELLS / CGL / WIPRO / GE make as approved by client / architect / consultant.)	1	Nos		
2.4	Supply & Installation of (1W) LED Spotlight fixed / eye ball rotating type as approved flush mounted Light fixture. (PHILIPS / HAVELLS / CGL / WIPRO / GE make as approved by client / architect / consultant.)	1	Nos		
3	Cove / Indirect Lighting & Other Area Lighting				
3.1	Supply & Installation of single color (warm white 2800k light / any other approved color) flexible LED strip light including required rated driver / power supply in multiples of 1 Rmtr as approved by the architect / consultant / client along with all necessary hardware & accessories, etc. complete as required (PHILIPS / WIPRO / CGL / GE / Bajaj make as approved by client / architect / consultant).	150	Rmt		
3.2	S & I of (20/22W) (4') LED Tubelight. (Philips Cat No. - BN021 LED 20S or equivalent model in Wipro / CG / GE / Bajaj make)	15	Nos		
3.3	S & I of (10/12W) (2') LED Tubelight. (Philips / Wipro / CG / GE / Bajaj make)	7	Nos		
3.4	Supply & Installation of Decortive Indoor / Outdoor type Light fixture (LED type preferably). Basic cost of the fitting including lamp shall be not be more than Rs. 2000/- (Inclusive of all taxes, duties, etc.). The fitting shall be surface mounted / to be hanged from the ceiling at the height approved by architect.	1	Nos		

S.N.	PARTICULARS	QTY	UNIT	RATE	AMOUNT (Rs.)
3.5	Supply & Installation of Decorative Indoor / Outdoor type Light fixture (LED type preferably). Basic cost of the fitting including lamp shall be not be more than Rs. 2500/-(Inclusive of all taxes, duties, etc.). The fitting shall be surface mounted / to be hanged from the ceiling at the height approved by architect.	1	Nos		
4	Fans & Exhaust Fans				
4.1	S & I of Wall mounted exhaust fan (9" dia.) of decorative plastic body and blade with louvers on the outside of approved make	5	Nos		
4.2	S & I of approved make Ceiling Fan (4'dia / 1200 mm dia) (BEE 5 star rated) (Colour :- White / Brown / Ivory as approved by client / architect / consultant) alongwith required hardware & accessories, etc.	4	Nos		
4.3	S & I of approved make 400 mm dia. Decorative Wall Fan alongwith required hardware & accessories, etc. as approved by Architech / Consultant / Client.	1	Nos		
4.4	S & I of approved make 400 mm dia. Decorative Pedastal Fan alongwith required hardware & accessories, etc. as approved by Architech / Consultant / Client.	1	Nos		
	TOTAL of SECTION (F)				
G	VOICE NETWORKING				
1	Supply & Installation of RJ-11 telephone socket outlet point alongwith PVC back box including 2 pair telephone cable from Telephone MDF upto individual Telephone socket outlet through already laid trenches / raceways / conduits including all necessary hardware & accessories, etc. complete as required.	50	Nos.		
2	Supply, installation, testing and commissioning of indoor type telephone Main Distribution Frame (MDF) / Box with suitable S.S. frame for mounting tag module, cable, wires and incorporated in 16 SWG MS box with proper lockable cover. The box should be fixed on wall with suitable fasteners including painting & earthing. This also includes fixing the cable, distribution chart sufficient space for the cables, wires etc.to be provided in the box for :-				
2.1	Supply & Installation of 100 pair MDF with Krone module including all hardware & accessorial , etc. complete as required.	1	Nos.		
3	Supply & Installation of Data point outlet PVC back box	50	Nos.		
4	Termination, Testing and Documentation of Telephone Points	50	Nos.		
5	Supply & Laying of 10 pair telephone cable through heavy guage pvc conduit including all necessary hardware & accessories, etc.	50	Rmt		
	TOTAL of SECTION (G)				
H	MUSIC CUM PUBLIC ADDRESS SYSTEM				
1	Supply, Installation, Testing, Commisioning of point wiring for music - cum PA system comprising of 2x 1.0 sqmm stranded , copper conductor , flexible PVC insulated and PVC Sheathed wire pulled through 20 mm dia. PVC heavy gauge conduits and looped from one speaker to other and to the volume control switch wherever applicable and finally terminated an tagblock.	25	Nos		
2	Supply, Installation, Testing, Commisioning of of 6" dia music speakers to be flushed mounted on false ceiling similar to BOSCH / approved equivalent make. All speakers to be equipped with matching transformer for direct connection to 100v output line	25	Nos		
3	Supply, Installation, Testing, Commisioning of of 6W Wall mounted music speakers to be mounted on wall / partition similar to BOSCH / equivalent make.All speakers to be equipped with matching transformer for direct connection to 100v output line	1	Nos		
4	Supply, Installation, Testing, Commisioning of volume control - cum - ON - OFF switch flush mounted on wall along with other electrical switches .The size and plate of the regulating knob should match with other switches nearby.	5	Nos		
5	Supply, Installation & Testing of Microphone of Ahuja / approved equivalent make	1	Nos		

S.N.	PARTICULARS	QTY	UNIT	RATE	AMOUNT (Rs.)
6	Supply, Installation & Testing of Amplifier for Public Address System suitable to operate on 230V A.C. / 12V D.C. supply with two low impedance microphone input, tone control, protection circuit complete for the speakers output lines. (Ahuja / approved equivalent make)	1	Nos		
7	Supply, Installation & Testing of Music system (but cost of the player not more than Rs. 5500/-), the system to be of Philips / Sony make. The system to comprise of MP3 compatible discs, FM radio, Audio cassette, etc. complete with all necessary hardware & accessories, etc.	1	Nos		
	TOTAL of SECTION (H)				