

**BOQ FOR INTERNAL ELECTRICAL WORKS AT SPECIALISED CURRENCY ADMINISTRATION BRANCH(SCAB), VARANASI**

S. No.	Item Description	Unit	Qty	Rate	Amount
	<b>SECTION-I. INTERNAL ELECTRICAL WORKS</b>				
<b>1</b>	<b>ENCLOSED ON LOAD CHANGEOVER SWITCH</b>				
	Supply, Installation, Testing and Commissioning of Enclosed On Load Changeover Switch in sheet steel enclosure 3 phase system., 315A, 415V, 4P, 50Hz, as per IEC 60947-2,with all needed fittings ,control cable and accessories to get job ready according to specifications and supervisor engineer instructions.	Set	1		
<b>2</b>	<b>MAIN L.T. PANEL</b>				
a)	Design, Manufacturing, Supply, Receiving, Unloading, Shifting, Installation, Testing & commissioning of new fully compartmentalised, wall/ Floor mounted, if floor mounted than stand should be made of MS channel/angle grouted to floor with the panel 450 mm above ground level, bottom/top cable entry, front operating, indoor duty, dust & vermin proof, dead back main electrical panel made of 16g CRCA sheet steel painted with one coat of red oxide primer and two coat of outdoor type synthetic enamel paint (spray painted) after de greasing, de rusting and phosphading, with two earth studs, 30x6 mm G.I. Earth bus, SMC/DMC insulator, the panel shall have changeover facility & interlocking through PLC to achieve electrical interlocking, as required and comprising of the following:				
	(Each Incoming MCCB shall have thermal magnetic release and variable current setting from front, adjustable overcurrent, short circuit & earth fault protection, front extended lockable handle, pad lockable in off position, shrouding on incomer side, termination shall be suitable for aluminium bus bars / cables and as per specification.)				
	<b>Incomer</b> :: 1 No. 250 Amp FP Moulded Case Circuit Breaker with thermal magnetic based adjustable over current, short circuit. (For 1 x 160 KVA CSS Incomer) (36 KA)				
	<b>Outgoing : I</b> One 415V, 4P, 100A, 25KA breaking capacity MCCB with adjustable thermal and fixed magnetic release outgoing(30 KVA UPS for ground floor ).				
	ii. One nos. 415V, 4P, 100A, 25KA breaking capacity MCCB(one for APFC panel/section )				
	iii. Four nos. 415V, 4P, 63A, 10 KA breaking capacity MCB with adjustable thermal and fixed magnetic release out going.(Two for power Dbs and two for AC DBs and one spare)				
	iv. Three nos. 415V, 4P, 40A, 10 KA breaking capacity MCB with adjustable thermal and fixed magnetic release out going.(Two for light Dbs and one spare)				
	iv. One no. 230V, DP, 63A, 10 KA breaking capacity MCB with adjustable thermal and fixed magnetic release out going.(5 KVA UPS for first floor ).				
	v. One spare compartment for 4P, 100A MCCB and 4P 63 MCB(With fixing of MCCB and MCB).				
	Bus bar chamber with R,Y,B and N bus bars made of 25x10 mm Aluminium(Indal, Hindalco, Balco).				
	Digital Ammeter with CT Set and selector switch, RYB LED LAMP				
	ON/OFF Indicating Lamp				
	1 set 3 phase digital ammeter with CT				
	1 set 3 phase digital voltmeter				
	1 set phase digital frequency meter with CT				
	Danger plate should be provided. All MCCB should be with external rotary handle, separator sheet and spreader terminals. Minimum phase to phase distance 32 mm, phase to neutral and earth 26 mm. Metallic partition should be provided between adjacent cubical/compartment. Cubical should be made of vermin and dust proof by means of suitable gasket around all door/covers removable gland plates to be provided. All bus bar should be sleeved by heat shrinkable PVC red, yellow, blue and black coloured. All wiring to be done by PVC insulated 1100V grade copper flexible conductor wire of following size. CT circuit : 2.5 sq. mm PT circuit : 1.5 sq. mm all wires to be provided with appropriate crimping type lugs/ferrules for termination. Protection shrouds to be provided on incoming side of incomer and on normally live parts when cubical door is opened. Bakelite barriers of 4 mm thickness shall be provided on incoming and outgoing side of incomer. Approval of general layout, manufacturing and single line diagram drawing allation of modular MS board, 6/10Amp switches, Sockets etc. complete for power board.along with HV withstand and insulation resistance test reports.				
	Total for Main LT panel as described above	Set	1		

S. No.	Item Description	Unit	Qty	Rate	Amount
2. b)	30 KVAR CAPACITOR BANK PANEL - 01 SET. (EACH SET SHALL HAVE FOLLOWING)-				
	<b>The fabrication and other technical specifications shall be same as described in sr. no. 1a.</b>				
	INCOMING				
	1 No. 100 Amp FP Moulded Case Circuit Breaker with thermal magnetic based adjustable over current short circuit. (25 KA)				
	1 Nos. Digital VAF Meter with CT's.				
	1 Sets of phase indicating lights (RYB) with protection MCB's.				
	1 Sets breaker 'ON' & 'OFF' indicating lamp.				
	only).				
	BUSBARS				
	100 Amp TPN busbars of aluminium alloy as per SLD.				
	OUTGOING				
	1 No. Toggle switch for changing automatic to manual operation of capacitor units.				
	Power factor meter.				
	Digital Ammeter with CT Set and selector switch, RYB LED LAMP				
	ON/OFF Indicating Lamp				
	1 no. Auto/Manual selector switch				
	3 nos. 32 A and 4 nos.25 A TP MCB, D curve, all 10 KA breaking capacity.				
	6 nos ON/OFF LED indicating Lamp				
	1 no. 10 KVAR, 2 Nos. 5 KVAR, 2 nos. 2 KVAR and 2 nos.1 KVAR MPP-H 440 V capacitors with suitable 3 P contactors.				
	Capacitor bank to be provided with LED ON/OFF indicator and ON/OFF push button and adequately sized connection to main bus bar with bus bar/interconnecting 1100 V cable.				
	Capacitor Panel Described as Above.	Set	1		
	<b>DISTRIBUTION BOARDS(DBS) and MCB Boards</b>				
3	Supply & installation on angle iron frame of 6way TPN vertical distribution board double door comprising with 1 Nos 10-32A SPMCBs , 2 Nos 40A SPMCBs and 1 nos. 3P 63 A TPMCB, 2 nos. 3P 40 A TPMCB and 2 nos. 3P 32 A TPMCB as out going and incomer 100A 4P MCCB. All MCB to be of C curve suitable, with blanking plates for blank slots. Complete connection testing etc. in all respect.(for UPS output DB in UPS room)	Nos.	1		
4	Supply & installation on angle iron frame of 6way TPN distribution board double door comprising with 16 Nos 6-32A SPMCBs, as out going and incomer 63A 4P RCCB 100MA. All MCB to be of C series suitable for motor/inductive load, with blanking plates for blank slots. Complete connection testing etc. in all respect.(for light circuits and power Ckt for HALL and chest at ground floor and for 2 <sup>nd</sup> floor)	No	2		
4.1	Supply & installation on angle iron frame of 4 way TPN distribution board double door comprising with 16 Nos 6-32A SPMCBs, as out going and incomer A 4P 40A RCCB 100MA. All MCB to be of C series suitable for motor/inductive load, with blanking plates for blank slots. Complete connection testing etc. in all respect.(for light circuits and chest at ground floor and for 2 <sup>nd</sup> floor)	No	2		
5	Supply & installation on angle iron frame of 4way TPN distribution board double door comprising with 8 Nos 6-32A SPMCBs, as out going and incomer 63A 4P RCCB 100MA. All MCB to be of C series suitable for motor/inductive load, with blanking plates for blank slots. Complete connection testing etc. in all respect.(for light ckt for HALL and chest at ground floor and for 2 <sup>nd</sup> floor)	No	2		
6	Providing & installation on angle iron frame of suitable MS MCB/DB enclosure ie 2 way enclosure (Consumer unit) complete in all respect including earthing link etc comprising of C series MCBs. i)One 20/25 Amp DP RCCB 300MA for UPS out put in UPS room for first floor, each circuits complete testing in all respect.	Set	2		
7	Providing & installation on angle iron frame of suitable MS MCB/DB enclosure ie 4 way enclosure (Consumer unit) complete in all respect including earthing link etc comprising of C series MCBs. i)One 63 Amp 4P RCCB 300MA for UPS out put in Note processing Machine at Ground floor, each circuits complete testing in all respect.	Set	1		
8	Providing & installation on angle iron frame of suitable MS MCB/DB enclosure ie 4 way enclosure SPNDB (Consumer unit) complete in all respect including earthing link etc comprising of C series MCBs. i)One 40 Amp 4P RCCB 300MA for UPS out put in Packaging and compressor Machine at Ground floor, each circuits complete testing in all respect.	Set	4		

S. No.	Item Description	Unit	Qty	Rate	Amount
9	S/F <u>One 20/25 Amp</u> , ELCB 2 pole 100 MA, in a suitable MS box to be connected <u>before the AC stabilizer</u> , complete testing fixing / installation complete in all respect. ( 1.5 Tr AC)	Set	6		
10	S/F <u>One 40 Amp</u> , ELCB 2 pole 100 MA, in a suitable MS box to be connected <u>before the AC stabilizer</u> , complete testing fixing / installation complete in all respect. (2 Tr AC)	Set	7		
11	Providing & Installation on angle iron frame of manufactures sheet steel 20A socket board with cover and 2 pole & earth metal plug and socket and 25/32 Amp SPMCB/Modular MCB with socket complete in all respect for air conditioners and 2 for UPS supply for not processing machine.	Nos	15		
12	(MCCB) thermal setting fixed 25 KA with sheet steel enclosure with proper insulating sheet, painting, complete with iron studs/bolt, connection, testing etc. complete in all respect. (1 for UPS input ckt )	No	1		
13	Providing & installation on angle iron frame of 2+8 way SPN distribution board with cover/door(plastic or ms) comprising of one 32/25Amp in coming DPMCB 10KA and, six 6A-10A out going SPMCB All MCB's to be of C series, Complete Connection testing etc in all respect.( one for power and one for light circuits and one for external lights)	Nos.	3		
14	Providing & installation on angle iron frame of 2+6 way SPN distribution board with cover/door(plastic or ms) comprising of one 32/25Amp in coming DPELCB 300MAand, six 6A-10A out going SPMCB All MCB's to be of C series, Complete Connection testing etc in all respect.(01 FOR UPS socket for working area at ground floor, one for currency chest and first floor )	Nos.	3		
15	Providing & Installation on angle iron frame of manufactures sheet steel 32A 5 Pole TPN+E socket board with cover and 3 pole & earth industrial metal plug and socket and 32 Amp (TPN+E)MCB complete in all respect for UPS supply for Compressor and .	Nos	3		
16	Providing & Installation on angle iron frame of manufactures sheet steel 20A 3 TPN socket board with cover and 3 pole & earth industrial metal plug and socket and 40 Amp (TP+N)MCB complete in all respect for UPS Supply for <b>BPS1000 system and vacuum pump in main hall.</b>	Nos	2		
17	Providing & Installation on angle iron frame of manufactures sheet steel 63A 3 TPN socket board with cover and 3 pole & earth industrial metal plug and socket and 63 Amp (TP+N)MCB complete in all respect for Note Processing Machine.	Nos	1		
18	<b><u>DISTRIBUTION CABLE:</u></b>				
	<b><u>SUPPLY AND LAYING OF CABLE:</u></b>				
	Supply of following sizes of 1.1KV grade aluminium conductor XLPE insulated and FRLS PVC sheathed armoured cable conforming to relevant IS. (Cable shall be purchased only after approval of cable schedule by Engineer In charge/ architect / consultant).				
18.1.	3.5 core, 150 sq.mm.	Meter	230		
18.2	3.5 core, 35 sq.mm.	Meter	30		
18.3	3.5 core, 25 sq.mm.	Meter	200		
18.4	4 core, 16 sq.mm.	Meter	55		
19	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required.				
19.1	Above 35 sq. mm and upto 95 sq. mm	Meter	30		
19.2	Above 95 sq. mm and upto 185 sq. mm	Meter	80		
20	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade with 2 nos. 8SWG GI wire of following size on cable tray as required.				
20.1	Upto 35 sq. mm (clamped with cable tie)	Meter	260		
20.2	Above 35 sq. mm and upto 95 sq. mm (clamped with cable tie)	Meter	50		
20.3	Above 95 sq. mm and upto 185 sq. mm (clamped with cable tie)	Meter	80		
21	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.				
21.1	3½ X 150 sq. mm (50mm)	Each	4		
21.2	3½ X 35 sq. mm (32mm)	Each	4		
21.3	3 X 25 sq. mm (25mm)	Each	2		
21.4	4 X 16 sq. mm (28mm)	Each	2		
22	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray (Galvanisation thickness not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.				
22.1	100 mm wide x 50 mm depth x 1.6 mm thickness.	Meter	80		

S. No.	Item Description	Unit	Qty	Rate	Amount
23	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray "bends" (galvanisation not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.				
23.1	100 mm wide x 50 mm depth x 1.6 mm thickness.	Each	2		
24	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray "Tee" (galvanisation not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.				
24.1	100 mm wide x 50 mm depth x 1.6 mm thickness.	Each	1		
25	Supply, installation, testing and commissioning (SITC) of 5X16 sq. mm, 1100 V grade, FRLS, multi strand copper conductor PVC insulated wire in medium duty rigid or flexible 50 mm or above as suitable PVC conduit as required preferably concealed in floor/wall including chase cutting and making good of damages or on surface including connections, complete in all respects from Panel/MCCB/RCBO to Isolation Transformer to UPS input and from UPS output to TPN DB in UPS room(30 KVA UPS Input/Output)	RMT	50		
26	Supply, installation, testing and commissioning (SITC) of 5X10 sq. mm, 1100 V grade, FRLS, multi strand copper conductor PVC insulated wire in medium duty rigid or flexible 50 mm PVC conduit or as required preferably concealed in floor/wall including chase cutting and making good of damages or on surface including connections, complete in all respects (From UPS output to packaging machine point in main hall).	RMT	40		
27	Supply, installation, testing and commissioning (SITC) of 5X4 sq. mm, 1100 V grade, FRLS, multi strand copper conductor PVC insulated wire in medium duty rigid or flexible 25 mm PVC conduit or as required preferably concealed in floor/wall including chase cutting and making good of damages or on surface including connections, complete in all respects from UPS output to SPN DB for <b>compressor installed in UPS room.</b>	RMT	40		
28	Supply, installation, testing and commissioning (SITC) of 5X2.5 sq. mm, 1100 V grade, FRLS, multi strand copper conductor PVC insulated wire in medium duty rigid or flexible 20 mm PVC conduit or as required preferably concealed in floor/wall including chase cutting and making good of damages or on surface including connections, complete in all respects from UPS output to SPN DB for <b>BPS1000 system and vacuum pump in main hall.</b>	RMT	75		
28.1	Supply, installation, testing and commissioning (SITC) of 3X10 sq. mm, 1100 V grade, FRLS, multi strand copper conductor PVC insulated wire in medium duty rigid or flexible 40 mm PVC conduit or as required preferably concealed in floor/wall including chase cutting and making good of damages or on surface including connections, complete in all respects (Panel to UPS input at first floor).	RMT	50		
29	Supply, installation, testing and commissioning (SITC) of 2X6+1X6 sq. mm, 1100 V grade, FRLS, multi strand copper conductor PVC insulated wire in medium duty rigid or flexible PVC conduit as required preferably concealed in floor/wall including chase cutting and making good of damages or on surface including connections, complete in all respects.(2 Tr AC circuits from TPN DB to Stabiliser to AC unit)	RMT	235		
30	Supply, installation, testing and commissioning (SITC) of 2X4+1X4 sq. mm, 1100 V grade, FRLS, multi strand copper conductor PVC insulated wire in medium duty rigid or flexible PVC conduit as required preferably concealed in floor/wall including chase cutting and making good of damages or on surface including connections, complete in all respects.( from SP MCB DB in UPS room to SPN Dbs in hall for UPS powered sockets, 1.5 Tr AC for AC SPN DB & Power SPN DB)	RMT	180		
31	Supply, installation, testing and commissioning(SITC) of 2X2.5+1X2.5 sq. mm, 1100 V grade, FRLS multi strand copper conductor PVC insulated wire in medium duty rigid or flexible PVC conduit as required preferably concealed in floor/wall including chase cutting and making good of damages or on surface including connections, complete in all respects from TPN MCB DB to SPN DB for(Light Ckt & raw power sockets additional wires)	RMT	630		
32	Supply, installation, testing and commissioning(SITC) of 2X1.5+1X1.5 sq. mm, 1100 V grade, FRLS multi strand copper conductor PVC insulated wire in medium duty rigid or flexible PVC conduit as required preferably concealed in floor/wall including chase cutting and making good of damages or on surface including connections, complete in all respects from TPN MCB DB to SPN DB for(Light Ckt & raw power sockets)	RMT	60		

S. No.	Item Description	Unit	Qty	Rate	Amount
33	Supply and fixing of 04 Nos 10 Amp Switch and 2 Nos. modular type Per point 16/6 Amp socket 5pin and 2 nos. modular type Per point 10/6 Amp socket 5pinon suitable modular plate and manufacturers steel box including circuit wiring from SPNDB to computer socket board With FRLS 2x4 sqmm PVC copper wire with 1100v grade flexible / stranded wires for Phase and neutral and 2.5sqmm PVC copper wire for earth in PVC conduit on surface and floor concealed up to computer socket boards complete with MS saddle, fixing,connection, testing / commissioning in all respect for system/prn room on counters, tables, wall, as required by the Office.(One power board with 3 socket /switches & required wiring will be treated one point) Colour coding /ferule marking may be taken care.	Points	10		
33.1	Same as above but circuit Looped from first point with FRLS 2x2.5 sqmm PVC copper wire with 1100v grade flexible / stranded wires for Phase and neutral and 2.5sqmm PVC copper wire for earth in PVC conduit	Points	7		
34	Earthing with G.I. plate 600mmx600mmx6mm thick, top of the plate placed at least 3 mt. below ground level with 20 mm Class-B, G.I. pipe for watering, as per IS 3043, with 32x6 mm GI earthing lead in 50mm B class GI pipe from plate to masonry inspection pit, with salt and charcoal and providing 12 mm diax 80mm long GI bolt, nut and double washers for connecting earth lead including restoring the surface duly rammed as per specification with 300 mmX300mmX300mm(inside) finished masonry chamber with 8 mm thick MS sheet hinged,lockable cover and MS frame on top of	Each	2		
35	Earthing with copper plate 600mmx600mmx3mm thick, top of the plate placed at least 3M below ground level with 20 mm Class-B, G.I. pipe for watering as per IS 3043-1987 with 32x6 mm Cu earthing lead in 40 mm B class GI pipe from plate to masonry inspection pit, with salt and charcoal including passivated 2 mm diax80 mm long brass bolt, nut and double washers for connecting earth lead including restoring the surface duly rammed as per specification with 300 mmX300mmX300mm(inside) finished masonry chamber with 8 mm thick MS sheet hinged,lockable cover and MS frame on top of chamber.	Each	2		
35.1	Supplying and laying 8 SWG G.I. wire at 0.50 metre below ground level for conductor earth electrode, including connection/ termination with GI thimble etc. as required.	Meter	210		
35.2	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess or underground as required for connections etc. as required.	Meter	130		
35.3	10 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed steel conduit etc as required.	Meter	120		
36	Supply and burring of safe Earthing Electrode T-19(hot dip Galvanised), Length 3000mm, outer pipe 50mm, inner pipe 25, Terminal Dia 12mm, outer GI pipe of 16SWG And inner GI pipe of 12swg with Hot dip Galvanization up to 100 micron filled with crystalline conductive mixture (CCM) Having Anti corrosive & conductive property with 50 Kgs activated soil (BFC) capable of reducing the soil resistivity with good mixture of retaining capacity along with CI BOX with hinged cover and masonry housing (from electrode terminal to sw board, cost of GI strip will be extra). GI strip directly to be connected from GI pipe with double nut bolt and spring washer. Make: As approved in UPPWD & CPRI certified. (one for 2 + 8 way SPN DB in system room, one for panel afety and 02 for UPS body/ isolation transformer, one earthing to be used for genset neutral)	SET	1		
36.1	As per SI No.24 with 25X3MM GI STRIP concealed on wall/floor up to 1st per meter point complete in all respect.	Mtrs	20		
37	Supply & fixing, light, Fan & sw, socket point in System/UPS room/Printer room at suitable place as required by the branch, (03 point from UPS SPNDB /DPMCB for Main Hall and one point in UPS room complete testing, commissioning in all respect with 1.5 sqmm PVC 1100v grade copper insulated wire for phase, Neutral and earth (if required)in PVC conduit (concealed on wall/floor and making the same). Item include modular switch socket, board, front plate etc. One sw should be near grill gate entrance, BM cabin, Hall and lobby.	Points	10		
38	Supply and fixing MS danger notice board.	Nos	2		
39	Wiring for two indication lamps from UPS output DP/DB critical/non critical circuits in 02 separate pvc conduit with lamp, holder in a suitable box with connections / testing etc complete in all respect in UPS room.	Nos	2		

S. No.	Item Description	Unit	Qty	Rate	Amount
	<b>Distribution/point wiring with PVC conduit</b>				
40	Distribution wiring including circuit wiring from TP/NDB/SP/NBDs to switch boards with 1100 V grade, PVC insulated, FRLS, multi strand Cu wire of size 2.5 sq.mm. for P, N & E in ISI marked PVC conduit and point wiring from switch board to point outlet with 1100 V grade, PVC insulated, FRLS, multi strand Cu wire of size 1.5 sq.mm. for P, N & E in ISI marked PVC conduit with same make accessories in concealed/ surface or in double lock PVC casing/ capping and with modular type switches in metallic modular box, front plate, cover plate, 3 plate ceiling rose, angular holder, with two internal earthing terminals/ studs for earthing. Junction boxes to be covered with ISI mark 3 mm thick phenolic laminated sheet cover, brass screws and cup washers for cover fixing PVC conduit and other accessories.				
	(i) All switch boards and regulators to be modular type, MS box should be 16 swg with 3 mm thick ISI marked phenolic laminated cover, brass screws and cup washers and Modular type 6/10 A switch/socket. (ii) Point wiring should be inclusive of continuous wire length (P, N & E) upto connection block of light fitting/fans. However, if there are more one light/fan point on one switch board than Neutral and Earth can be looped from one point to another point upto the 8 points/fittings with 1100 V grade, PVC insulated, FRLS, multi strand Cu wire of size 1.5 sq.mm. Beyond eight point new wire from the switch board is to be provided (iii) Provision for fan regulators shall be electronic step type 400 W rating. (iv) Ceiling fan point shall be provided with regulators wherever specified. The switch boards to be considered accordingly.				
40.1	One Light point controlled by one switch	Nos	70		
40.2	Two Light point controlled by one switch	Nos	20		
40.3	Three Light point controlled by one switch	Nos	10		
40.4	Call bell point(With supply and fixing call bell)	Nos	2		
40.5	Ceiling fan point(including one module step type modular regulator)	Nos	18		
40.6	3 pin 6 A socket outlet point including socket and controlling switch ( on switch board)	Nos	14		
40.7	3 pin 6 A socket outlet point including supply of 3 pin socket away from main switch board and 6A controlling switch on switch board(wall fan point)	Nos	4		
40.8	Twin controlled light point	Nos	4		
	<b>Distribution/point wiring with MS conduit inside Currency chest</b>				
41	Distribution wiring including circuit wiring from TP/NDB/SP/NBDs to switch boards with 1100 V grade, PVC insulated, FRLS, multi strand Cu wire of size 2.5 sq.mm. for P, N & E in ISI marked MS conduit painted with two coat of red oxide and one coat paint and point wiring from switch board to point outlet with 1100 V grade, PVC insulated, FRLS, multi strand Cu wire of size 1.5 sq.mm. for P, N & E in ISI marked MS Conduit with same make accessories in concealed/ surface or in double lock PVC casing/ capping and with modular type switches in metallic modular box, front plate, cover plate, 3 plate ceiling rose, angular holder, with two internal earthing terminals/ studs for earthing. Junction boxes to be covered with ISI mark 3 mm thick phenolic laminated sheet cover, brass screws and cup washers for cover fixing PVC conduit and other accessories.				
41.1	(i) All switch boards and regulators to be modular type, MS box should be 16 swg with 3 mm thick ISI marked phenolic laminated cover, brass screws and cup washers and Modular type 6/10 A switch/socket. (ii) Point wiring should be inclusive of continuous wire length (P, N & E) upto connection block of light fitting/fans. However, if there are more one light/fan point on one switch board than Neutral and Earth can be looped from one point to another point upto the 8 points/fittings with 1100 V grade, PVC insulated, FRLS, multi strand Cu wire of size 1.5 sq.mm. Beyond eight point new wire from the switch board is to be provided (iii) Provision for fan regulators shall be electronic step type 400 W rating. (iv) Ceiling fan point shall be provided with regulators wherever specified. The switch boards to be considered accordingly.				
41.2	One Light point controlled by one switch	Nos	10		
41.3	Two Light point controlled by one switch	Nos	8		
41.4	Three Light point controlled by one switch	Nos	4		
41.5	Ceiling fan point(including one module step type modular regulator)	Nos	12		

S. No.	Item Description	Unit	Qty	Rate	Amount
42	Supply, installation, testing and commissioning of power point having one No. 16/20 A modular switch and 16/20 Amp modular socket, modular board with FRLS 4 sq.mm. Cu wire for phase and neutral and 2.5 sq.mm. Cu wire for earth in 25 mm PVC medium duty conduit including all accessories, boxes as required, maximum Point on one circuit should not exceed Two. Circuit to be connected from PDB, controlled by each point with each switch testing/ commissioning in all respect. Cu wire of PVC 1100 V grade insulated for phase, neutral and earth, concealed properly. Wiring to commence from DB to switch board and then to the point including connection testing etc. all complete in PVC conduit (concealed on wall/ floor and making good the same). Item to include supply & installation of modular board, 15/20 Amp switches, sockets etc. complete for power board.				
42.1	Primary Point	Points	14.00		
42.2	Secondary Point C Looped Point with FRLS 2.5 sq.mm. Cu wire for phase and neutral and 2.5 sq.mm. Cu wire for earth in 20 mm medium duty PVC conduit including all accessories	Points	6.00		
43	Supply, installation, testing and Commissioning of raw power point having Two nos. 6/10 A modular switch and two nos. 6/10 Amp modular socket, modular metal board with FRLS 2.5 sqmm cu wire for phase and neutral and 2.5sqmm cu wire for earth in 20 mm medium duty <b>PVC conduit</b> including all accessories boxes as required, Maximum Point on one circuit should not exceed Two. For air purifier, TV, for office area, UPS room, guard room & entrance room at suitable place. (Record & stationary room to be connected through a lead or 3x1.5sqmm pvc copper wire in a thick PVC pipe to out side with 15Amp socket this will be paid extra) or as required by Office at suitable place) Circuit to be connected from lighting TPNDDB, controlled by each point with each switch testing/ commissioning in all respect. Cu wire of PVC 1100V grade insulated for phase, neutral and earth, concealed properly. Wiring to commence from lighting TPNDDB/Fuse unit to switch board and then to the point connection testing etc in all respect as per Office requirement. In PVC conduit (concealed on wall/floor and making good the same). Item include supply & Installation of modular MS board, 6/10Amp switches, Sockets etc. complete for power board.	No.	10.00		
43.1	Secondary Point C Looped Point	Points	8.00		
43	Supply, installation, testing and Commissioning of raw power point having one nos. 6/10 A modular switch and one nos. 6/10 Amp modular socket, modular metal board with FRLS 2.5 sqmm cu wire for phase and neutral and 2.5sqmm cu wire for earth in 20mm medium duty <b>PVC conduit</b> including all accessories boxes as required, Maximum Point on one circuit should not exceed Two. For air purifier, TV, for office area, UPS room, guard room & entrance room at suitable place. (Record & stationary room to be connected through a lead or 3x1.5sqmm pvc copper wire in a thick PVC pipe to out side with 15Amp socket this will be paid extra) or as required by Office at suitable place) Circuit to be connected from lighting TPNDDB, controlled by each point with each switch testing/ commissioning in all respect. Cu wire of PVC 1100V grade insulated for phase, neutral and earth, concealed properly. Wiring to commence from lighting TPNDDB/Fuse unit to switch board and then to the point connection testing etc in all respect as per Office requirement. In PVC conduit (concealed on wall/floor and making good the same). Item include supply & Installation of modular MS board, 6/10Amp switches, Sockets etc. complete for power board.	No.	14.00		
44	<u>Main back hall, securities documents room, stocks room &amp; overnight stay room to be connected through a lead or 3X4sq mm PVC copper wire in a thick PVC FLEXI pipe to out side with 15Amp socket (in side to be connected directly with proper connection – out side with power point.</u>	Mtr	5		
45	S & F of 40 A 4P MCB C Series(3P + N) industrial plug socket in SS box with hylem cover including interconnection with suitable size of copper wire) (Currency chest)	No	1		
46	Fixing of <u>exhaust fan</u> heavy duty 300MM sweep and 1400 rpm and making of hole on wall of proper size with nut, bolts / brackets complete installation testing / commissioning & connection with item No. 19 cement work etc. complete in all respect in UPS, strong room, locker room & toilets etc.	Nos	2		
47	Fixing of <u>225MM</u> sweep fresh air fan and making of hole on wall of proper size with nut, bolts / brackets complete installation testing / commissioning & connection with item No. cement work etc. complete in all respect in UPS, strong room, locker room & toilets etc.	Nos	2		

S. No.	Item Description	Unit	Qty	Rate	Amount
48	<b>Installation Testing &amp; Commissioning of following items:</b>				
48.1	Installation, testing and commissioning of pre-wired, fluorescent fitting / compact fluorescent fitting/ LED fittings of all types, complete with all accessories and tube/lamp/ LED etc. directly on ceiling/ wall/ false ceiling with GI Chain included for fixing wherever required, including connections with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable and earthing etc. as required.	Nos	95		
48.2	Installation, testing and commissioning of Wall fan	Nos	4		
48.3	Installation, testing and commissioning of ceiling fan, including wiring the down rod of standard length (upto 30 cm ) with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable , including providing and fixing phenolic laminated sheet cover on the fan box etc as required.	Nos	30		
48.4	Installation of exhaust fan in the existing opening, including making good the damage, connection, testing, commissioning etc as required.	Nos	4		
49	Providing and installation of 200 Amp, 4P 415 Volt on load change over switch with enclosure complete testing, with iron studs/ bolt complete in all respect. Make.	Nos	1		
50	Supply of company made 40 A 3pole/230 V analog time switch panel(TIMER), in manufacturer sheet steel panel, fully pre wired with all components like time switch, MCB, contactor, selector switch, indicating lamp.(One for UPS room and one for external lights)	Set	2		
51	Supplying and fixing of following sizes of steel conduit alongwith the accessories in surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.				
51.1	20 mm dia	Meter	100		
51.2	25 mm dia	Meter	70		
51.3	32 mm dia	Meter	60		
51.4	40 mm dia	Meter	50		
52	SITC in concealed manner including cutting of chase with electric tool, filling of chase, cement plastering, finishing of surface, painting with primer and two coat finish paint to make the finish as near to existing paint finish as possible of following sizes of ISI marked medium duty PVC electrical conduits with same make accessories:				
52.1	32mm	RMT	200.00		
52.2	25mm	RMT	150.00		
52.3	20mm	RMT	160.00		
53	Supply, installation testing and commissioning of PIR based occupancy sensors in washrooms from switch board to point outlet with 1100 V grade, PVC insulated, FRLS, multi strand Cu wire of size 1.5 sq. mm for P,N as incoming to the sensors and single wire size of 1.5 sq. mm as outgoing of the sensors including supply of ISI marked PVC conduit with same make accessories in concealed/surface or in double lock PVC casing/capping	Nos	4.00		
<b>SUB TOTAL SECTION-I- INTERNAL ELECTRICAL WORKS, WIRING FOR UPS AND AC</b>					



S. No.	Item Description	Unit	Qty	Rate	Amount
<b>SECTION-II: SUPPLY ITEMS LIGHT FITTINGS Wipro/ Phillips/Crompton/Bajaj</b>					
1	Supply of 36W Watt, recessed/surface mounted Type, 6500K, LED light fixture, of size 2' x 2', having minimum system lumen output of 100 Lumen / watt complete as required ( <b>Make : Philips</b> Cat. No. Full Glow RC380B LED36S -6500 G5 L60 W60 PSU OD )light fixture suitable for recess mounting complete in all respects with LEDs, driver, diffuser, housing complete in all respects.	Nos	44		
2	Supply of 10W Watt, recessed Type, 6500K, LED down light fixture, having minimum system lumen output of 100 Lumen / watt complete as required ( <b>Make : Philips</b> Cat. No. DN092B LED10S-6500 PSU WH)	Nos	10		
3	Supply of 16W Watt, surface Type, 6500K, LED down light fixture, having minimum system lumen output of 100 Lumen / watt complete as required ( <b>Make : Philips</b> Cat. No.SM251C LED16S 6500 PSU WH)(Porch)	Nos	6		
4	Supply of 6W Watt, surface Type, 6500K, LED Bulk Head light fixture, having minimum system lumen output of 100 Lumen / watt complete as required ( <b>Make : Philips</b> Cat. No. WT 202W LED 6S CW PSU S2 PC)	Nos	6		
5	Supply of 1x9 watt, wall mounted Type, 6500K,LED Mirror Light fixture, having minimum system lumen output of 100 Lumen / watt complete as required. ( <b>Make : Jaquar</b> Cat. No. LGLZ01X010XC)	Nos	4		
6	Supply of LED on wall/ceiling, 1200mm, 1x20/22 W batten type tube light fitting complete with LED tubular lamp with driver, complete in all respects. Acceptable Makes: Philips/Crompton/Bajaj /Wipro.	Nos	29		
7	Supply of LED on wall/ceiling, 600mm, 10 W batten type light fitting complete with LED tubular lamp with driver, complete in all respects. Acceptable Makes: Philips/Crompton/ Bajaj/ Wipro.	Nos	8		
8	Supply of 450 mm sweep, oscillating type, metal body and metal blades, wall mounting multi speed wall fan with motor, wire guard, control, complete in all respects. Acceptable Makes: ( <b>Make : Orient</b> Model. No. 400 mm or 16" WALL 45 U/P-Mtl.bld.-Blue	Nos	8		
9	Supplying of 1200 mm sweep Ceiling fan with all accessories suitable for operation single phase 230 volt 50 cycle per second per sec. AC supply etc. as required. Including connection, testing, commissioning earthing etc. as required.( <b>Make : Orient</b> Model. No. WENDY SHINE(Pearl White Walnut)	Nos	30		
10	Supplying of 300 mm sweep Exhaust fan with all accessories suitable for operation single phase 230 volt 50 cycle per second per sec. AC supply etc. as required. in the existing opening, including making the hole to suit the size of the above fan, making good the damage, connection, testing, commissioning earthing etc. as required. Make-Orient-300 mm or 12" Power Flow Exh. Fan	Nos	6		
<b>SUB TOTAL SECTION-II: SUPPLY ITEMS</b>					
1.00	<b>SECTION-I- INTERNAL ELECTRICAL WORKS, WIRING FOR LIGHT, UPS AND AC</b>				
2.00	<b>SECTION-II- SUPPLY ITEMS LIGHT FITTINGS</b>				
<b>FINAL TOTAL</b>					<b>Plus GST</b>

Note :Rates are considered inclusive of all except GST. GST shall be admitted additionally at prevalent rates/rules