

**CONSTRUCTION OF GROUND FLOOR OF THE BUILDING FOR NEW GOVERNMENT
DENTAL COLLEGE, THRISSUR**

PART II - ELECTRICAL WORKS

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
A	POINT WIRING				
1	Wiring for light point / fan point / exhaust fan point / call bell point with 1.5 sq.mm FR PVC insulated copper conductor single core cable in surface/recessed PVC conduit with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sqmm, FR PVC insulated copper conductor single core cable etc. as required.				
	Group C	Point	605		
2	Wiring for twin control light point with 1.5sq.mm FR PVC insulated copper conductor singlecore cable in surface/ recessed PVC conduit, 2 way modular switch, modular plate, suitable GI box and earthing the point with 1.5 sqmm FR PVC insulated copper conductor single core cable etc as required	Point	10		
3	Wiring for circuit/submain wiring along with earth wire with the following sizes of FR PVC insulated copper conductor, single core cable in surface/recessed PVC conduit as required.				
a)	2x1.5sq.mm + 1x1.5sq.mm earth wire	Rm	4500		
b)	2x2.5sq.mm + 1x 2.5sq.mm earth wire	Rm	9000		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
c)	2 x4sq.mm +1x 4sq.mm earth wire	Rm	4500		
d)	2 X 6 sqmm + 1 x 6 sqmm earth wire	Rm	800		
4	Supplying and drawing following pair 0.5 sq mm FR PVC insulated annealed copper conductor, unarmored telephone cable in the existing surface/ recessed steel/ PVC conduit as required.				
a)	2 pair	Rm	2200		
b)	4 pair	Rm	400		
5	Supplying and drawing co-axial TV cable RG-6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/ recessed steel/ PVC conduit as required.	Rm	800		
6	Supplying and fixing of following sizes of PVC conduit along with the accessories in surface/ recess including cutting the wall and making good the same in case of recessed conduit as required.				
a)	20 mm	Rm	2500		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
b)	25 mm	Rm	3250		
c)	40 mm	Rm	600		
d)	50 mm	Rm	400		
7	Supplying and fixing of following sizes (nominal size) on surface or in recesss with suitable size of phenolic laminated sheet cover in front including painting etc as required.				
a)	200mm x 300 mm x 60 mm deep	Each	100		
b)	250mm x 300mm x 100 mm deep	Each	80		
8	Supplying and fixing stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	Each	200		
9	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	Each	400		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
10	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess including providing and fixing 1 no. 3 pin 6 amps modular socket outlet and 6 amps modular switch, connection, painting etc. as required.	Each	425		
11	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess including providing and fixing 6 pin 16 & 6 amps modular socket outlet and 16 amps modular switch, connection etc. as required.	Each	195		
12	Supplying and fixing 3 pin, 5 amp ceiling rose on the existing junction box/ wooden block including connection etc as required.	Each	705		
13	Installation, testing and commissioning of prewired, fluorescent fittings / compact fluorescent fitting / of all types, complete with all accessories and tube etc. directly on ceiling /wall, including connections with 1.5 sq.mm FR PVC insulated, copper conductor, single core cable and earthing etc. as required.	Each	600		
14	Installation, testing and commissioning of pre-wired, fluorescent fitting / compact fluorescent fitting of all types, complete with all accessories and tube etc., including supplying and fixing ball and socket arrangement, 2 no. down rods of 20 mm dia X 1.6 mm thick steel conduit upto 30 cm length, painting and wiring the down rods and connection with 1.5 sq. mm FR PVC insulated, copper conductor, single core cable and earthing etc. as required.	Each	175		
15	Providing and fixing extra conduit down rod of 20 mm dia, 2 X 10 cm length wiring with 2 X 1.5 sq. mm FR PVC insulated, copper conductor, single core cable including painting etc. as required. (Note : More than 5 cm length shall be rounded to the nearest 10 cm and 5 cm or less shall be ignored)	Each	600		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
16	Installation, testing and commissioning of ceiling fan, including wiring the down rods of standard length (upto 30 cm) with 1.5 sq. mm FR PVC insulated, copper conductor, single core cable etc. as required.	Each	200		
17	Supplying and fixing extra down rod of 10 cm length G.I. pipe ,15 mm dia, heavy gauge including painting etc. as required. (Note : More than 5 cm length shall be rounded to the nearest 10 cm and 5 cm or less shall be ignored)	Each	600		
18	Installation of exhaust fan upto 450mm dia sweep in the existing opening, including making good the damage, connection, testing, commissioning etc. as required.	Each	25		
19	Supplying and fixing 20 amps, 240 volts, SPN industrial type, socket outlet, with 2 pole and earth, metal enclosed plug top along with 20 amps `C' series, SP, MCB in sheet steel enclosure on surface or in recess, with chained metal cover for the socket outlet and complete with connections testing and commissioning etc, as required.	Each	30		
20	Supplying and fixing 30 amps, 415volts, TPN industrial type, socket outlet, with 4 pole and earth, metal enclosed plug top along with 30amps `C' series, TPN, MCB in sheet steel enclosure on surface or in recess, with chained metal cover for the socket outlet and complete with connections testing and commissioning etc, as required.	Each	12		
B	DISTRIBUTION BOARD				
21	Providing and fixing 100A, 16kA rating and breaking capacity MCCB in existing cubicle panel board including drilling holes in cubicle panel, making connections, etc. as required.	Each	6		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
22	Supplying and fixing following ways surface/ recess mounting, vertical type, 415 volts, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 amps tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCB's, with provision of 100 amps TP 16 KA MCCB as incomer, interconnection between incomer MCCB and bus bars (but without MCB's/ MCCB) as required . (Note : Vertical type MCB TPDB is normally used where 3 phase outlets are required.)				
a)	4 way TP	Each	3		
b)	8 way TP	Each	3		
23	Supplying and fixing following way prewired SP&N MCB distribution board of steel sheet for 240 volts on surface/ recess complete with loose wire box, terminal connectors for all incoming and outgoing circuits, duly prewired with suitable size FR PVC insulated copper conductor up to terminal blocks, tinned copper bus bar, neutral link, earth bar, din bar, detachable gland plate, interconnections, powder painted including earthing etc. as required. (But without MCB/ RCCB/ Isolator).				
a)	2 + 8 way, Double door	Each	3		
b)	2 + 12 way, Double door	Each	3		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
24	Supplying and fixing following way prewired TP&N MCB distribution board of steel sheet for 415 volts on surface/ recess complete with loose wire box, terminal connectors for all incoming and outgoing circuits, duly prewired with suitable size FR PVC insulated copper conductor up to terminal blocks, tinned copper bus bar, neutral link, earth bar, din bar, detachable gland plate, interconnections, powder painted including earthing etc. as required.(But without MCB/ RCCB/ Isolator).				
a)	4 way, Double door	Each	6		
b)	6 way, Double door	Each	6		
25	Supplying and fixing following way prewired vertical type TP&N MCB distribution board of steel sheet for 415 volts on surface/ recess complete with loose wire box of sheet steel, dust protected, duly powder painted, inclusive of 200 amps tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCB's, terminal connectors for all incoming and outgoing circuits, duly prewired with adequate size of FR PVC insulated copper conductor upto the terminal connector/ neutral link, earthing etc as required (But without MCB/ RCCB/ Isolator). (Note : Prewired vertical type MCB TPDB is normally used where 3 phase outlets are required.)				
a)	6 way Double door	Each	2		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
b)	8 way Double door	Each	2		
26	Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
a)	Single pole	Each	300		
b)	Double pole	Each	6		
c)	Triple pole	Each	24		
d)	Triple pole and neutral	Each	20		
27	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	120		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
28	Supplying and fixing following rating, double pole, (single phase and neutral), 240 volts, residual current circuit breaker (RCCB), having a sensitivity current upto 300 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
a)	40 amps	Each	3		
b)	63 amps	Each	3		
29	Supplying and fixing following rating, four pole, (three phase and neutral), 415 volts, residual current circuit breaker (RCCB), having a sensitivity current upto 300 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
a)	25 amps	Each	6		
b)	40 amps	Each	6		
c)	63 amps	Each	8		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
30	Supplying and fixing DP sheet steel enclosure on surface/ recess along with 25/32amps 240 volts "C" curve DP MCB complete with connections, testing and commissioning etc. as required.	Each	8		
31	Supplying and fixing TP sheet steel enclosure on surface/ recess along with 16/25/32amps 415 volts "C" curve TP MCB complete with connections, testing and commissioning etc. as required.	Each	16		
C	CABLE LAYING, TERMINATION AND CABLE TRAY				
32	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.				
a)	Upto 35 sq. mm	Rm	300		
b)	Above 35 sq. mm and upto 95 sq. mm	Rm	50		
c)	Above 95 sq. mm and upto 185 sq. mm	Rm	180		
d)	Above 185 sq. mm and upto 400 sq. mm	Rm	20		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
33	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing RCC/ HUME/ METAL pipe as required.				
a)	Upto 35 sq. mm	Rm	50		
b)	Above 35 sq. mm and upto 95 sq. mm	Rm	10		
c)	Above 95 sq. mm and upto 185 sq. mm	Rm	10		
d)	Above 185 sq. mm and upto 400 sq. mm	Rm	10		
34	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing masonry open duct as required.				
a)	Upto 35 sq. mm	Rm	100		
b)	Above 35 sq. mm and upto 95 sq. mm	Rm	50		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
c)	Above 95 sq. mm and upto 185 sq. mm	Rm	100		
d)	Above 185 sq. mm and upto 400 sq. mm	Rm	70		
35	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on wall surface as required.				
a)	Upto 35 sq. mm (clamped with 1mm thick saddle)	Rm	765		
b)	Above 35 sq. mm and upto 95 sq. mm (clamped with 25x3mm MS flat clamp)	Rm	50		
c)	Above 95 sq. mm and upto 185 sq. mm (clamped with 25/40x3mm MS flat clamp)	Rm	145		
d)	Above 185 sq. mm and upto 400 sq. mm (clamped with 40x3mm MS flat clamp)	Rm	30		
36	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on cable tray as required.				

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
a)	Upto 35 sq. mm (clamped with 1mm thick saddle)	Rm	765		
b)	Above 35 sq. mm and upto 95 sq. mm (clamped with 25x3mm MS flat clamp)	Rm	50		
c)	Above 95 sq. mm and upto 185 sq. mm (clamped with 25/40x3mm MS flat clamp)	Rm	145		
d)	Above 185 sq. mm and upto 400 sq. mm (clamped with 40x3mm MS flat clamp)	Rm	30		
37	Supplying and making cable route marker with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) of size 60 cm X 60 cm at the bottom and 50 cm X 50 cm at the top with a thickness of 10cm including inscription duly engraved as required.	each	50		
38	Supplying and making end termination with brass compression gland and aluminium lugs including gland earthing for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.				
a)	3.5 C x 300 sq.mm	Each	10		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
b)	3.5 C x 185 sq.mm	Each	12		
c)	3.5 C x 120 sq.mm	Each	12		
d)	3.5 C x 50 sq.mm	Each	20		
e)	3.5 C x 35 sq.mm	Each	18		
f)	3.5 C x 25 sq.mm	Each	24		
g)	4 x 16 sqmm	Each	18		
h)	4 x 10 sqmm	Each	16		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
i)	4 x 6 Sq.mm	Each	26		
j)	2 x 16 sqmm	Each	10		
k)	2 x 10 sqmm	Each	10		
l)	4 C x 4 Sqmm copper	Each	6		
m)	4 C x 2.5 Sqmm copper	Each	8		
n)	12 C x 2.5 Sqmm copper	Each	4		
39	Supplying and installing following size of perforated pre-painted M.S. cable trays with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, horizontal & vertical bends, reducers, tees, cross members, painting suspenders & all other accessories as required.				

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
a)	600 mm width x 75mm depth x 2.0 mm thickness	Rm	100		
b)	300 mm width x 62.5 mm depth x 2.0 mm thickness	Rm	450		
c)	450 mm width x 62.5 mm depth x 2.0 mm thickness	Rm	150		
d)	150mm width x 50 mm depth x 1.6mm thickness	Rm	200		
40	Providing, laying and fixing following dia G.I. pipe (medium class) in ground complete with G.I. fittings including trenching (75 cm deep)and re-filling etc as required.				
a)	50 mm dia	Rm	100		
b)	100 mm dia	Rm	100		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
41	Providing, laying and fixing following dia RCC pipe NP2 class (light duty) in ground complete with RCC collars, jointing with cement mortar 1:2 (1 cement : 2 fine sand) including trenching (75 cm deep) and refilling etc as required.				
a)	150 mm dia	Rm	100		
b)	300 mm dia	Rm	100		
D	LAYING & TERMINATION OF HT CABLE				
42	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required.				
a)	Above 120 sq. mm and upto 400 sq. mm	Rm	100		
43	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size in the existing RCC/ HUME/ METAL pipe as required.				
a)	Above 120 sq. mm and upto 400 sq. mm	Rm	20		
44	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size in the existing masonry open duct as required.				

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
a)	Above 120 sq. mm and upto 400 sq. mm	Rm	30		
45	Supplying and making indoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required :				
a)	150 sq. mm	Each	4		
46	Supplying and making outdoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required :				
a)	150 sq. mm	Each	2		
E	EARTHING				
47	Copper earth plate electrode: Earthing with copper earth plate 600 mm x 600 mm x 3 mm thick including accessories and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc with charcoal or coke and salt complete as required.	Set	6		
48	Earthing with GI earth plate 600 mm x 600 mm x 6 mm thick including accessories and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal or coke and salt complete as required.	Set	14		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
49	Supplying and laying 25 mm X 5 mm copper strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of brass nut bolt & spring washer spaced at 50mm)	Rm	100		
50	Supplying and laying 25 mm X 5 mm G.I strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with G.I. nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of G.I. nut bolt & spring washer spaced at 50mm)	Rm	400		
51	Providing and fixing 25 mm x 5 mm Copper strip on surface or in recess for earth connections etc. as required.	Rm	100		
52	Providing and fixing 25 mm x 5 mm GI strip on surface or in recess for earth connections etc. as required.	Rm	600		
53	Supply and providing 4.0 mm copper wire on surface or in recess for earth connection	Rm	300		
54	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing as required.	Rm	500		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
55	Supplying and laying 6 SWG G.I. wire at 0.50 metre below ground level for conductor earth electrode, including connection/ termination with GI thimble etc. as required.	Rm	250		
56	Providing and laying G.I. tape 32 mm X 6 mm from earth electrode directly in ground as required.	Rm	100		
57	Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required.	Set	10		
F	HT & LT CABLE				
58	Supply of 3C x 150 sqmm 11kV (E) grade XLPE insulated PVC sheathed compact circular armoured aluminium conductor HT power cable, insulation screened with extruded semi conducting compound in combination with copper tape suitable for 11kV earthed system confirming to relevant standard.	Rm	150		
59	Supply of the following size 1.1kV grade XLPE insulated PVC sheathed, armoured Aluminium conductor power cable confirming to IS 7098 (part 1) amended upto date.				
a)	3.5 C x 300 sq.mm	Rm	100		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
b)	3.5 C x 185 sq.mm	Rm	400		
c)	3.5 C x 120 sq.mm	Rm	180		
d)	3.5 C x 50 sq.mm	Rm	250		
e)	3.5 C x 35 sq.mm	Rm	400		
f)	3.5 C x 25 sq.mm	Rm	400		
g)	4 x 16 sqmm	Rm	400		
h)	4 x 10 Sq.mm	Rm	350		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
i)	4 x 6 sqmm	Rm	250		
j)	2 x 16 sqmm	Rm	100		
k)	2 x 10 sqmm	Rm	80		
60	Supply of the following size 1.1kV grade XLPE insulated PVC sheathed, armoured Copper conductor power cable confirming to IS 1554 ammended upto date.				
a)	4 C x 4 Sqmm Cu cable	Rm	100		
b)	4 C x 2.5 Sqmm Cu cable	Rm	60		
c)	12 C x 2.5 Sqmm Cu cable	Rm	100		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
G	GROUP WIRING, MCCB & UPS				
61	Wiring for two light point with 1.5sq.mm FR PVC insulated copper conductor singlecore cable in surface/ recessed steel conduct, one modular switch, modular plate, suitable GI box and earthing the point with 1.5 sqmm FR PVC insulated copper conductor single core cable etc as required	Point	75		
62	Wiring for three light point with 1.5 sq.mm FR PVC insulated copper conductor singlecore cable in surface/ recessed steel conduct, one modular switch, modular plate, suitable GI box and earthing the point with 1.5 sqmm FR PVC insulated copper conductor single core cable etc as required	Point	25		
63	Supplying and fixing of following rating, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
a)	40A TPN C curve MCB	Each	10		
b)	63A TPN C curve MCB	Each	25		
c)	63A DP C curve MCB	Each	15		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
d)	40A DP C curve MCB	Each	30		
64	Supply and installation of the following TPN MCCB on suitable MS box made of 14SWG CRCA sheet powder coated for housing MCCB, fixed with suitable Angle Iron Frame work with internal and earth wire connection complete with all required accessories as required.				
d)	100A TPN MCCB 25 KA with Thermal and Magnetic trip	Each	5		
e)	63A TPN MCCB 16KA with Thermal and Magnetic trip	Each	10		
65	Supply, installation, testing & commissioning of 15 kVA, 3 phase, input, 1 phase output, true on-line UPS system with 30 minutes back up (full load), including all accessories, Tubular batteries VRLA type with powder coated MS cabinet, battery cabling including all accessories as required complete having following specification.				
	Fully digital controlled based on DSP				
	Power factor corrected from end > 0.9				
	Pure sine wave output.				
	Full time output voltage & frequency regulation				
	Auto regulation of battery end voltage				
	Intelligent interface with LED/LCD display				
	Static bypass switch & manual by pass switch				

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
	Auto temperature compensation	Each	1		
H	TELEPHONE, NET WORK, OHP & PA SYSTEM				
66	Supplying and fixing telephone modular type socket outlet (RJ-11) in 1/2 module GI modular box with modular plate including connections etc. as required.	Each	50		
67	Supplying and fixing TV modular type socket outlet in 1/2 module GI modular box with modular plate including connections etc. as required.	Each	5		
68	Supplying and fixing Network modular type socket outlet (RJ-45) in 1/2 module GI modular box with modular plate including connections etc. as required.	Each	50		
69	Supply,laying & termination of telephone wires / cables as per DOT specification, with solid annealed Cu conductor of 0.5mm thick, High Density Polyethylene insulated, twisted pair, unarmoured, with outer sheath of low density polyethylene.				
a)	10 pair	Rm	250		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
b)	20 pair	Rm	150		
c)	50 pair	Rm	80		
70	Supply and Installation of 20 pair MDF box, back mount frame and original krone connectors with all accessories.	Each	6		
71	Supply and Installation of 100 pair MDF box, back mount frame and original krone connectors with all accessories.	Each	1		
72	Supply laying and termination of 4 pair CAT 6 UTP cable in the exisitng surface / recessed steel / PVC conduit as required.	Rm	2500		
73	Supply and installation of 9 U wall mounted Network Rack made of steel, powder coated, front glass cover with PDU's, cable manager and cooling fans including all required accessories.	Each	2		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
74	Supply & installation of Cat 6, 4ft, RJ45-RJ45, UTP, Patch cord with all required accessories.	Each	50		
75	Supply and installation of 6-24 port fully loaded 110 connect jack panel 1U with cable manager and all required accessories.	Each	2		
76	Supply, installation, testing & commissioning of 24 port unmanaged Gigabit 10/100/1000 Mbps Unmanaged Switch, RoHS compliant with all required accessories.	Each	2		
77	Supply, installation, testing & commissioning of LCD Projector with 2700 lumen (lamp mode Standard) with contrast ratio of 3000:1 with a resolution of 1024 X 768, supplied with cordless remote control, VGA cable, ceiling mount kit with all required accessories as required. (Similar to Sony VPL-EX271 or Equ).	Each	4		
78	Supply & installaion of pull down screen, High Gain mat white with size 7 ft X 5 ft with all required accessories as required. (Similar to Liberty Grand view or Equ).	Each	4		
79	Supply, installation and testing of 6W wall mounted speaker with all accessories complete as required.	Each	20		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
80	Supply, installation, testing and commissioning of 160W @ 4ohm, 160W @ 70V/100V power amplifier with volume control for PA system with RMS output including one gang WPB, wall plate for HDMI, VGA and stereo audio, including cables and connectors for microphone, audio, VGA, HDMI etc with all accessories complete as required.	Each	2		
81	Supply, installation and testing of handheld system including single diversity receiver, handheld transmitter, with mic head with all accessories complete as required.	Each	4		
82	Supply, installation and testing of bodypack system including single diversity receiver, handheld transmitter, with mic with all accessories complete as required.	Each	4		
83	Supply and laying of 2 core x 1 sqmm FR PVC insulated copper conductor single core wire in the existing surface/ recessed steel/ PVC conduit as required.	Rm	250		
I	LIGHT FIXTURES				
	Supply of following light fixtures shall be complete with electronic ballast, lamp holder, lamp, starter, starter holder and condenser to improve power factor duly wired up for use on 240V single phase 50 Hz AC supply. All fittings should be fitted with electronic ballast of THD less than 10%				
84	2'x2', 4 x 14 W T5, Recess type fitting with 4 Nos 14W T5 lamp all accessories complete. Philips TBS669 M 4xTL5 -14W EBP D6 / Wipro WVP 20414 SGW / Bajaj BTMRA 414 V2	Each	110		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
85	2'x2', 2 x 36 W CFL, Recess type fitting with 2 Nos 36W CFL lamp all accessories complete. Philips FBS300 M 2XPL-L36W IC P5 / Wipro WVP 24236 SG / Bajaj BMLA 01 236 CFL WEB2	Each	130		
86	2 x 36 W T8, surface mount type fitting with 2 Nos 36W T8 lamp all accessories complete. Philips TCS399M 2xTL-D36W IC M2 / Wipro WVF 41236 SGW / Bajaj BMS 236 / 240 WEB2	Each	110		
87	2'x2', 2 x 36 W CFL, surface mount type fitting with 2 Nos 36W CFL lamp all accessories complete. Wipro WVP 44236 SG / Bajaj BASM 236 CFL WEB2	Each	130		
88	1 x 28 W T5 Surface mounting fluorescent luminaire CRCA sheet steel box type fitting with electronic ballast with 1No 28W T5 Lamp with all accessories complete. Philips TMS 122 /128 HF / Wipro Saviour WIF 20128 SGW / Bajaj BTIR 128	Each	100		
89	2 x 28 W T5 surface Mounting fluorescent luminaire CRCA sheet steel box type fitting with electronic ballast with 2 Nos 28W lamp with all accessories complete. Philips TMS 122/228 HF / Wipro WIF 20228 SGW / Bajaj BTIR 228	Each	40		
90	LED Ltg, recess Type,LED downlighter with special frosted diffuser. Wipro LD46-006-XXX-WH-XX / Philips BBS180 1xDLED-5000 PSU WH / Bajaj BGSL 0 06 01 WW	Each	95		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
91	4x28W T5 surface mounting mid bay fluorescent luminaire in CRCA sheet box type fitting with cover, electronic ballast, 4 nos 28W lamp and all accessories complete. Philips TPS 325 EBP AC / Wipro WHF 30428 SGW / Equv.	Each	5		
92	1x70W MH ftg with Integrated Control gear & 70 W MH Lamp in die cast al housing with IP:65 Enclosure Wipro Type WFH 51070 / Equv.	Each	10		
93	Clean room light fixture 2x36W CFL recess mounted IP 54 bottom opening . Wipro WIP 43236 SGW / Philips FCS 650 2xPL-L36W EBP FOP GT / Bajaj BPRF 236 C LHD	Each	10		
94	Supply of Decorative Wall fan 400 mm sweep, 230V.1Ph, complete with Openable mesh Cover ,string Operated etc as required. (Make: Crompton / Bajaj / Khaithan / Usha	Each	10		
95	Supply of ceiling fan 1200 mm sweep,230V,1Ph, complete with double ball bearing, motor blades, down rods, canopy, capacitor etc complete as required. M/s.Crompton/Bajaj/Khaithan/Usha	Each	200		
96	Supply of 300 mm dia medium duty Industrial type air exhaust fan complete with louvers and cable from ceiling rose / connector to fan. M/s.Crompton/GE/Khaithan/Usha	Each	25		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
97	Supply of 450 mm dia Heavy Duty Industrial type air exhaust fan complete with louvers and cable from ceiling rose/connector to fan. M/s.Crompton/GE/Khaithan/Usha	Each	5		
98	Installation, testing and commissioning of prewired, fluorescent fittings/compact fluorescent fitting/LED light fitting of all types, complete with all accessories and tube etc. in false ceiling (recess Mounted) including connections with 1.5 sq.mm FR PVC insulated, copper conductor, single core cable and earthing etc. as required.	Each	345		
99	Supply & fixing straight / Angle PVC batten holder with ISI marking including 15W CFL lamp, connection etc complete with all accessories as required.	Each	20		
J	HT PANEL & TRANSFORMER				
100	INDOOR HT PANEL				
	Supply, installation, testing and commissioning of Indoor HT VCB 3 panel unit, floor mounted, fabricated with 2mm thick CRCA sheet suitably reinforced, powder coated, with segregated HT & LT compartment consisting of				
	Incomer				
	One no. 11 kV, 630A, TP, 500 MVA, VCB, with suitably interlocked earth switch, having horizontal draw out and isolation. The VCB shall be fitted with motorized spring mechanism for closing, ON, OFF LED /mechanical indication lamp, emergency trip, Microprocessor based Protection relays (3 OC & 1 SC), high speed tripping relay, trip circuit supervision relay, safety shutter etc. The breaker shall be complete with closing coil, tripping coil and shunt trip. The panel shall have provision for HT metering with sealing arrangement for metering chamber, CT and PT compartment. The panel shall be provided with the required no. of auxiliary contacts with 4NO+4NC spare contacts.				
	Outgoing				

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
	Two nos. 11 kV, 630A, TP, 500 MVA, VCB, having horizontal draw out and isolation. The VCB shall be fitted with motorized spring mechanism for closing with ON, OFF LED / mechanical indication lamp, emergency trip, Microprocessor based Protection relays (3 OC & 1 SC), high speed tripping relay, trip circuit supervision relay, auxillary relay for Transformer, safety shutter etc. The breaker shall be complete with closing coil, tripping coil and shunt trip. Providing necessary power pack (in-built) also forms part of the scope. The panel shall be provided with the required no. of auxiliary contacts with 4NO+4NC spare contacts.				
	Components in each incomer and outgoing panels shall also include, but not limited to the following items.				
	1 no. Trip neutral close (T-N-C) switch.				
	1 no. Analogue volt meter scaled 0-15KV with selector switch				
	1 no. Analogue ammeter scaled 0-50 A with selector switch				
	1 set On,Off, Trip, Trip healthy, spring charge indication lamp				
	1 set panel earth bus.				
	1 set Power pack with 220V AC input and 24 volt DC continuous output suitable for closing, tripping indication for 3nos of HT panel board with 2 nos 12 volt Tubular battery of 100 (suitable) AH each, charging unit, ammeter, voltmeter interconnection with 2.5sqmm FRLS insulated copper conductor cable etc as required.				
	1 set Draw out type 3 limb, 11 kV/110V, 100VA, class 0.5, epoxy cast resin potential transformer with necessary HT & LT fuses.				
	1 set Epoxy resin cast CT with suitable ratio as per demand load, with 15VA, class 0.5 for metering & 15VA class 5P10 for protection				
	1 no Panel heater with a control switch and illumination lamp with door switch.				
	1 set Test terminal block.				
	1 set 800A, 26.2kA, TP copper bus having a current density of 1.2A per sqmm duly sleeved with all accessories and insulators complete as required.				

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
	1 set 8 window solid state alarm annunciator with test, acknowledge, reset push button with hooter.				
	Required Danger boards, signages, lettering etc.				
	The panel shall be subjected to all routine tests as per IS/IEC standards. Type test certificate of identical panel shall be submitted.				
	The VCB & panel shall be provided with all necessary standard safety feature as per IS & door interlocks such as breaker cannot be drawn out when breaker is in ON position and similarly breaker cannot be closed unless it is fully in drawn in condition.				
	In addition to the above, 11kV HT panel shall be with all requirements as per the guidelines by Local E.B authorities and Electrical inspectorate.	Each	1		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
101	DISTRIBUTION TRANSFORMER (OIL TYPE)				
	Supply, installation, testing and commissioning of 630kVA, 11kV/433V, 3 phase, 50 Hz, Delta star, DYn11, ONAN, copper double wound transformer with Off load tap changer in steps of $\pm 2.5\%$ upto $\pm 10\%$, complete with Buchholz relay, Oil level indicator, marshalling box, WTI for alarm & trip, OTI for alarm & trip, bi directional rollers, cable end box for termination of HT & LT cables complete with rating and technical name plate, earthing terminals with lugs, lifting lugs in all respect with all necessary standard accessories and as per IS: 2026. The transformer shall have suitable enclosure for providing neutral CT on earthed star point with connector for connection to REF relay provided in Main panel. All routing test as per IS: 2026 shall be conducted on the transformer.	Set	1		
102	SUPPLIER DP STRUCTURE				
	Supply, fabrication, erection, testing & commissioning of 11 KV DP structure using required size of ISMB for poles and required size cross channel with ISMC for supporting structure for 11kV components, 11 KV pin, disc and stay insulators, supports, jumpers /interconnecting conductors with 0'SWG Cu, 25x3mm braided copper earthing for non current moving part like handle of AB switch etc. The item includes erection of DP structure on suitable concrete foundation and painting with one coat of metal primer after fabrication and two coats of aluminium enamel paint after erection complete and consists of the following. The cost of the civil foundation shall be measured along with civil items.				
	11KV,400A single brake,TP, gang operated AB switch with operating handle & locking mechanism - 1 set				
	11 KV Lighting Arrestors - 1 set				
	11 KV Drop out fuses - 1 set				

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
	The DP structure shall be with all necessary accessories for connecting 11kV cable as per particular specification & drawing. The 11kV DP structure shall be done as per the requirement of statutory authority.	Set	1		
103	CONSUMER DP STRUCTURE				
	Supply,fabrication, erection, testing & commissioning of 11 KV DP structure using required size of ISMB for poles and required size cross channel with ISMC for supporting structure for 11kV components, 11 KV pin, disc and stay insulators, supports, jumpers /interconnecting conductors with 0'SWG Cu, 25x3mm braided copper earthing for non current moving part like handle of AB switch etc. The item includes erection of DP structure on suitable concrete foundation and painting with one coat of metal primer after fabrication and two coats of aluminium paint after erection complete and consists of the following. The cost of the civil foundation shall be measured along with civil items.				
	11 KV,400A single brake,TP, gang operated AB switch with operating handle & locking mechanism - 1 set				
	11 KV Lighting Arrestors - 1 set				
	11 KV Drop out fuses - 1 set				
	11kV outdoor type CT/PT unit with CT rating suitable as per KSEB, class 0.5, 15VA CT & 11kV/110V class 0.5 100VA PT - 1set.				
	TOD meter in a suitable weather proof sheet steel enclosure in 600mm plinth including Test terminal block, control fuses & 10C 2.5sqmm armoured copper cable between CT/PT unit & TOD meter - 1 set. (The work shall be as per state electricity board norms)				
	The consumers DP structure shall be braced with state electricity board DP structure if required & interconnection shall be done with 0 SWG Cu wire.				
	The 11kV DP structure shall be done as per the requirement of statutory authority.	Set	1		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
104	Supply, fabricating & erection of 1.8 mtr high chain link fencing (50mm cross link) over 600 mm high brick masonry, using 4 mm thick GI chain link with a framework of 50x50x6 mm MS angle between vertical posts of ISMC 75x50mm at 2400 mm interval, which are fixed to the concrete footing (1:2:4) of size 450x450x200 mm (above GL) with adequate footing depth, between the brick / block masonry. Brick / block masonry (345 mm thick) and 200 mm from ground level for foundation & plinth in cement mortar (1:6). The brick masonry is to be pointed using cement mortar 1:3 to have a flush finish. Earth strip shall be connected to the fencing for its earthing. The MS framework for chain link fencing is finished using zinc chromate primer & 2 coats of synthetic enamel paint. 1.5 mtr wide gate shall be provided with suitable locking arrangements. The rate shall be inclusive of all materials, labour, lead, lift, etc including excavation works and fabrication and assembly works including all nuts, bolts & other miscellaneous items, required Danger boards, signages, lettering etc. complete	Rm	24		
K	DG SET & AMF PANEL				
105	Supply, Installation, Testing and Commissioning of 250 KVA, silent type, water cooled, radiator type, four stroke, electric start D.G Set with acoustic enclosure and standard control panel. The engine shall be capable of taking 10% overload for one hour after 12 hours of continuous operation. The DG shall be suitable for AMF operation. The alternator shall be brushless, self excited, self regulated, brushless, SPDP enclosure, class F/H insulation, suitable for continuous operation at 1500 rpm, generating 415 V +/- 5% at 0.8 p.f, 50Hz, 0.85 load factor, 3 phase, 4 wire system generally conforming to BS: 2613 & IS: 4722.				
	The control panel shall be provided with all engine protection equipments, indications etc. The DG set shall be suitable for AMF operation and include all necessary control cabling from DG set to AMF panel and Main LT panel for AMF & load sharing operation.				

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
	Both Engine and Alternator shall be mounted on common channel iron base frame, and with standard accessories such as antivibration pad, lead acid batteries (as specified by engine manufacturer) and engine driven battery charger along with leads, battery stand, fuel piping from fuel tank to Engine, electronic governor, Residential silencer, suitable size cable termination box, required Danger boards, signages, lettering etc as required. Rate shall be inclusive of all lift, lead charges. The work should be as per Electrical Inspectorate / Pollution control board norms.	Each	1		
106	Supply & installation of exhaust gas piping of suitable diameter as per manufactures standard welded black MS, B class pipe confirming to IS:3589 cut to required lengths and installed with necessary bends, supports and clamps, anti- vibration mountings, insulation of exhaust system with mineral wool / Rockwool, 50mm thick wire mesh & aluminum cladding etc.	Rm	25		
107	Supply, Installation, Testing & Commissioning of DG set AMF panel, cubicle type, made out of 2mm thick CRCA sheet, totally enclosed, IP42, free standing, floor mounting, dust and vermin proof, powder coated, indoor, compartmentalised, suitable for operation on 3 phase and neutral, 415 V, 50Hz AC system, including internal wiring with suitable size wires, rotary handle, spreaders, 3mm thick gland plate, hinged type door with neoprene gasket etc. The panel shall include supply & installation of following switchgears, metering instruments and accessories as per specification.				
	Incomer				
	400A, FP, 35kA, thermal magnetic MCCB, with overload, short circuit and ground fault protection - 1 no.				
	1 no - 400A, FP, AC3 duty power contactor.				
	Busbar				
	1 Set of 400 A TPN busbars of high conductivity electrolytic quality Aluminium alloy and suitable size earthing conductor through out the panel for its earthing.				
	Instruments				
	2A, C curve SP MCB - 1 set				
	RYB indication lamp, LED type - 1 set				
	On/Off, Trip indication lamp, LED type - 1 set				

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
	(0-500)V voltmeter, Acc. class 1 with 90 deg defl. scale - 1 set				
	(0-400)A ammeter Acc. class 1 with 240 deg defl. Scale - 1 set				
	1 set 3 phase Digital Multi function meter to read V, A, F, kW, PF, kWh, Acc class 1 and with RS 232 communication port.				
	Low set earth fault relay using CT of 70/5A 15VA Cl. 5P10 with necessary control cable from CT at DG neutral to REF relay in AMF panel - 1 set				
	400/5A 15VA class 0.5 resin cast CT for metering - 1 set				
	Required Danger boards, signages, lettering etc.				
	Microprocessor based AMF logic with EB sensing, protection for under / over voltage, reverse power, under / over frequency, unbalance, programmable start/stop timings, DG battery supervision integral push button for DG stat/stop, DG breaker close/open, Auto/Manual/Off and Annunciator accept / reset. Programmable mains restoration, re-cooling timings, Micro-processor based Protection relays, 8 window LCD Annunciator for DG faults.shall be provided.				
	Necessary LVMS and required control accessories shall be provided for sensing from both the EB incoming supply for the auto start of DG set.				
	The panel shall be suitable for further extension on both sides. Space provision shall be provided for one no. incoming breaker for DG with bus coupler along with its indication and metering accessories.	Each	1		
L	LT PANELS				

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
108	Supply, Installation, Testing & Commissioning of Main panel, cubicle type, made out of 2mm thick CRCA sheet, totally enclosed, IP42, free standing, floor mounting, dust and vermin proof, powder coated, indoor, compartmentalised, suitable for operation on 3 phase and neutral, 415 V, 50Hz AC system with busbars extendable on both sides, including internal wiring with suitable size wires, rotary handle, spreaders, 3mm thick gland plate, hinged type door with neoprene gasket etc. The panel shall include supply & installation of following switchgears, metering instruments and accessories as per specification. The panel shall be suitable for receiving 2500A Bus duct to the incomer ACB.				
	Incomer				
	1000A, FP, 50kA, microprocessor based ACB manual drawout type, motorised, with overload, instantaneous SC, delayed SC, and ground fault protection - 1 no.				
	400A, FP, 35kA, microprocessor based MCCB, motorised, with overload, short circuit and earth fault protection - 1 no.				
	Suitable electrical and mechanical interlock shall be provided between the DG and EB incomer.				
	Suitable size space provision for cubicle shall be provided for placing 1000A FP ACB as incomer along with its indication and metering accessories - 2 nos.				
	Bus Coupler				
	1000A, FP, 50kA, thermal magnetic based ACB, manual drawout type, motorised with out protection - 1 no.				
	Busbar				
	1 Set of 1250 A TPN busbars of high conductivity electrolytic quality Aluminium alloy and suitable size earthing conductor through out the panel for its earthing.				
	Instruments				
	2A, C curve SP MCB - 2 set				
	RYB indication lamp, LED type - 2 set				
	On/Off, Trip indication lamp, LED type - 2 set				
	(0-500)V voltmeter, Acc. class 1 with 90 deg defl. scale - 2 set				
	(0-1000)A ammeter Acc. class 1 with 240 deg defl. Scale - 1 set				

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
	(0-400)A ammeter Acc. class 1 with 240 deg defl. Scale - 1 set				
	2 set 3 phase Digital Multi function meter to read V, A, F, kW, PF, kWh, Acc class 1 and with RS 232 communication port.				
	Low set earth fault relay using CT of 175/5A 15VA Cl. 5P10 with necessary control cable from CT at transformer neutral to REF relay in MSB panel- 1 set				
	1000/5A 15VA class 1 resin cast CT - 1 set				
	400/5A 15VA class 1 resin cast CT - 1 set				
	1000/5A 15VA class 1 resin cast CT for connection to APFC panel - 1 set				
	Required Danger boards, signages, lettering etc.				

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
	Outgoing.				
	400A, TPN, 35kA, thermal magnetic based MCCB with adjustable overload, short circuit and earth fault protection - 8 nos.				
	315A, TPN, 35kA, thermal magnetic based MCCB with adjustable overload, short circuit and earth fault protection - 2 nos.				
	200A, TPN, 35kA, thermal magnetic based MCCB with adjustable overload, short circuit and earth fault protection - 4 nos.				
	160A, TPN, 35kA, thermal magnetic based MCCB with adjustable overload, short circuit and earth fault protection - 4 nos.				
	16 Nos 3 phase Digital Multi function meter to read V, A, F Acc class 1.	Each	1		
109	Supply, Installation, Testing & Commissioning of 150kVAR APFC panel, cubicle type, made out of 2mm thick CRCA sheet, totally enclosed, IP42, free standing, floor mounting, dust and vermin proof, powder coated, indoor, compartmentalised, suitable for operation on 3 phase and neutral, 415 V, 50Hz AC system with busbars extendable on both sides, including internal wiring with suitable size wires, rotary handle, spreaders etc. The panel shall include supply & installation of following switchgears, metering instruments and accessories as per specification.				
	Incomer				
	1 No 315A, TPN, 35kA, MCCB with Thermal Magnetic release, having adjustable OL & SC protection.				
	Busbar				
	1 Set of 400 Amp TPN busbars of high conductivity electrolytic quality Aluminium alloy and suitable size earthing conductor through out the panel for its earthing.				
	Instruments				
	1 No 3 phase Digital Multi function meter to read V, A, F with Acc class 1.				
	1 Set of phase indicating lamps, LED type, RYB.				

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
	1 Set of 2A 10kA C curve SP control MCB				
	1 Set of 315/5A, Class 1.0, 5VA, Cast Resin CT for metering				
	1 no. 6 stage APFC relay				
	7 set On, Off push button				
	7 set On, Off LED type indication lamp				
	1 set Auto / manual selector switch.				
	Required Danger boards, signages, lettering etc.				
	Outgoing.				
	7 Nos. 63A, TPN, D curve, MCB				
	2 Nos. 12.5kVAR MPP heavy duty capacitor with capacitor duty contactor & 7% detuned harmonic filter.				
	4 Nos. 25kVAR MPP heavy duty capacitor with capacitor duty contactor & 7% detuned harmonic filter.				
	1 No. 25kVAR MPP heavy duty capacitor with 7% detuned harmonic filter directly connected.	Each	1		
110	Supply, Installation, Testing & Commissioning of Floor panel, cubicle type, made out of 2mm thick CRCA sheet, totally enclosed, IP42, free standing, floor mounting, dust and vermin proof, powder coated, indoor, compartmentalised, suitable for operation on 3 phase and neutral, 415 V, 50Hz AC system, including internal wiring with suitable size wires, rotary handle, spreaders, 3mm thick gland plate, hinged type door with neoprene gasket etc. The panel shall include supply & installation of following switchgears, metering instruments and accessories as per specification.				

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
	Incomer				
	400A, TPN, switch disconnecter unit (Isolator), AC23, 415V, 50Hz, complete with handle assembly having door interlock - 1 no.				
	Busbar				
	1 Set of 400 A TPN busbars of high conductivity electrolytic quality Aluminium alloy and suitable size earthing conductor through out the panel for its earthing.				
	Instruments				
	2A, C curve SP MCB - 3 nos.				
	RYB indication lamp, LED type - 3 nos.				
	1 No 3 phase Digital Multi function meter to read V, A, F, kW, kWh, Acc class 1.				
	400/5A 5VA class 1 resin cast CT - 1 set				
	Required Danger boards, signages, lettering etc.				

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
	Outgoing.				
	100A TPN MCCB, thermal magnetic with adjustable OL, SC protection - 6 nos.				
	63A TPN MCCB, thermal magnetic with adjustable OL, SC protection - 6 nos.	Each	1		
111	Supply, Installation, Testing & Commissioning of Utility panel, cubicle type, made out of 2mm thick CRCA sheet, totally enclosed, IP42, free standing, floor mounting, dust and vermin proof, powder coated, indoor, compartmentalised, suitable for operation on 3 phase and neutral, 415 V, 50Hz AC system, including internal wiring with suitable size wires, rotary handle, spreaders, 3mm thick gland plate, hinged type door with neoprene gasket etc. The panel shall include supply & installation of following switchgears, metering instruments and accessories as per specification.				
	Incomer				
	160A, TPN, switch disconnecter unit (Isolator), AC23, 415V, 50Hz, complete with handle assembly having door interlock - 1 no.				
	Busbar				
	1 Set of 200 A TPN busbars of high conductivity electrolytic quality Aluminium alloy and suitable size earthing conductor through out the panel for its earthing.				
	Instruments				
	2A, C curve SP MCB - 3 nos.				
	RYB indication lamp, LED type - 3 nos.				
	1 No 3 phase Digital Multi function meter to read V, A, F, kW, kWh, Acc class 1.				
	200/5A 5VA class 1 resin cast CT - 1 set				
	Required Danger boards, signages, lettering etc.				
	Outgoing.				
	63A TPN MCB, C curve - 4 nos.				

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
	40A TPN MCB, C curve - 6 nos.	Each	1		
112	Supply, Installation, Testing & Commissioning of Lighting panel, cubicle type, made out of 2mm thick CRCA sheet, totally enclosed, IP42, free standing, floor mounting, dust and vermin proof, powder coated, indoor, compartmentalised, suitable for operation on 3 phase and neutral, 415 V, 50Hz AC system, including internal wiring with suitable size wires, rotary handle, spreaders, 3mm thick gland plate, hinged type door with neoprene gasket etc. The panel shall include supply & installation of following switchgears, metering instruments and accessories as per specification.				
	Incomer				
	200A, TPN, switch disconnecter unit (Isolator), AC23, 415V, 50Hz, complete with handle assembly having door interlock - 1 no.				
	Busbar				
	1 Set of 200 A TPN busbars of high conductivity electrolytic quality Aluminium alloy and suitable size earthing conductor through out the panel for its earthing.				
	Instruments				
	2A, C curve SP MCB - 3 nos.				
	RYB indication lamp, LED type - 3 nos.				
	1 No 3 phase Digital Multi function meter to read V, A, F, kW, kWh, Acc class 1.				
	200/5A 5VA class 1 resin cast CT - 1 set				
	Required Danger boards, signages, lettering etc.				
	Outgoing.				
	100A TPN MCCB, thermal magnetic with adjustable OL, SC protection - 5 nos.				
	63A TPN MCCB, thermal magnetic with adjustable OL, SC protection - 2 nos.	Each	1		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
M	EXTERNAL LIGHTING				
113	Supply & installation of Hot dipped Galvanised (internally and externally), seamless, octagonal pole of overall length 8 M with single arm bracket of 1.5m length 48mm dia x 3.25mm thick with standard arm cap. The pole shall have inbuilt cable loop in loop out with flush door and locking facility. The bottom dia of the pole shall be 135mm and top 70mm with 3mm sheet thickness. The pole shall be with base plate of 225 x 225 x 16mm and 4nos required size of foundation bolt. The pole shall be mounted on suitable size foundation (design to be got approved) with baseplate arrangement and provided with 4A SP C curve MCB, loop in loop out terminals block, required dia GI / PVC pipe shall be provided in the foundation for taking cable in & out from the pole, 3C x 1.5sqmm unarmoured PVC insulated round copper cable from loop in loop out to light fixture etc with all required accessories. The cost of the civil foundation is not considered in this item.	Each	30		
114	Supply & installation of Hot dipped Galvanised (internally and externally), seamless, octagonal pole of overall length 8 M with double arm bracket of 1.5m length 48mm dia x 3.25mm thick with standard arm cap. The pole shall have inbuilt cable loop in loop out with flush door and locking facility. The bottom dia of the pole shall be 135mm and top 70mm with 3mm sheet thickness. The pole shall be with base plate of 225x225x16mm and 4nos required size of foundation bolt. The pole shall be mounted on suitable size foundation (design to be got approved) with baseplate arrangement and provided with 4A SP C curve MCB, loop in loop out terminals block, required dia GI / PVC pipe shall be provided in the foundation for taking cable in & out from the pole, 3Cx1.5sqmm unarmoured PVC insulated round copper cable from loop in loop out to light fixture etc with all required accessories. The cost of the civil foundation is not considered in this item.	Each	10		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
115	Supply & installation of integral, IP65, Post top luminaire with diecast aluminium powder coated housing, UV stabilized polyethylene bowl suitable for 1x70W MH lamp. The light fitting shall be mounted on 3mtr length pole, pole base, with all necessary accessories including 70W MH lamp. The cost of the civil foundation shall be measured along with civil items (Philips HPS360 lxMHNTD70W GR (antique silver) or equivalent)	Each	15		
116	Supply & installation of IP65, bollard luminaire with diecast aluminium powder coated housing, UV stabilized polyethylene bowl suitable for 1x18W CFL lamp including all necessary accessories. The item includes 18W CFL lamp. The cost of the civil foundation shall be measured along with civil items.(Philips HCS360 lxPLC/2P18W GR (antique silver) or equivalent)	Each	15		
117	Supply, installation, testing & commissioning of IP66,150W HPSV street lighting, with die cast aluminium housing, anodised aluminum reflector, toughened glass, stainless steel toggle, heavy duty copper ballast, pf capacitor, 1x150W HPSV lamp etc as required. The light fitting shall be suitably installed with all required accessories to poles. The item shall include 3C x 1.5 sqmm PVC insulated copper unarmoured cable for connecting between the luminaire and the loop in loop out box. (Similar to Wipro WST 71150 or equivalent).	Each	50		
118	Supply, Installation, Testing & Commissioning of Street lighting panel, cubicle type, made out of 2mm thick CRCA sheet, totally enclosed, free standing, floor mounting, dust and vermin proof, powder coated, outdoor type, compartmentalised, suitable for operation on 3 phase and neutral, 415 V, 50Hz AC system, including internal wiring with suitable size wires, rotary handle, spreaders, 3mm thick gland plate, hinged type door with neoprene gasket etc. The panel shall include supply & installation of following switchgears, metering instruments and accessories as per specification.				
	Incomer				
	63A, TPN, switch disconnecter unit (Isolator), AC23, 415V, 50Hz, complete with handle assembly having door interlock - 1 no.				
	Busbar				

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
	1 Set of 100 A TPN busbars of high conductivity electrolytic quality Aluminium alloy.				
	Instruments				
	2A, C curve SP MCB - 3 nos.				
	RYB indication lamp, LED type - 3 nos.				
	1 No 3 phase Digital Multi function meter to read V, A, F Acc class 1.				
	60/5A 5VA class 1 resin cast CT - 1 set				
	Required Danger boards, signages, lettering etc.				
	Outgoing.				
	25A TP+NL C curve MCB - 6 nos.				
	32A AC1 duty 4P Power contactor - 6 nos.				
	24Hr Timer with all accessories - 3 nos.	Each	1		
N	SAFETY				
119	Supply and fixing anodised aluminum glass framed shock treatment chart.	Each	6		
120	Supply & laying ISI marked following electrical grade chequered type rubber mat.				
a)	2m x 1m x 6 mm for 415V grade	Each	25		
b)	2m x 1m x 12 mm for 11kV grade	Each	10		

Item no.	Item Description	Unit	Qty	Rate Rs (figures & words)	Amount Rs
121	Supply, fabrication and fixing 3 nos MS Fire buckets on suitable fabricated MS angle iron stand with hook, painting with red paint & filled with dry sand as required with all required accessories.	Set	3		
122	Supply and providing First Aid Chart duly framed and placed in a conspicuous location for clear vision.	Each	4		
123	Supply and providing Electrical main single line Diagram duly framed and placed in a conspicuous location for clear vision.	Each	1		
124	Supply and providing 15" long rubber hand gloves 15kV.	Pair	2		
125	Preparation, submission of drawings and applications for the installation and service connection to Electrical inspectorate, KSEB and obtaining Power allocation, sanction and energising of the installation, road cutting permission, including obtaining sanction from the authorities complete Including providing necessary assistance to the client for obtaining sanctions.	Job	1		
	TOTAL PART II - ELECTRICAL WORKS				