

**ELECTRIFICATION OF CIVIL ENGINEERING BLOCK (PHASE 2) AT COLLEGE OF ENGINEERING
PATHANAPURAM**

Tender Schedule

S.N	ITEM SPECIFICATION	QTY	UNIT	RATE	AMOUNT
	All breaker releases shall be set as per the ratings shown in the drawings				
	Bus bar sizes shall be taken either as shown in the drawing or as design parameter of 0.8A/Sqmm for AL and 1.2A/Sqmm for Cu which ever is higher.				
	Cable Camber shall be provided for incoming & outgoing cables				
	Earth bus shall be full length of the panel and all Switches/breakers shall be earthed				
	Fabrication, supply, erection, testing and commissioning of cubicle type, dust and vermin proof, floor mounted, front operated MV panel board made out of 14 SWG thick CRCA sheet, powder coated after 7 tank process, fully compartmentalised complete with hinges and earthed front doors with name plate, danger notice board, heavy duty rubber gaskets, removable gland plates made out of 3mm thick sheet steel with all necessary meters, indications, CTs etc as shown in the electrical drawing or as per the latest Electrical Inspectorate requirement complete with all connections and interconnections for the following panels.				

	<p>Special Note: *All breaker releases shall be set as per the ratings shown in the drawings *Bus bar sizes shall be taken either as shown in the drawing or as design parameter of *0.8A/Sqmm for AL and 1.2A/Sqmm for Cu which ever is higher. *Cable Camber shall be provided for incoming & outgoing cables *Earth bus shall be full length of the panel and all Switches/breakers shall be earthed *GA drawings for all the panels before manufacturing shall submit to the Electrical Inspectorate/Consultant to get approval before manufacturing.</p>				
1	SB-CIVIL BLOCK (BASEMENT FLOOR)				
	Incomer				
	250A, 36kA, 4P MCCB, with LSIG setting provision(Thermal Magnetic Type) set at240A(as in scheme) - 1 no				
	Busbar				
	2) 250 A TPN busbar of best conductivity Aluminium of 31.8 x 9.5mm Al for Phase and 31.8 x 6.4mm Al for Neutral with heat shrinkable sleeves mounted on DMC/FRP busbar supports with extensible busbar				
	Outgoings				

	100A 25kA 3P MCCB set at 80A-3nos 125A 25kA 3P MCCB set at 110A-1 nos 40A 25kA 3P MCCB set at 32A-2 nos Accessories: 1 no danger notice board,fuse links, indication lamps 1 No (0-600V) voltmeter with selector switch 3No (0-300A) Ammeter				
	Panel Type				
	Cable In/Out: Bottom Entry & Top/Bottom Out	1	MR	127730	127730.00
2	DB and ACCESSORIES				
	Supply and installation of sheet steel, phosphatised and painted, dust and vermin proof enclosure of DB including copper /brass bus bar, neutral link, earth bus and DIN rail suitable for fixing MCB/ isolator etc. fixed on wall using suitable anchor bolts or fixed in recess including cutting hole on the wall , making good the damages. colour washing etc. as required.				
A 1	6 Way(8+18) TPN DB - Three phase double cover (IP 42/43) -	4	Nos	4039.00	16156.00
2	12 Way(8+36) TPN DB - Three phase double cover (IP 42/43) -	5	Nos	7051.00	35255.00
3	12 way (8+36) - double cover TPN vertical DB with provision for fixing 4P MCB / Isolator/ RCCB/ RCBO as incomer and SP/ TP MCB as outgoing (IP 42/43)	1	Nos	12870.00	12870.00

4	8 way (8+24) - double cover TPN vertical DB with provision for fixing 4P MCB / Isolator/ RCCB/ RCBO as incomer and SP/ TP MCB as outgoing (IP 42/43)	2	Nos	9677.00	19354.00
5	12way-SPN double cover(IP 54)	3	Nos	1899.00	5697.00
6	6way-SPN double cover(IP 54)	2	Nos	1456.00	2912.00
7	FP enclosure for independent mounting of MCB/ RCCB/ RCBO	21	Nos	604.00	12684.00
B DB Accessories					
	Supply and installation of the following accessories suitable for 50 Hz , AC supply conforming to IS 8828-1995/ IEC 60898 of the following current ratings in the existing enclosure and giving connections as required				
	63 A FP MCB Isolator	5	Nos	752.00	3760.00
	40A FP MCB Isolator	2	Nos	716.00	1432.00
	40A TP Isolator	2	Nos	568.00	1136.00
	25A FP MCB Isolator	9	Nos	618.00	5562.00
	25A 4 Pole 30mA RCCB	9	Nos	2744.00	24696.00
	40A 4 Pole 30mA RCCB	1	Nos	2780.00	2780.00
	63A 4 Pole 100mA RCCB	5	Nos	3306.00	16530.00
	100A 4 Pole 100mA RCCB	1	Nos	5308.00	5308.00
	125A 4 Pole 100mA RCCB	1	Nos	8059.00	8059.00
	125A 25KA FP MCCB	1	Nos	11248.00	11248.00
	100A 25kA FP MCCB	1	Nos	6465.00	6465.00
	50A 10kA FP MCB (C curve)	6	Nos	1751.00	10506.00
	40A 10kA FP MCB (C curve)	12	Nos	1751.00	21012.00
	32A 10kA FP MCB (C curve)	2	Nos	1180.00	2360.00
	6A to 32 A 10kA SP MCB (C curve)	114	Nos	219.00	24966.00
	6A to 32A 10kA TP MCB (C curve)	85	Nos	919.00	78115.00
C Cable END Box					

	Supply and installtion of Cable end boxes for ii Vertical DBs	4	Nos	5682.00	22728.00
6	MV CABLES - SUPPLY AND LAYING				
a	Supply & laying of one number additional PVC insulated and PVC sheathed armoured aluminium power cable of 1.1KV grade of the following sizes in ground excavation of trench of size 35x75 cm ,sand cushioning up to hehiht of 25cm (80+175cm),providing protective covering with country burnt bricks laid breadth wise ,refilling the trench etc as required (in hard soil)				
1	3.5 core 400 sq mm	200	mtr	2022	404400.00
b	Supply and laying of one number PVC insulated and PVC sheathed armoured aluminium power cable of 1.1 KV grade of the following sizes in the existing RCC/HUME/STONE WARE/GI/DWC pipe as required				
1	3.5 core 400 sq.mm	25	mtr	1916	47900.00
c	Supply ,laying and clamping of 1 no XLPE insulated and PVC sheathed armoured aluminiumn power cable 1.1 KV grade of the following size using clamps noted along with the cables spacing of clamps not exceeding 60cms ,making good the damages ,colour washing etc as required				
1	3.5 core 400 sq mm with fabricated MS clamps (25x3mm)	25	mtr	2220.00	55500.00
4	3.5 core 70Sq mm	25	mtr	553.00	13825.00
5	4 core 16 sq mm	88	mtr	246.00	21648.00
6	4 core 10 sq mm	10	mtr	207.00	2070.00
7	4 core 6 sq mm	117	mtr	196.00	22932.00
8	4 core 4 sq mm	63	mtr	174.00	10962.00
10	2 core 4 sq.mm	33	mtr	138.00	4554.00

7	MV CABLES - END TERMINATIONS				
A	Supplying and installtion of seimens/tropodur type nickel palted single compression brass cable gland for the following sqmm PVC insulated and PVC sheathed armoured aluminum/ copper conductor cable 1.1KV grade and making end termination suitable for 2/3/3.5/4 core cable of the following sizes as required including earth clamps for siemens /tropodur type cable glands for suitable length and other diamensions noted along with each size of glands for the for 16 sq.mm with 12mm wide x 1 mm thick clip and including superoior quality aluminium tubular cable socket and making core termination of cable of the following sizes including crimping etc .as required				
a	400 sq mm	2	nos	706.00	1412.00
b	70 Sq mm	4	nos	714.00	2856.00
c	16 sq mm	12	nos	319.00	3828.00
d	10 sq mm	2	nos	271.00	542.00
h	6 sq mm	28	nos	252.00	7056.00
i	4 sq mm	24	nos	221.00	5304.00
8	EARTHING				

a	Supply and providing pipe earthing as per IS 3043 with 3.60 m long 40 mm dia B class GI pipe, GI funnel with weld mesh, filling required quantity of charcoal & salt including construction of inspection chamber with a bed concrete of 1:4:8 PCC using 40 mm broken stone (10 cm thick), brick work in cement mortar 1:6, plastering the surface of brick masonry and the exposed surface of PCC bed with cement mortar 1:4, 12 mm thick, (the finished inside dimension shall be 300 x 300 x 300 mm) but excluding test joint, earth continuity conductor to the plate, and covering at the top. (in hard soil) (Including UPS DB)	6	No	2600	15600.00
b	Supply and providing the 300 x 300 x 10 mm of cast iron gully trap with covering at the top of the inspection chamber of earth pit as required	6	nos	395	2370.00
c	Supply and providing test joint for the earthing system using 2 Nos of the 2 x 25 x 3 mm tinned copper strip of strips including cutting and bending to shape, drilling necessary holes and fixed to the watering pipe etc as required.	15	mtr	598	8970.00
d	Supply and providing earth lead from the test joint to the earth electrode using the 4.00 mm bare copper conductor (8 SWG) of conductors/ strips including cutting, drilling necessary holes (in case of strip) and fixing firmly with plate test joint etc as required.	20	mtr	85	1700.00
e	Supply and drawing bare earthing conductors of the following sizes along with wiring/ cables and giving connection as required.				
	3.15 mm copper conductor (10 SWG)	1300	mtr	62	80600.00
f	4.00 mm copper conductor (8 SWG)	250	mtr	97	24250.00

g	Supply and laying strips of the 25 x 3 mm copper strip tinned at the points of contacts along with wiring/ cables and giving connection as required.	25	mtr	482	12050.00
h	Supply and laying the 25 x 3 mm copper strip tinned at the points of contacts of strips laid 0.60 m below ground level including excavating trench of suitable size and refilling etc. as required (in hard soil).	10	mtr	525	5250.00
i	Supply and providing plate earthing as per IS 3043 with 1200x1200x12 mm GI/CI earth plate,50 mm GI watering pipe fixed to the earth plate with 25x 3 mm GI clamps, GI funnel with weld mesh, filling required quantity of charcoal including construction of inspection chamber with a bed concrete of 1:4:8 PCC using 40 mm broken stone (10 cm thick), brick work in cement mortar 1:6, plastering the surface of brick masonry and the exposed surface of PCC bed with cement mortar 1:4, 12 mm thick, (the finished inside dimension shall be 450 x 450 x 450mm) but excluding test joint, earth continuity conductor to the plate, and covering at the top. (in hard soil)(UPS DB)	2	Nos	11067	22134.00
	Supply and providing the 450 x 450 x 10 mm of cast iron gully trap with covering at the top of the inspection chamber of earth pit as required	2	Nos	929	1858.00
9	LIGHTNING PROTECTION				
	Supply and clamping the following sizes of strips on surface of wall/ parapet/ existing cable tray using clamps fabricated from 20 x 3 mm GI flat duly painted or heavy duty GI spacer saddles, spacing of clamps not exceeding 1m, making good the damages, colour washing etc. as required (for horizontal run).				

	a. 25 x 3 mm aluminium strip	300	Mts	116	34800.00
	Supply and clamping the following sizes of strips on surface of wall/ parapet/ existing cable tray using clamps fabricated from 20 x 3 mm GI flat duly painted or heavy duty GI spacer saddles, spacing of clamps not exceeding 1m, making good the damages, colour washing etc. as required (for vertical run).				
	b. 25 x 6 mm aluminium strip	100	Mts	180	18000.00
10	Providing and fixing testing joint made of 2 no. strips as mentioned below of the following sizes provided on either side of the conductors with 4 nos of GI bolts, nuts check nuts and spring washers etc. complete as required (for down conductors).				
	2 Nos 25 x 3 mm Cu strip 150mm long	13	Nos	190	2470.00
11	Supply and laying the 25x6 mm GI strip of strips laid 0.60 m below ground level including excavating trench of suitable size and refilling etc. as required (In hard soil)	300	mts	178	53400.00
12	SUB MAIN WIRING				
	Supply and drawing 650/1100 V grade PVC insulated stranded single core copper conductor FRLS cables conforming to IS 694 part I 1990 in the existing surface / recess conduit as required including giving necessary connections of the following sizes.				
	a 1.50 sq mm 3 run(R/Y/B/BLACK/GREEN)	2850	m	77.00	219450.00
	b 2.50 sq mm 2 run+2.50 sqmm green Cu wire (Mains+ Power plug)	2000	m	136.00	272000.00
	c 4sq mm 2 run + 2.5 Sq.mm green Cu wire	120	m	161.00	19320.00
	d 4 sq.mm 4 run + 2.5 sq.mm green Cu	38	m	239.00	9082.00
13	PVC CONDUITS AND ACCESSORIES				

	Supply and fixing the following sizes of medium guage PVC Conduit conforming to IS 9537/1983 part III along with all required accessories on surface including making good the damages etc as required				
A					
a	20 mm	1600	m	41.00	65600.00
b	25 mm	1200	m	49.00	58800.00
d	Supplying and clamping the 50 mm dia of corrugated PVC flexible conduit with necessary compression gland with locking ring and check nut at termination pointed using suitable size GI / painted MS saddles spacing not exceeding 60 cms on surface including making good the damages, colour washing etc. as required.	18	m	126.00	2268.00
	Supplying and clamping the 50 cm of PVC case and capping with nessary termination point .	100	m	80.00	8000.00
14	TELEPHONE AND COMPUTER POINTS				
A	Supplying & Drawing unarmored PVC insulated and & PVC sheathed copper conductor Telephone Pair Cable conforming to ITD specification for indoor application through the existing conduit				
a	2 Pair 0.5MM	500	m	32.00	16000.00
b	4 Pair 0.5MM	25	m	42.00	1050.00
B	Supply and installation of RJ11 telephone socket in company made enclosure MS box, front plate switch socket ect.	13	nos	139.00	1807.00
C	Supply and installation of telephone junction box with chrone connector with 2 bar .	1	No	948.00	948.00
D	Supply and installation of 2nos 6A 3 pin sockets controlled by 1 no16A SP control switch in single company made surface box with front and inner plate etc complete in position and giving connection. (For computers outlets)	39	nos	840.00	32760.00

D	Supply and installation of 3nos 6A 3 pin sockets controlled by 1 no16A SP control switch in single company made surface box with front and inner plate etc complete in position and giving connection. (For computers outlets)	27	nos	1,060.00	28620.00
15	SOCKET OUTLETS				
A	Supply and installation of 5/6A 3 pin plug point in independent position with control switch including wire interconnection earth wires modular type MS box, front plate switch socket ect .	81	nos	572	46332.00
B	Supply and installation of 16A 3 pin plug point in with 16A control switch in company made metal box	20	nos	683	13660.00
C	Supply and fixing SP & N/TP & N metal case enclosure with 2/4 pole and earth plug socket with pin suitable for incorporating , DP/4P MCB (excluding cost of DP/4P MCB) in surface/ recess including giving necessary connections, making good the damages etc. as required.				
1	250V, 25A/32A, 2 pole and earth	2	nos	983	1966.00
D	Supply & Fixing the following types/ sizes of boxes suitable for modular accessories in surface/ recess including making good the damages, colour washing etc as required (Group B)				
1	2 module metal box in recess	1	nos	165.00	165.00
2	3 module metal box in recess	1	nos	180.00	180.00
3	4 module metal box in recess	1	nos	180.00	180.00
4	6 module metal box in recess	1	nos	198.00	198.00
5	8 module metal box in recess	1	nos	232.00	232.00
6	9 module metal box in recess	1	nos	239.00	239.00
7	10 module metal box in recess	1	nos	330	330.00
8	12 module metal box in recess	1	nos	354	354.00
E	Supply & Fixing the following types/ sizes of front plates on the existing modular boxes. (Group B)				

1	2 module white/ off-white	1	nos	101	101.00
2	3 module white/ off-white	1	nos	116	116.00
3	4 module white/ off-white	1	nos	119	119.00
4	6 module white/ off-white	1	nos	152.00	152.00
5	8 module white/ off-white	1	nos	187.00	187.00
6	9 module white/ off-white	1	nos	195.00	195.00
7	10 module white/ off-white	1	nos	216.00	216.00
8	12 module white/ off-white	1	nos	251.00	251.00
F	Supply and Fixing the following modular switches & accessories in the existing front plates and giving necessary connections as required (Group B)				
a	6A SP One way Switch with indicator	1	nos	138.00	138.00
b	16A SP One way switch with indicator	1	nos	161.00	161.00
c	6A Universal Socket	1	nos	147.00	147.00
e	6/16A Universal Socket	1	nos	223.00	223.00
f	blank plates 1M	1	nos	19.00	19.00
g	blank plates 2M	1	nos	21.00	21.00
h	blank plates 4M	1	nos	43.00	43.00
18	LIGHT POINT WIRING				

A	Supply and wiring points according to IS 732-1989 using rigid PVC conduit of minimum size 20 mm with specials conforming to IS 9537 part III 1983 and with suitable size specials conforming to IS 3419-1988, fixing the conduit using metal saddles spacing not exceeding 50 cm or concealed suitably and with 1.00 sq mm PVC insulated stranded single core copper conductor cable 650V grade, and continuous earthing with 1.5 Sq.mm green coloured FR PVC insulated stranded single core copper conductor cable 650V grade, generally conforming to IS 694-1990 complete with suitable size modular type metal switch boxes, modular type front plates (white or off white) etc. up to and including 6 A modular type SP switches and making good the surface of wall, colour washing etc. complete. All the terminations in the switch boards and DB's shall be tinned and the wires shall be drawn and fixed along the periphery of the box using suitable ties, tie mounts etc as required. (Group B modular accessories) Medium point rates				
a	Single control light point with 6A, 3 plate ceiling rose (Including T5 tubes,Exhaust fan etc)	268	nos	966.00	258888.00
b	Single control light point without ceiling rose (Battern,Bulk head & Wall light)	61	nos	947.00	57767.00
c	Twin control light point without ceiling rose(Battern light stair case)	8	nos	1449.00	11592.00
d	Single control ceiling fan point with 6 A, 3 plate ceiling rose & with socket size stepped electronic regulator	128	nos	1622.00	207616.00
e	Call bell point with piano type 6 A bell push at one end and 6 A, 3 plate ceiling rose at other end	1	nos	1004.00	1004.00

	Combined plug point with 6 A, 5 pin plug socket controlled by 6 A switch in the same switch board as that of light points.	34	nos	483.00	16422.00
19	CARRIAGE & ERECTION OF LIGHT AND FAN				
A	Supply conveyance, installation, testing and commissioning the following types of fluorescent light fittings with all accessories and fluorescent lamps directly on wall and giving connections with 16/0.20 mm 3 core PVC insulated and sheathed round copper conductor flex wire or extending the original wiring and giving connections as required				
	Fluorescent tube light fitting with lamp holder, electronic ballast suitable for continuous operation with THD <10% duly wired up for use on 230 V AC supply . The fittings shall be made from CRCA MS sheet of minimum thickness 0.50 mm nominal thickness inside & outside.				
1	Suitable for single 28 W T5 lamp	93	nos	1446.00	134478.00
B	Supply, conveyance, installation, testing and commissioning of pre-wired fluorescent fittings of the following types complete with all accessories and fluorescent lamps etc. including supplying and fixing ball and socket arrangements on T.W round block, suspension down rod of 19mm dia MS conduit up to 2x60cm length including painting and wiring the down rod with 16/0.20mm 3 core round copper conductor flex wire conforming to relevant ISS or extending the original wiring and giving connections etc. a required.				

	Fluorescent tube light fitting with bi-directional reflector complete with lamp holder, APF electronic ballast suitable for continuous operation with THD <10%, power factor >0.98, RoHS compliant, duly wired up for use on 230 V AC supply without fluorescent tubes. The fittings shall be made from CRCA MS sheet of minimum thickness 0.50 mm nominal thickness inside & outside.				
1	Suitable for single 28 W T5 lamp	164	nos	2021.00	331444.00
C	Supply and installation of Battern and holder including cost of 15W CFL luminaire and giving connection.	61	nos	250.00	15250.00
D	Supply and fixing cast aluminium elliptical shaped bulk head fitting with front clear glass and mesh guard suitable for 5 to 14 W CFL to wall / ceiling including giving connections with required length of 16/0.20mm PVC insulated and PVC sheathed 3 core round copper conductor flex wire conforming to relevant ISS or extending the original wiring and making good the surface as required.including cost of 15W CFL	2	nos	601.00	1202.00
E	Supply and installation of suitable size MS rod type fan clamp using M10 fastner on ceiling as per IS 732 as required.	128	nos	124.00	15872.00
F	Supply and providing every additional length of down rod of suitable size heavy gauge GI / WI pipe with 16/0.20mm PVC insulated and PVC sheathed 3 core round copper conductor flex wire conforming in relevant ISS or with original wiring extended including painting as required.	76.8	MTR	115.00	8832.00

G	Supply, conveyance, installation, testing and commissioning of ceiling fans of the 1200 mm sweep (Category B)- 5 star rated using standard accessories excluding resistance type regulator, wiring the down rod with 16/0.20mm PVC insulated and PVC sheathed 650/1100V grade 3 core round copper conductor flex wire or with extended original wiring etc. as required.	128	nos	1853.00	237184.00
H	Charges for cutting holes suitable for accommodating exhaust fans of sizes exceeding 305 mm sweep up to 450 mm including plastering, colour washing etc. as required.	11	nos	397.00	4367.00
I	Supply, conveyance, installation, testing and commissioning of the 450 mm, single phase, heavy duty, 1400 rpm exhaust fan in metal frame of exhaust fans in the existing opening, fixing necessary bolt and nuts, making good the damages etc. as required including giving connections with required length of 24/0.20mm PVC insulated and PVC sheathed 3 core round copper conductor flex wire conforming to relevant ISS.	11	nos	4157.00	45727.00
J	Supply, conveyance, installation, testing and commissioning of single piece integral luminaire suitable for roadway installation with die-cast aluminium housing with top opening in powder coated finish with POT optics reflector, toughened glass cover (IP 65 protection) control gear and lamp holder suitable for the 70W Metal Halide lamp pre-wired up to the terminal block including supply and providing suitable lamps in the existing GI pipe and giving connections with the extended original wiring and giving connection etc. as required of the following types and ratings.	4	nos	3776.00	15104.00

	Supply and fixing the Ding Dong bell of superior quality 250V A.C call bell on existing M.S. box and giving connections with required length of 3 core, 16 / 0.20mm 650/1100V grade PVC insulated and PVC sheathed round copper conductor flex wire conforming to relevant ISS or with the extended original wiring, earthing the MS box and making good the surface as required.	1	nos	181.00	181.00
20	Miscellaneous				
A	Supply and providing MS chequered plate of suitable thickness including cutting, welding, painting etc. as required for the cable trench covering.	70	Kg	63.00	4410.00
B	Supply and providing 6 mm thick & 1 m wide electrical grade chequered type rubber mat to withstand 3.3 KV dielectric strength conforming to IS 5429/ 1969.	400	m2	743.00	297200.00
C	Supply and providing 5 Kg. Dry Chemical Powder type Fire Extinguisher with hose and clamps including fixing it to wall as required.	1	E	2324.00	2324.00
D	Supply and providing and fixing cast iron cable route markers with spike, including fixing with concrete.	6	Nos	207.00	1242.00
E	Supplying and installation of supports, anchor bolts etc made out of suitable size single section MS angle, flats etc as required including painting with 2 coats of synthetic enamel paint	10	Kg	70.00	700.00
F	Charges for Preparation of drawings, and obtaining approval from Electrical Inspectorate and KSEB. Including all liaison work	1	Job	25000.00	25000.00

G	Painting letters or figures of 2.50 cm, 4 cm or 5 cm height with enamel paint as identification mark to SB, DB, panel board etc as required	50	Nos	12	600
H	Spreader Terminals for 250A MCCB	1	Set	1035	1035
	GRAND TOTAL				3864633.00
	(Rupees thirty eight lakh sixty four thousand six hundred and thirty three only)				

