

TENDER SCHEDULE FOR PROVIDING UNDER GROUND CABLE CONNECTION AND SUB PANEL BOARD FOR DISTRIBUTION OF POWER SUPPLY FROM HEALTH CENTRE GATE TO LADIES HOSTELS AT UNIVERSITY OF KERALA, KARIAVATTAM CAMPUS.

Sl.No	Qty	Specification	Unit	Rate	Rate in words	Amount
		Panel Boards				
1		Fabrication, supply, conveyance, installation testing and commissioning of Outdoor type floor mounting, dust and vermin proof, cubicle type Sub panel board comprising of the following components/ devices & complying to IS 8623.				
a	8 m2	Fabrication of fully partitioned, dust and vermin proof enclosure for <i>panel assembly</i> as per form 4 of IS 8623 (with latest amendments) <i>using 2.00 mm CRCA sheet</i> as per approved design and requirement, with front access facility, bus bar chambers, hinged doors for all switch gear compartments and hinged doors at entire portion of the front side for water tight arrangements, copium at top, earthing the doors using 4 sq mm braided copper conductor, providing necessary cut-outs for mounting meters, relays, indication lamps, bus bar interconnection etc, detachable covers for bus bar chamber and cable alley, <i>powder coating</i> the assembly after subjecting to 7 tank process etc as required. CRCA sheet alone be used for the fabrication. Angles/ flats/ slotted angles etc shall not be used for the fabrication of panel assembly. The measurments should be taken the area of the complete sheets used for panel board including partitions, folding, shrouding etc. including control wiring	m2	2473.00	Rs. Two thousand four hundred & seventy three only	19784.00
2		Supply and providing the following size of <i>SMC sheets</i> in the panel as barriers & shrouding using required bolts and nuts including cutting to shape etc., as required.				

a	0.5	m ²	2 mm thick	m ²	3184.00	Rs. Three thousand one hundred & eighty four only	1592.00
3			Supply and fixing the following types of <i>beeding</i> along the periphery of doors/ other detachable compartments to make the panel assembly dust & vermin proof including sticking with glue				
a	20	m	U' section rubber beeding suitable for 1.60/ 2.00 mm sheet	m	8.00	Rs. Eight only	160.00
4	50	Kg	Fabrication, supply, conveyance and installation of <i>angle iron frame work</i> for wall mounting panel board using suitable size angle iron cut and welded to shape including painting with two coats of synthetic enamel paint over a coat of zinc chromate primer, bolting the frame to the panel using required bolt and nuts, fixing the whole to the wall, making good the damages etc. as required.	kg	126.00	Rs. One hundred & twenty six only	6300.00
a	500	cm ³	Fabrication, supply & fixing main <i>bus bar system</i> and interconnections with electrolytic grade <i>copper</i> strips/ rigid conductors conforming to IS 1867 (with latest amendments) for bus bar arrangement with <i>single strip per phase</i> supported on finger type bus bar supports of adequate size, spacing between supports not exceeding 50 cm & overhang not exceeding 5 cm including bending to shape, drilling holes, tinning the points of contacts, fixing heat shrinkable PVC sleeves, plated bolts and nuts with plate washers and spring washers, copper sockets for round conductors, etc., as required.	cm ³	7.30	Rs. Seven & ps. thirty only	3650.00

5	250	cm ³	Fabrication, supply & fixing <i>earth bus</i> system with <i>coppe</i> r strip/ conductor and connecting all accessories as per rule including g tinning the points of contacts etc as required	cm ³	6.90	Rs. Six & ps. ninety only	1725.00
a			Incoming				
6			S & F switch disconnecter fuse unit complete with handle assembly, door inter lock and padlocking arrangement of the following ratings:				
a	1	No	250 A TPN SDF with 200 A DIN/BS type HRC fuse links	E	11027.00	Rs.Eleven thousand & twenty seven only	11027.00
			Out going				
b	4	Nos	125 A TPN SDF with 80 A HRC fuse links	E	6440.00	Rs. Six thousand four hundred & forty only	25760.00
			Accessories				
c	1	No	Three phase volt meter (V - RY, YB, BR, R, Y, B) of accuracy class 1	E	1683.00	Rs. One thousand six hundred & eighty three only	1683.00
d	1	No	5 A 3 pole voltmeter selector switch to read voltage between 3 phases.	E	157.00	Rs. One hundred & fifty seven only	157.00
e	3	Nos	Single phase ammeter of accuracy class 0.50	E	1271.00	Rs. One thousand two hundred & seventy one only	3813.00
f	3	Nos	LED indicators for all voltage ranges - Red, Green, Black, Yellow or Orange Colour	E	123.00	Rs. One hundred & twenty three only	369.00
g	3	Nos	100/ 5 A, 5 VA, resin cast metering CT of accuracy class 0.5	E	1272.00	Rs. One thousand two hundred & seventy two only	3816.00
h	6	No	16 A, 415 V, HRC type Kit kat fuse unit.	E	84.50	Rs. Eighty four & ps. fifty only	507.00
i	6	No	2 A, clip-on offset tag fuse link (Group B)	E	43.00	Rs. Forty three only	258.00
j	1	no	Aluminium anodised Danger Notice Board of size 200 x 150 mm. with inscriptions (both in English and Malayalam) and conventional Skull and Bone in Red colour.	E	126.00	Rs. One hundred & twenty six only	126.00

7			Carrying out <i>control wiring for panel with normal meters and indication lamps alone</i> with 650/1100 V grade PVC insulated stranded single core copper conductor cables conforming to IS 694 part I 1990 for interconnecting the control devices/ equipments including providing suitable size insulated sockets at the termination points or soldered properly, providing numbering ferrules for the proper identification of the wiring, keeping the wiring firm by suitable tie/ tie mounts/ PVC duct etc as required.				
a	10	M	1.50 sq mm single run with required sockets.	m	22.00	Rs. Twenty two only	220.00
II			SH: CABLING				
1			Supply & laying of one number PVC insulated and PVC sheathed armoured aluminium power cable of 1.1KV grade of the following sizes in ground including excavation of trench of size 35 x 75 cm, refilling the trench etc. as required but excluding sand cushioning and protective covering (in hard soil).				
a	200	M	4 core 120 sq mm	m	832.00	Rs. Eight hundred & thirty two	166400.00
2			Supply & laying of one number PVC insulated and PVC sheathed armoured aluminium power cable of 1.1KV grade of the following sizes in the existing RCC/ HUME / STONE WARE/ GI/ DWC pipe as required.				
a	25	M	4 core 120 sq mm	m	919.00	Rs. Nine hundred & nineteen only	22975.00

3			Supply, laying and clamping of 1 no. PVC insulated and PVC sheathed armoured aluminium power cable, 1.1 KV grade of the following sizes using clamps noted along with the cables, spacing of clamps not exceeding 60cms, making good the damages , colour washing etc. as required.				
a	15	M	4c 120 sqmm	m	822.00	Rs. Eight hundred & twenty two only	12330.00
4			<i>Supplying, laying and jointing</i> of the following sizes of double wall corrugated (<i>DWC pipes</i>) made out of HDPE conforming to IS 14930 Part II for mechanical protection to underground power cables with all required accessories in ground <i>in the existing trench</i>				
a	200	M	77 / 63 mm or nearest size	m	141.00	Rs. One hundred & forty one only	28200.00
			<i>ROUTE - MARKER</i>				
5	4	Nos	Supply route marker with 102mmx102mm <i>cast iron, spike</i> 5mm thick with inscription 'LT Cable' there on bolted / welded to 35x35x6mm angle iron 60cm long and fixing the same in ground as required.	e	194.00	Rs. One hundred & ninety four only	776.00
			<i>END TERMINATION OF CABLES</i>				
6			Supplying siemens / tropodur type nickel plated <i>Double compression brass cable gland</i> for PVC insulated and PVC sheathed armoured aluminium/ copper conductor cable 1.1 KV grade, and making end termination suitable for 2/ 3/ 3½/ 4 core cable of the following sizes as required.				
a	2	Nos	120 sq mm	E	874.00	Rs. Eight hundred & seventy four only	1748.00

b	4	Nos	70 sq mm	E	714.00	Rs. Seven hundred & fourteen only	2856.00
			EARTH CLAMPS				
7			Supplying and providing <i>earth clamps</i> for siemens/tropodur type cable glands of suitable length and other dimensions noted along with each size of glands for the following sizes of cables as required.				
a	4	Nos	25 sq - 95sq mm with 20 mm wide x 1.20 mm thick clip	E	27.00	Rs. Twenty seven only	108.00
8			Supplying and providing <i>earth clamps made out of copper strips</i> of the following sizes including cutting and bending the flat exactly to the shape of the gland, drilling necessary holes for nut & bolt, tinning the points of contacts and giving connections to the main earthing system as required.				
a	2	Nos	20 x 3 mm for earthing glands of size 120 sq mm to 185 sq mm	E	99.00	Rs. Ninety nine only	198.00
			CABLE SOCKETS				
9			Supply of superior quality <i>aluminium tubular cable socket</i> and making core termination of cables of the following sizes including crimping etc. as required.				
a	16	Nos	70 sq mm	E	24.00	Rs. Twenty four only	384.00
b	8	Nos	120 sq mm	E	42.00	Rs. Forty two only	336.00

10	2	Nos	Supply and providing <i>plate earthing</i> as per IS 3043 <i>with 600x600x6.30 mm GI/CI earth plate</i> , 20 mm GI watering pipe fixed to the earth plate with 20 x 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 300 x 300 x 300 mm) but excluding test joint, earth continuity conductor to the plate, and covering at the top. (<i>in ordinary rock - soft laterite soil</i>)	E	4448.00	Rs. Four thousand four hundred & forty eight only	8896.00
11			Supply and providing the following sizes of <i>cast iron gully trap with covering</i> at the top of the inspection chamber of earth pit as required				
a	2	Nos	300 x 300 x 6 mm cast iron gully trap with covering	E	267.00	Rs. Two hundred & sixty seven only	534.00
12			Supply and providing <i>test joint for the earthing system</i> using 2 Nos of the following sizes of strips including cutting and bending to shape, drilling necessary holes and fixed to the watering pipe etc as required.				
a	0.6	M	2 x 25 x 3 mm tinned copper strip	m	598.00	Rs. Five hundred & ninety eight only	358.80
13			Supply and providing <i>earth lead from the test joint to the earth electrode</i> using the following sizes of conductors/ strips including cutting, drilling necessary holes (in case of strip) and fixing firmly with plate test joint etc as required.				

a	7	M	25 x 3 mm copper strip tinned at the points of contacts	m	483.00	Rs. Four hundred & eightythree only	3381.00
14			Supply and drawing bare <i>earthing conductors</i> of the following sizes <i>along with wiring/ cables</i> and giving connection as required.				
a	5	M	4.75 mm copper conductor (6 SWG)	m	133.00	Rs. One hundred & thirty three only	665.00
b	420	M	3.15 mm copper conductor (10 SWG)	m	62.00	Rs. Sixty two only	26040.00
15			Supply and laying bare <i>earthing conductors</i> of the following sizes <i>laid 0.6 m below ground level including excavating trench</i> of suitable size and refilling etc. as required (<i>in ordinary soil</i>).				
a	20	M	4.75 mm copper conductor (6 SWG)	m	144.00	Rs. One hundred & forty four only	2880.00
16			supply of superior quality <i>copper earth socket</i> for the following sizes of earth conductor including crimping etc. as required.				
a	6	Nos	4.75 mm (6 SWG)	E	31.00	Rs. Thirty one only	186.00
b	10	Nos	3.15 mm (10 SWG)	E	19.00	Rs. Nineteen only	190.00
17			Supply and providing the following sizes of <i>bolt and nut</i> with washers on the existing MS box / earth bus etc. as required including drilling necessary holes as required				
a	10	Nos	12 x 3 mm brass bolt & nut	E	11.30	Rs. Eleven & ps. thirty only	113.00
b	10	Nos	25 x 3mm brass bolt & nut	E	17.00	Rs. Seventeen only	170.00
c	10	Nos	25 x 6 mm brass bolt & nut	E	20.00	Rs. Twenty only	200.00
18			Supplying , threading , laying and jointing of the following sizes of 'B' class <i>GI pipe</i> with all required accessories <i>in ground in the existing trench</i> as protective covering to earth leads.				
a	15	M	20 mm dia	m	114.00	Rs. One hundred & fourteen only	1710.00

19			Supply and <i>clamping</i> the following sizes of "B" class <i>GI pipe</i> on wall with all required accessories & clamps etc., including cutting and making good the walls, painting the exposed portions etc., <i>as protective covering to earth leads / cables.</i>				
a	15	M	75mm	m	565.00	Rs. Five hundred & sixty five only	8475.00
20	30	M	Supply and clamping single core stranded unarmoured PVC insulated and PVC sheathed Aluminium power cable 1.1 KV grade of 120 Sqmm on the existing outdoor pillar box to service line and giving connections etc as required	m	283.00	Rs. Two hundred & eighty three only	8490.00
21	0.65	m2	Supply and Installation of outdoor feeder pillar box made out of 2 mm MS sheet of s300x300x250mm with hinged door construction and copium at the top and providing slotted angles for fixing fuse units and neutral links , painting the same with 2 coat of synthetic enamel paint over a coat of red oxide primer,fixing the same on the concrete post using suitable size painted flat iron clamps with bolt and nuts with washers etc as required.	m ²	2473.00	Rs. Two thousand four hundred & seventy three only	1731.10
22	3	Nos	Supply and providing 200 A porcelane type fuse unit in the existing slotted angle using suitable size bolt and nut with washers etcv as required.	E	1013.00	Rs. One thousand & thirteen only	3039.00
23	1	No	Supply and providing 200 A Bar type 2 way neutral link in the existing pillar box using suitable size bolt and nut with washers etc as required	E	226.00	Rs. Two hundred & twenty six only	226.00

24	2	Nos	Dismantling the existing cables from the existing post and relaying the same in ground and connecting the proposed panel board etc as required.	E	620.00	Rs. Six hundred & twenty only	1240.00
25			<i>Painting letters or figures</i> of the following sizes with enamel paint as identification mark to SB, DB, panel board etc as required				
a	50	Nos	2.50 cm, 4 cm or 5 cm height	E	12.00	Rs. Twelve only	600.00
			<i>Earth work excavation</i>				
26	1	m3	Earth work excavation in <i>hard soil</i> and depositing with a lead up to 50 m and lift up to 1.50 m including neat banking	m ³	237.37	Rs. Two hundred & thirty seven & ps. thirty seven only	237.37
27	0.8	m3	<i>Plain cement concrete 1:4:8</i> using 40mm (Normal size) broken stone. (m ³)	m ³	5088.00	Rs. Five thousand & eighty eight only	4070.40
28	0.7	m2	<i>Plastering</i> with cement mortar 1:4, 12mm thick one coat.	m ²	206.90	Rs. Two hundred & six and ps. ninety only	144.83
29	0.7	m2	<i>Colour washing</i> , two coats	m ²	11.34	Rs. Eleven & ps. thiry four only	7.94
			Total				390843.44

Rs.3,90,843/- (Rupes Three lakhs Ninety thousand eight hundred & forty three only)

I/We agree to execute the work. 1.% below the estimate rate.

2.% above estimate rate.

3. At the estimate rate.

UNIVERSITY ENGINEER

CONTRACTOR