

**University of Kerala**  
**Engineering Unit, Kariavattom**

<b>ELECTRICAL WORK FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF FIRE FIGHTING SYSTEM FOR AICTE APPROVAL AT KARIAVATTOM CAMPUS.</b>						
Sl.No.	Quantity	Specification	Unit	Rate	Rate in words	Amount
		<b>COLLEGE OF ENGINEERING</b>				
1	60	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. 4 core 70 sq.mm	M	690.00	Rs.Six hundred & ninety only	41400.00
2	50	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 4 core 70 sq.mm.	M	671.00	Rs.Six hundred & seventy one only	33550.00
3	60	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. 4 core 35 sq mm with factory made clamp.	M	443.00	Rs.Four hundred & forty three only	26580.00

4	40	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. 4 core 16 sq mm with factory made clamp.	M	283.00	Rs.Two hundred & eighty three only	11320.00
5	50	Supplying, laying and jointing of the following sizes of double wall corrugated (DWC) pipes made out of HDPE conforming to IS 14930 Part II for mechanical protection to underground power cables with all required accessories in ground in the existing trench 77/63mm or nearest size.	M	212.00	Rs.Two hundred & twelve only	10600.00
6	2	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required. 4x70 sq.mm(38mm)	Set	394.00	Rs.Three hundred &Y ninety four only	788.00
7	4	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required. 4x16 sq. mm (29mm)	Set	484.00	Rs.Four hundred & eighty four only	1936.00
8	2	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required. 4x35 sq.mm (32mm)	Set	390.00	Rs.Three hundred & ninety only	780.00

9	215	Providing and fixing 4.00 mm dia copper wire on surface or in recess for loop earthing as required.	M	120.00	Rs.One hundred & twenty only	25800.00
10		Supply and drawing bare <i>earthing conductors</i> of the following sizes <i>along with wiring/ cables</i> and giving connection as required.				
10.1	200	3.15 mm copper conductor (10 SWG)	M	67.00	Rs.Sixty seven only	13400.00
11		supply of superior quality <i>copper earth socket</i> for the following sizes of earth conductor including crimping etc. as required.				0.00
11.1	10	3.15 mm (10 SWG)	E	23.00	Rs.Twenty three only	230.00
11.2	10	4 mm (8 SWG)	E	28.00	Rs.Twenty eight only	280.00
12		Supply and installation of switch gear units in sheet steel enclosure complete with handle assembly, door interlock and pad locking arrangement of the following ratings on angle iron frame work or directly to wall using necessary bolts & nuts, fixing the unit to wall, making good the damages, colour washing etc. including giving necessary connections as required. (including cost of HRC fuse links in case of SDF/ SDFCO)				
12.1	1	32 A, 415 V, 50 Hz, AC 23 A duty, TP/ TPN switch disconnecter unit	E	3003.00	Rs.Three thousand & three only	3003.00
12.2	1	63 Amp TP & N	E	3800.00	Rs.Three thousand & eight hundred only	3800.00
13	8	SITC of Speaker Cum Electric hooter mouonted in MS sheet box with perforated front mesh for PA and Emergency system	E	750.00	Rs.Seven hundred & fifthy only	6000.00

14	1	SITC of PA sysrem complete with suitable channel mixing Amplifier, Microphone, cassette deck,suitable way PA selector with ALL CALL and sealed maintenance free ( SMF) batteries of min 42 AH 2x12 V and battery charger ( Ahuja /YAMAHA/JBL)	E	50,000.00	Rs.Fifty thousand only	50000.00
		<b>Escape Route lighting</b>				
15		Group control ( Looped) light point with 1 No 6A one way modular type switch with GI box and front plate with 1.5 Sqmm FRLS PVC insulated copper conductor single core cablein surface/recessed PVC conduit and earthing point with 1.5 Sqmm FRLS PVC green colour insulated copper conductor single core cable etc as required				
15.1	3	8 Lamps controlled by One switch	E	2237.00	Rs.Two thousand two hundred & thirty seven only	6711.00
16	24	Supply and fixing PVC Batten holder with 9 W LED bulb	E	495.00	Rs.Four hundred & ninety five only	11880.00
17		<b>Modification to the MSB to Trip the supply in case of Fire</b>				0.00

17.1	1	Fabrication supply and installation of Cubicle type 415 V 50 HZ MV Switch board fabricated with 1.63 mm CRCA sheet as per IS 8623 , necessary cable entry and exit boxes at the top and toom of the board, painting with powder coated, fixing the same on wall with painted suitable size angle iron frame work comprising 1 no. 250 A 4 pole 415 V 50 HZ Power contactor 2 NO + 2 NC conforming to IS/IEC 60947-4-1 ( MCX 34 ) compete with Control relays and accesceesories , earthing the same with adequate size Copper conductor and giving internal connections etc as required ( L & T/ GE/ ABB)	E	28000.00	Rs.Twenty eight thousand only	28000.00
18	1	Fabrication supply and installation of Cubicle type 415 V 50 HZ MV Switch board fabricated with 1.63 mm CRCA sheet as per IS 8623 , necessary cable entry and exit boxes at the top and toom of the board, painting with powder coated, fixing the same on wall with painted suitable size angle iron frame work comprising 1 no. 200 A 4 pole 415 V 50 HZ Power contactor 2 NO + 2 NC conforming to IS/IEC 60947-4-1 ( MCX 34 ) compete with Control relays and accesceesories , earthing the same with adequate size Copper conductor and giving internal connections etc as required ( L & T/ GE/ ABB)	E	25000.00	Rs.Twenty five thousand only	25000.00

19	5	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. 3.5 core 240 sq mm	M	1487.00	Rs.One thousand four hundred & eighty seven only	7435.00
20	1	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required. 3 1/2X 240 sq. mm (62mm)	Set	1364.00	Rs.One thousand three hundred & sixty four only	1364.00
21	1	SITC of 240 V , 50 HZ 1 KVA/1.1 KVA Sine wave Inverter with with 2x12 V 150 AH Sealed Maintenance free batteries ( SMF) with 2 years warranty ( MICROTEK/APC/EMERSON)	E	27000.00	Rs.Twenty seven thousand only	27000.00
		<b>AQUATIC BIOLOGY</b>				0.00
22	57	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. 4 core 16 sq.mm with factory made clamp	M	283.00	Rs.Two hundred & eighty three only	16131.00
23	4	Supplying and making end termination with brass compression gland , earth clamp and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required. 4x16 sq.mm (28mm)	Set	352.00	Rs.Three hundred & fifty two only	1408.00

24		Supply and drawing bare <i>earthing conductors</i> of the following sizes <i>along with wiring/ cables</i> and giving connection as required.				
24.1	114	3.15 mm copper conductor (10 SWG)	M	67.00	Rs.Sixty seven only	7638.00
25		Supply of superior quality <i>copper earth socket</i> for the following sizes of earth conductor including crimping etc. as required.				
25.1	10	3.15 mm (10 SWG)	E	23.00	Rs.Twenty three only	230.00
26		Supply and installation of switch gear units in sheet steel enclosure complete with handle assembly, door interlock and pad locking arrangement of the following ratings on angle iron frame work or directly to wall using necessary bolts & nuts, fixing the unit to wall, making good the damages, colour washing etc. including giving necessary connections as required. (including cost of HRC fuse links in case of SDF/ SDFCO)				
26.1	1	32 A, 415 V, 50 Hz, AC 23 A duty, TP/ TPN switch disconnecter unit	E	3003.00	Rs.Three thousand & three only	3003.00
		<b>COMPUTER SCIENCE</b>				
27	57	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. 4 core 16 sq.mm with factory made clamp	M	283.00	Rs.Two hundred & eighty three only	16131.00

28	4	Supplying and making end termination with brass compression gland , earth clamp and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required. 4x16 sq.mm (28mm)	set	352.00	Rs.Three hundred & fifty two only	1408.00
29		Supply and drawing bare <i>earthing conductors</i> of the following sizes <i>along with wiring/ cables</i> and giving connection as required.				
29.1	114	3.15 mm copper conductor (10 SWG)	M	67.00	Rs.Sixty seven only	7638.00
30		supply of superior quality <i>copper earth socket</i> for the following sizes of earth conductor including crimping etc. as required.				
30.1	10	3.15 mm (10 SWG)	E	23.00	Rs.Twenty three only	230.00
31		Supply and installation of switch gear units in sheet steel enclosure complete with handle assembly, door interlock and pad locking arrangement of the following ratings on angle iron frame work or directly to wall using necessary bolts & nuts, fixing the unit to wall, making good the damages, colour washing etc. including giving necessary connections as required. (including cost of HRC fuse links in case of SDF/ SDFCO)				
31.1	1	32 A, 415 V, 50 Hz, AC 23 A duty, TP/ TPN switch disconnecter unit	E	3003.00	Rs.Three thousand & three only	3003.00
		<b>OPTO ELECTRONICS</b>				

32		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.				
32.1	57	4 core 16 sq mm with factory made clamp	M	283.00	Rs.Two hundred & eighty three only	16131.00
33		Supplying and making end termination with brass compression gland , earth clamp and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.				0.00
33.1	4	4 X 16 sq. mm (28mm)	set	352.00	Rs.Three hundred & fifty two only	1408.00
34		Supply and drawing bare <i>earthing conductors</i> of the following sizes <i>along with wiring/ cables</i> and giving connection as required.				
34.1	114	3.15 mm copper conductor (10 SWG)	M	67.00	Rs.Sixty seven only	7638.00
35		supply of superior quality <i>copper earth socket</i> for the following sizes of earth conductor including crimping etc. as required.				
35.1	10	3.15 mm (10 SWG)	E	23.00	Rs.Twenty three only	230.00

36		Supply and installation of switch gear units in sheet steel enclosure complete with handle assembly, door interlock and pad locking arrangement of the following ratings on angle iron frame work or directly to wall using necessary bolts & nuts, fixing the unit to wall, making good the damages, colour washing etc. including giving necessary connections as required. (including cost of HRC fuse links in case of SDF/ SDFCO)				
36.1	1	32 A, 415 V, 50 Hz, AC 23 A duty, TP/ TPN switch disconnecter unit	E	3003.00	Rs.Three thousand & three only	3003.00
		<b>TOTAL</b>				<b>422087.00</b>

PAC RS.4,22,087/- (Rs.Four lakhs Twenty Two thousand & Eighty Seven only)

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

2. .... % above the estimate rate. 3. At the estimate rate.

**CONTRACTOR**

sd/-  
**UNIVERSITY ENGINEER**