

UNIVERSITY OF KERALA							
ENGINEERING UNIT, KARIAVATTOM							
TENDER SCHEDULE FOR ELECTRIFICATION OF A BUILDING FOR THE CENTRE FOR PERFORMING & VISUAL ARTS AT KARIAVATTOM CAMPUS							
Sl No	Qty	Unit	Description of Item	unit	Rate	Rate in words	Amount
			All works to be carried out to relevant IS specifications whether so mentioned in description of works or not.				
			Only Electrically operated instruments including hammer drilling, Core cutting, groove cutting and other equipment shall be used for chasing, cutting, drilling, threading etc.				
			The schedule of probable quantities may vary on the higher side or lower side. Hence, during material procurement, the contractor shall workout the actual quantities based on the good for construction/shop drawings prepared for execution as per the project Consultant/manager's direction. The rate quoted in the tender is for finished actual work done. All extra and surplus material if any will be at contractor's risk and must be carried away from the site upon completion and handing over of the works.				
I			<i>SH: WIRING POINTS</i>				
1			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 FR PVC insulated stranded single core copper conductor cable 650V grade, including <i>providing switch board main and continuous earthing with No.14 SWG bare copper</i> , required quantity of copper earth socket, brass bolt and nut crimping/ soldering etc complete with suitable size modular type metal switch boxes, <i>modular type front plates (white)</i> etc. up to and including 6A 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. <i>(Group B/ RoHS compliant modular accessories).</i>				

a	44	Nos	Single control light point with 6A, 3 plate ceiling rose	Each	841.00	Rupees Eight hundred and forty one only	<b>37,004.00</b>
b	3	Nos	Single control light point without ceiling rose	Each	823.00	Rupees Eight hundred and twenty three only	<b>2,469.00</b>
c	16	Nos	Single control ceiling fan point with 6 A, 3 plate ceiling rose & with socket size stepped electronic regulator.	Each	1498.00	Rupees One thousand Four hundred and ninety eight only	<b>23,968.00</b>
d	4	Nos	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.	Each	483.00	Rupees Four hundred and eighty three only	<b>1,932.00</b>
			<i>SH: CARRIAGE AND ERECTION OF FLUORESCENT LIGHT FITTINGS</i>				
2			<i>Supply</i> , conveyance installation testing and commissioning the light fittings of following types made of CRCA with 0.5mm thickness complete with all accessories and lamps etc. directly on wall or ceiling with PVC <i>round block</i> neatly painted to suit the fitting and giving connection with required length of 16/0.20mm 3 core copper conductor flex wire conforming to relevant ISS and giving connections as required.				
a	14	Nos	28 W fluorescent tube light (T5) with high lumen	Each	1717.00	Rupees One thousand seven hundred and seventeen only	<b>24,038.00</b>
b	8	m	Supplying and providing <i>extra H.G conduit down rod of 19 mm dia 2 x 1.00 m</i> long with 16/0.20 mm 3 core copper conductor flex wire conforming to relevant ISS or with the extended original wiring and giving connection etc. as required.	m	198.00	Rupees One hundred and ninety eight only	<b>1,584.00</b>
3			Supply, Conveyance, installation, testing and commissioning of pre-wired light fittings of all types complete with all accessories and fluorescent lamps etc. including supplying and fixing <i>ball and socket arrangements</i> on T.W round block, suspension down rod of <i>19 mm dia MS conduit</i> up to 2x30cm 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.				
			Surface mounting decorative fluorescent tube light fitting (Cat-2) complete with lamp holder, APF electronic ballast suitable for continuous operation with THD <10%, power factor >0.98, RoHS compliant, high lumen tube, duly wired up for use on 230 V AC supply directly on wall				

a	8	Nos	Suitable for twin 28 W T5 lamps	Each	4678.00	Rupees Four thousand Six hundred and Seventy eight only	<b>37,424.00</b>
4	3	Nos	<i>Supply</i> , conveyance, installation, testing and commissioning of pre-wired <i>LED25w outdoor light fitting</i> complete with all accessories <i>in the existing GI pipe</i> and giving connections with required length of 16/0.20mm 3 core copper conductor flex wire conforming to relevant ISS or extending the original wiring and giving connection etc. as required.	Each	5915.00	Rupees Five thousand Nine hundred and fifteen only	<b>17,745.00</b>
5			Supply, fabrication, conveyance and fixing the following sizes of B class <i>GI pipe bent to shape / cut and welded to shape</i> and fixing the same to wall / parapet using clamps as noted along with each size, painting with 2 coats of synthetic enamel paint over a coat of zinc chromate primer, making good the damages, colour washing etc as required (for the installation of outdoor light fittings).				
a	5		32 mm dia /nearest size with clamps made from 20 x 3 mm MS flat	m	299.00	Rupees Two hundred and ninety nine only	<b>1,495.00</b>
6	5	Nos	Supply and fixing <i>cast aluminium stove enameled bulk head fitting</i> with deep drawn anodised aluminium body, epoxy powder coated, heat resistant prismatic glass cover suitable for upto15 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.	Each	601.00	Rupees Six hundred and one only	<b>3,005.00</b>
7	3	Nos	Supply and fixing angle / straight brass lined skirt type, <i>bakelite batten holder</i> without shade and giving connection etc as required	Each	63.00	Rupees Sixty three only	<b>189.00</b>
8			Supply and providing the following types and power rated lamps in the existing fittings as required				
a	3	Nos	Normal size 11 W BC / ES retrofit CFL	Each	156.00	Rupees One hundred and fifty six only	<b>468.00</b>
			<b><i>SH: CARRIAGE AND ERECTION OF FAN</i></b>				
9	16	Nos	Supply and installation of suitable size <i>MS rod type fan clamp</i> as per IS 732 as required.	Each	124.00	Rupees One hundred and twenty four only	<b>1,984.00</b>

10			<b>Supply</b> , conveyance, installation, testing and commissioning of ceiling fans of the following sizes using standard accessories, 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.				
a	16	Nos	1400 mm sweep (Category B)	Each	1814.00	Rupees One thousand Eight hundred and fourteen only	<b>29,024.00</b>
11	8	m	Supply and providing every <b>additional length of down rod</b> 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.	m	115.00	Rupees One hundred and fifteen only	<b>920.00</b>
12	2	Nos	<b>Charges for cutting holes</b> suitable for accommodating <b>exhaust fans of sizes exceeding 305 mm sweep up to 450 mm</b> including plastering, colour washing etc. as required.	Each	397.00	Rupees Three hundred and ninety seven only	<b>794.00</b>
13			<b>Supply, conveyance, installation, testing and commissioning</b> of <b>exhaust fans of size up to 450 mm of the following size</b> 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.				
a	2	Nos	200 mm, single phase, light duty exhaust fan in plastic body with self opening louvers	Each	1538.00	Rupees One thousand Five hundred and thirty eight only	<b>3,076.00</b>
			<b>SH: SUB MAIN WIRING</b>				
14			Supply and fixing the following sizes of <b>PVC Conduit</b> conforming to IS 9537 / 1983 part III along with all required accessories <b>on surface</b> including making good the damages etc as required.				
a	150	m	20 mm dia light gauge	m	83.00	Rupees Eighty three only	<b>12,450.00</b>
b	20	m	25 mm dia light gauge	m	95.00	Rupees Ninety five only	<b>1,900.00</b>
c	20	m	32 mm dia light gauge	m	119.00	Rupees One hundred and Nineteen only	<b>2,380.00</b>

15			Supplying and clamping the following sizes of <i>corrugated PVC flexible conduit</i> 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.				
a	10	m	20 mm dia	m	52.00	Rupees Fifty two only	<b>520.00</b>
			<i>Supply &amp; drawing copper wires</i>				
16			Supply and drawing 1100 V grade <i>PVC insulated stranded single core copper conductor cables</i> conforming to IS 694 part I 1990 in the existing surface / recess conduit as required including giving necessary connections of the following sizes.				
a	160	m	1.50 sq mm 1 run (for earthing	m	45.00	Rupees Forty five only	<b>7,200.00</b>
b	45	m	1.50 sqmm 2 run		61.00	Rupees Sixty one only	<b>2,745.00</b>
c	180	m	2.50 sq mm 2 run( 15 A Plug and computer plugs)	m	81.00	Rupees Eighty one only	<b>14,580.00</b>
d	45	m	2.50 sq mm 4 run	m	134.00	Rupees One hundred and thirty four only	<b>6,030.00</b>
e	20	m	6.00 sq mm 4 run (for DB main)	m	260.00	Rupees Two hundred and Sixty only	<b>5,200.00</b>
17			Supplying & Drawing unarmored PVC insulated and & PVC sheathed copper conductor <i>Telephone Pair Cable</i> conforming to ITD specification for indoor application through the existing conduit				
a	30	m	2 Pair	m	32.00	Rupees Thirty two only	<b>960.00</b>
			<b><i>SH: SUPPLY &amp; FIXING MODULAR ACCESSORIES (GROUP A)</i></b>				
18			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 <i>(Group B/ RoHS compliant )</i>				
a	7	Nos	10 module moulded plastic box on surface	Each	255.00	Rupees Two hundred and Fifty five only	<b>1,785.00</b>
b	3	Nos	1 module box		165.00	Rupees One hundred and Sixty five only	<b>495.00</b>
19			Supply & Fixing the following types/ sizes of front plates on the existing modular boxes. <i>(Group B/ RoHS compliant )</i>				

a	3	Nos.	1 module white/ off-white	Each	101.00	Rupees One hundred and one only	<b>303.00</b>
b	7	Nos	10 module white/ off-white	Each	216.00	Rupees Two hundred and sixteen only	<b>1,512.00</b>
20			Supply and Fixing the following modular switches & accessories in the existing front plates and giving necessary connections as required ( <i>Group B RoHS compliant</i> )				
a	14	Nos	6 A SP 1 way switch	Each	119.00	Rupees One hundred and Nineteen only	<b>1,666.00</b>
b	7	Nos	16 A SP 1 way switch	Each	161.00	Rupees One hundred and Sixty one only	<b>1,127.00</b>
c	14	Nos	6A 3 pin shuttered socket	Each	157.00	Rupees One hundred and fifty seven only	<b>2,198.00</b>
d	7	Nos	6/16A 3 pin shuttered socket	Each	223.00	Rupees Two hundred and twenty three only	<b>1,561.00</b>
e	1	Nos	RJ 11 Telephone Jack with shutter	Each	139.00	Rupees One hundred and Thirty nine only	<b>139.00</b>
f	2	Nos	RJ45	Each	119.00	Rupees One hundred and Nineteen only	<b>238.00</b>
21			Supplying & Drawing the following types of <i>UTP Cable</i> conforming to relevant standards through the existing conduit and giving connections as required				
a	50	m	Cat 6 UTP Cable	m	52.00	Rupees Fifty two only	<b>2,600.00</b>
			<i>SH: SUPPLY &amp; FIXING MCB DBs &amp; ACCESSORIES (GROUP A)</i>				
22			Supply and installation of sheet steel, phosphatised and painted, dust and vermin proof enclosure of MCB 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	Nos	6 way (8+18) - three phase double cover (IP 42/43)	Each	4039.00	Rupees Four thousand and thirty nine only	<b>4,039.00</b>

23			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				
a	12	Nos	6-32A( C curve)	Each	219.00	Rupees Two hundred and nineteen only	<b>2,628.00</b>
b	1	Nos	40 A four pole mini break isolator	Each	716.00	Rupees Seven hundred and sixteen only	<b>716.00</b>
c	1	Nos	40 A, 4 pole, 30 mA RCCB	Each	2780.00	Rupees Two thousand Seven hundred and eighty only	<b>2,780.00</b>
24			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 existing 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. (excluding cost of HRC fuse links in case of SDF/ SDFCO)				
a	1	Nos	63 A, 415 V, 50 Hz, AC 23 A duty, 4 pole SDF with DIN fuse	Each	4006.00	Rupees Four thousand and six only	<b>4,006.00</b>
			<i>SH: CABLING</i>				
25			<i>Supply, laying &amp; clamping of Aluminium power cable 1.1 KV grade</i>				
			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	20	M	4 core 35 sq mm with factory made clamp	m	351.00	Rupees Three hundred and fifty one only	<b>7,020.00</b>
26			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	125	m	4 core 35 sq mm	m	394.00	Rupees Three hundred and ninety four only	<b>49,250.00</b>
27			<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	120		50 / 38 mm or nearest size	m	111.00	Rupees One hundred and eleven only	<b>13,320.00</b>
			<i>END TERMINATION OF CABLES</i>				
28			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	35 sq mm	Each	469.00	Rupees Four hundred and sixty nine only	<b>938.00</b>
			<i>EARTH CLAMPS</i>				
29			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	2	Nos	25 sq - 95sq mm with 20 mm wide x 1.20 mm thick clip	Each	27.00	Rupees Twenty seven only	<b>54.00</b>
			<i>CABLE SOCKETS</i>				
30			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	8	Nos	35 sq mm	Each	16.00	Rupees Sixteen only	<b>128.00</b>
			<i>SH: EARTHING &amp; EARTH CONDUCTORS</i>				



31	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 hard soil)</i>	Each	4102.00	Rupees Four thousand one hundred and two only	<b>8,204.00</b>
32			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	Each	267.00	Rupees Two hundred and sixty seven only	<b>534.00</b>
33			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	8	m	4.00 mm bare copper conductor (8 SWG)	m	85.00	Rupees Eighty five only	<b>680.00</b>
34			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	1	m	2 x 25 x 3 mm GI strip	m	165.00	Rupees One hundred and sixty five only	<b>165.00</b>
35			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	25	m	4.00 mm copper conductor (8 SWG)	m	107.00	Rupees One hundred and seven only	<b>2,675.00</b>
36			Supply and drawing bare <i>earthing conductors</i> of the following sizes <i>along with wiring/ cables</i> and giving connection as required.				
a	15	m	4.00 mm copper conductor (8 SWG)	m	97.00	Rupees Ninety seven only	<b>1,455.00</b>

37			Supply of superior quality <i>copper earth socket</i> for the following sizes of earth conductor including crimping etc. as required.				
a	8	Nos	4.00 mm (8 SWG)	Each	23.00	Rupees Twenty three only	<b>184.00</b>
38			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	8	Nos	25 x 6 mm brass bolt & nut	Each	20.00	Rupees Twenty only	<b>160.00</b>
39			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	15 mm dia	m	90.00	Rupees Ninety only	<b>1,350.00</b>
40			<i>Supply and clamping</i> the following sizes of <i>PVC pipe</i> on wall with all required accessories including cutting and making good the walls, colour washing etc. as required as protective covering to cables.				
a	8	m	40 mm dia PVC pipe (8 Kgf / cm <sup>2</sup> )	m	71.00	Rupees Seventy one only	<b>568.00</b>
41	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.	Each	194.00	Rupees One hundred and ninety four only	<b>776.00</b>
			<i>SH:MISCELLANEOUS</i>				
42	2	Nos	Supply and providing 5 Kg. <i>Dry Chemical Powder type Fire Extinguisher</i> with hose and clamps including fixing it to wall as required.	Each	2324.00	Rupees Two thousand three hundred and twenty four only	<b>4,648.00</b>
43	20	Nos	Painting letters or figures of sizes 2.50 cm. 4 cm or 5 cm height with enamel paint as identification mark to SB, DB, panel board etc as required	Each	12.00	Rupees Twelve only	<b>240.00</b>
44	1	No.	Supply and installation of outdoor pillar box with front hinged door of size 300 x250x 200mm or nearest size (syntex make) including supplying and fixing 10A(3nos) HRC fuse unit with 63A HRC and 1 no 100A 2 way neutral link fixing the same on existing concrete post using suitable size flat iron clamps with bolt and nut with washers etc as required	Each	2509.00	Rupees Two thousand Five hundred and nine only	<b>2,509.00</b>
<b>TOTAL</b>							<b>3,63,735.00</b>

**PAC Rs.3,63,735/- (Rupees Three Lakhs Sixty three thousand Seven hundred and thirty five only)**

I/We agree to execute the work.

1. ....% below the estimate rate.

2. .... % above the estimate rate.

3. At the estimate rate.

**UNIVERSITY ENGINEER**

**CONTRACTOR**

