

Estimate for the Electrification of Department block, Academic block and Library/CGPC block at College of Engineering, Kidangoor, Kottayam.					
Electrification					
Item No	Qty	Unit of Measurement	Specification of Items	Rate	Amount
<b>CABLES</b>					
1			Supply & laying Aluminium power cable 1.1 KV grade in original position with sand cushioning & protective covering in ordinary rocky soil		
			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, sand cushioning up to a height of 25cm (80+170mm), providing protective covering with country burnt bricks laid breadth wise, refilling the trench etc. as required (in ordinary rocky - soft laterite soil).		
a	150	mts	3.5Core 150Sqmm	1134	170,100.00
b	75	mts	3.5Core 95Sqmm	883	66,225.00
c	60	mts	3.5Core 50 Sqmm	686	41,160.00
<b>PANEL</b>					
2	1	Nos	<p>Fabrication, supply and installation of free standing floor mounted dust and vermin proof cubicle pattern 415V 50Hz MV switchboard fabricated from 14 gauge MS Sheet neatly powder coated after seven tank process strictly conforming as per IS 8623.</p> <p>1. Incoming: 250A 415 V TPN SFU and 1 set of (3P&amp;N) 250A TPN busbar, 31.8x9.5mm - for phases and 31.8x6.4mm for neutral of best conductivity Aluminium bus with heat shrink sleeves fitted on FRP/DMC supports.</p> <p>2. Out going: 2 No of 100A 3P 25KA current limiting type Micro processor based MCCB .</p> <p>3. Accessories : 3 Nos. 0-200A CT operated Ammeter and CTs, 1 sets of LED solid state indicator lamps, 1nos (0-600V) Voltmeter with selector switch, The board shall be neatly fabricated with all interconnections (Bus size according to current setting) with Aluminium bus neatly sleeved providing 1no danger notice board of approved pattern, double earthing all switches and providing earth bus 25x3mm to the full length of the panel with tinnig at places of connections strictly conforming to IS 8623. The board shall be fabricated in such a way as to facilitate future addition. The board shall be neatly painted over a coat of red-oxide primer and located and fitted on suitable channels over the trench. The board shall have cable entry and exit provision. (Panel Physical layout drawing to be got approved from the concerned before fabrication) <b>(SUB PANEL LIBRARY)</b></p>	30,000.00	30,000.00
3	2	Nos	<p>Supply and installation of sheet steel, phosphatised and painted, dust and vermin proof enclosure of MCCB Distributio panel including copper /brass bus bar, neutral link, earth bus and DIN rail suitable for fixing MCCB incommer. 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. The panel includes 125A 4P 25kA MCCB as incomer and Indication lamp(LED). And 1Nos of 63A 3P MCB, 2 Nos of 32A 3P MCB, 1Nos of 25A 3P MCB , 2 Nos 25A SP MCBs as outgoing. <b>(MCCB DB ) IP 42/43</b></p>	18186	36,372.00
4	1	Nos	<p>Supply and installation of sheet steel, phosphatised and painted, dust and vermin proof enclosure of MCCB Distributio panel including copper /brass bus bar, neutral link, earth bus and DIN rail suitable for fixing MCCB incommer. 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. The panel includes 125A 4P 25kA MCCB as incomer and Indication lamp(LED). And 3Nos of 25A 3P MCB, 3 Nos of 25A SP MCBs as outgoing. <b>(MCCB DB ) IP 42/43</b></p>	17274	17,274.00

Item No	Qty	Unit of Measurement	Specification of Items	Rate	Amount
5			Supply, laying and clamping of 1no. PVC sheathed armoured aluminium power cable 1.1kV 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	25	mts	Do 3.5 Core 150sqmm	845	21,125.00
b	25	mts	Do 3.5 Core 95sqmm	580	14,500.00
c	40	mts	Do 3.5 Core 50sqmm	374	14,960.00
d	30	mts	Do 3.5 Core 35sqmm	296	8,880.00
e	UR	mts	Do 3.5 Core 25sqmm	253	0.00
f	UR	mts	Do 4 Core 16sqmm	214	0.00
g	200	mts	Do 4 Core 10sqmm	180	36,000.00
h	150	mts	Do 4 Core 6sqmm	170	25,500.00
i	50	mts	Do 4 Core 4sqmm	151	7,550.00
6	2	nos	Supplying seimens/tropodor type nickel palated single compression brass cable gland for 3.5 x 150sqmm PVC insulated and PVC sheathed armoured aluminium/ 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 seimens/ tropodor type cable gland of suitable length and other dimensions noted along with each size of glands for the for 16sqmm with 12mm wide 1mm thick clip and including supply of superior quality aluminium tubular cable socket and making core termination of cables of the 150sqmm including crimping etc as required.. providing end and core termination for 3.5 x 150 sqmm cable including cost of gland cable socket, earth etc including crimping etc	433	866.00
a	2	mts	Do 3.5 x 95sqmm do	294	588.00
b	4	mts	Do 3.5 x 50sqmm do	231	924.00
c	2	mts	Do 3.5 x 35sqmm do	239.2	478.40

Item No	Qty	Unit of Measurement	Specification of Items	Rate	Amount
d	UR	mts	Do 3.5 x 25sqmm do	202	0.00
e	UR	mts	Do 4 x 16sqmm do	180.8	0.00
f	14	mts	Do 4 x 10sqmm do	159.6	2,234.40
g	2	mts	Do 4 x 6sqmm do	139.2	278.40
<b>EARTHING</b>					
7	6	nos	Supply and providing pipe earthing as per IS 3043 with 3.6 m long 38/40mm dia B class GI pipe, GI funnel with weld mesh, filling required quantity of charcoal and salt including construction of inspection chamber with a bed concrete of 1:4:8 PCC using 40mm broken stone (100mm 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, 12mm thick, (the finished inside dimensions shall be 300x300x300mm) but excluding test joints, earth continuity conductor to the plate and covering at the top (in hard soil)	2311	13,866.00
8			Supplying and laying bare earthing conductors of the following size laid 0.6m below ground, including excavation of trench of suitable size and refilling etc as required (in ordinary rocky soil)		
a	45	mts	10SWG Cu	101	4,545.00
b	1.5	mts	Supplying and clamping 25 x 3 mm Copper strip tinned at the points of contact on the surface of wall/parapet/ existing cable tray using fabricated from 20x3mm GI flat duly painted or heavy duty GI spacer saddle, fixing clamps, making good the damages, colour washing etc. as required horizontally.	360	540.00
c	250	mts	Supply and drawing bare earthing conductor of No:14 SWG copper along with wiring/ cables and giving connections as required.	17.5	4,375.00

Item No	Qty	Unit of Measurement	Specification of Items	Rate	Amount
e	1500	mts	Do- No. 10 -Do-	50.5	75,750.00
f	40	Nos	Supply & providing Cu earth socket & crimping for No. 14 Cu	13.5	540.00
g	20	Nos	Supply & providing Cu earth socket & crimping for No. 12 Cu	14	280.00
h	150	Nos	Supply & providing Cu earth socket & crimping for No. 10 Cu	15.5	2,325.00
<b>MAINS</b>					
9	750	mts	Supply and fixing 19/20 mm PVC conduit conforming to IS 9537/1983 part III along with all required accessories in recess including cutting the wall and making good the damages ets as required.	87	65,250.00
a	600	mts	Do 25mm	97	58,200.00
b	200	mts	Do 32mm clamped down wall.	124	24,800.00
10	10	mts	Supplying & clamping 16mm corrugated PVC flexible conduit with necessary compression gland with locking ring and check nut at the termination pointed using suitable size GI/painted MS saddles spacing not exceeding 60cms od the surface including making good the damages, colour washing etc as required.	35	350.00
11			Supply and drawing 650/1100 V grade PVC insulated stranded single core copper conductor 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	350	mts	2x4 Sqmm	106	37,100.00
b	150	mts	Do- 4x4sqmm- do	179	26,850.00
c	30	mts	4x6 Sqmm	271	8,130.00
d	80	mts	2x6Sqmm	165	13,200.00
12			Supply and drawing 650/1100 V grade PVC insulated stranded single core copper conductor 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	500	mts	Do- 2 x 2.5 sq.mm + 1x2.5 (Green) -Do- (36/0.3)-do-	98	49,000.00
b	3000	mts	Do 2 x 1.5sqmm + 1x1.5 (Green) -Do- (22/0.3)-do-	71	213,000.00
c	200	mts	Do 2 x 1 sqmm + 1x1 (Green) -Do-(14/0.3)	55	11,000.00

Item No	Qty	Unit of Measurement	Specification of Items	Rate	Amount
<b>DISTRIBUTION BOARDS</b>					
13			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	6	nos	8 way (8+24) - (Group A) double cover TPN vertical DB with provision for fixing 4P MCB / Isolator/ RCCB/ RCBO as incomer and SP/ TP MCB as outgoing (IP 54) -	9975	59,850.00
b	2	nos	4 way (8+12) - (Group A) double cover TPN vertical DB with provision for fixing 4P MCB / Isolator/ RCCB/ RCBO as incomer and SP/ TP MCB as outgoing (IP54)	8256	16,512.00
c	11	nos	6 way (8+18) - (Group A) three phase double cover (IP 54) -	6999	76,989.00
d	7	nos	8 way (8+12) - (Group A) single phase double cover (IP 54) -	3044	21,308.00
<b>14 DB Accessories</b>					
a	1	nos	Supply and installation 63A 4pole mini break isolator with 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.	746	746.00

Item No	Qty	Unit of Measurement	Specification of Items	Rate	Amount
b	18	nos	Supply and installation 32A 4pole mini break isolator with 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.	607	10,926.00
c	3	nos	Supply and installation 40A 2pole mini break isolator with 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.	332	996.00
d	4	nos	Supply and installation 32A 2pole mini break isolator with 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.	332	1,328.00
e	1	nos	Supply and installation 63A 4P , 100mA RCCB with 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.	2569	2,569.00
f	5	nos	Supply and installation 32A 4P , 100mA RCCB with 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.	2249	11,245.00
g	2	nos	Supply and installation 25A 4P , 100mA RCCB with 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.	2249	4,498.00
h	11	nos	Supply and installation 25A 4P , 30mA RCCB with 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 (Group A)	2279	25,069.00
i	1	nos	32A 3P MCB (10KA) C curve	774.00	774.00
j	3	nos	25A 3P MCB (10KA) C curve	774.00	2,322.00
k	3	nos	20A 3P MCB (10KA) C curve	774.00	2,322.00
l	12	nos	16A 3P MCB (10KA) C curve	774.00	9,288.00
m	9	nos	32A SP MCB (10KA) C curve	184.00	1,656.00
n	3	nos	25A SP MCB (10KA) C curve	185.00	555.00
o	2	nos	20A SP MCB (10KA) C curve	186.00	372.00

Item No	Qty	Unit of Measurement	Specification of Items	Rate	Amount
p	44	nos	16A SP MCB (10KA) C curve	187.00	8,228.00
q	42	nos	10A SP MCB (10KA) C curve	188.00	7,896.00
r	160	nos	6A SP MCB (10KA) C curve	189.00	30,240.00
	60	nos	Blanking plate	12.00	720.00
<b>15</b>			<b>SH: LAYING OF CONDUIT &amp; FIXING ACCESSORIES BEFORE CONCRETING</b>		
			Supply and laying <i>medium gauge PVC conduit</i> conforming to IS 9537/1983 Part III n roof slab, jointing the pipes with PVC solvent cement, tying & fixing the conduit firmly with the re-inforcement etc. as required.		
a	2200	mts	20 mm	34	74,800.00
b	200	mts	25 mm	42	8,400.00
c	50	mts	32 mm	62	3,100.00
<b>16</b>			<b>Wiring Points</b>		
			Supply and wiring points according to IS 732-1989 using rigid PVC conduit of minimum size 20 mm 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, generally conforming to IS 694-1990 complete with suitable size modular type metal switch boxes, modular type front plates (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)		
a	375	nos	Single control light point with 6A, 3 plate ceiling rose	481	180,375.00
b	84	nos	-Do- without Ceiling rose	456	38,304.00
c	254	nos	Single control ceiling fan point without ceiling rose & with socket size stepped electronic regulator.	934	237,236.00
d	12	nos	Twin control light point without ceiling rose	765	9,180.00
e	60	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.	459	27,540.00
f	63	nos	Single control light point with 6A, 5 pin plug socket mounted on modular type metal box with front plate in place of ceiling rose	719	45,297.00
g	25	nos	Supply and fixing plate type 6/16 A 3 pin plug socket with 16A SP control switch and suitable metal box	462	11,550.00
			<b>Industrial plug &amp; socket</b>		
17		nos	Supply and fixing <i>SP &amp; N metal case enclosure</i> with 2 pole and earth plug socket with pin suitable for incorporating , DP MCB (excluding cost of DP MCB) in surface/ recess including giving necessary connections, making good the damages etc. as required.		
a	6	nos	250V, 20A, 2 pole and earth	777	4,662.00
b	6	nos	20A DP MCB (B Curve)	481	2,886.00
c	4	nos	250V, 25A, 2 pole and earth	777	3,108.00
d	4	nos	25A DP MCB (B Curve)	481	1,924.00
e	3	nos	Supply and fixing Industrial plug 5 pin 3P+E+N 415V AC plug splash proof 20/32A . IP 44	380	1,140.00
f	3	nos	Supply and fixing industrial type surface mounting, interlocked, switched socket outlet horizontal. IP 44 20/32A 5 pin.	3600	10,800.00

Item No	Qty	Unit of Measurement	Specification of Items	Rate	Amount
<b>18 ERECTION OF FAN &amp; LIGHT FITTINGS</b>					
a	20	nos	Supply and fixing of 2x28W surface cum recess T5 mirror optic fitting of approved make( Havells LHCT71128432 or Equivalent)	2675.00	53,500.00
b	40	nos	Supply and fixing of 1x28W surface cum recess T5 mirror optic fitting of approved make( Havells LHCT71128432 or Equivalent)	2100.00	84,000.00
c	200	nos	Supply conveyance, installation, testing and commissioning the following types of fluorescent light fittings with all accessories and fluorescent lamps directly on wall/ ceiling 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 a Fluorescent tube fitting with lamp holder, APF electronic ballast suitable of continuous operation with THD < 10%, power factor > 0.98, RoHS compliant, duly wired up for use on 230V AC supply. The fitting shall be made of CRCA MS sheet of minimum thickness 0.5mm nominal thickness inside and outside. Suitable for single 28W T5 lamp.	1402.00	280,400.00
d			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 <i>ball and socket arrangements</i> on T.W round block, <i>suspension down rod of 19mm dia MS conduit up to 2x30cm</i> 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. as required.		
e			Fluorescent tube light fitting 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. The fittings shall be made from CRCA MS sheet of minimum thickness 0.50 mm nominal thickness inside & outside.		
f	115	nos	Suitable for single 28 W T5 lamp	1533.00	176,295.00
g	78	nos	Supply and Fixing angle/straight brass batten holder without shade in the existing junction box with 14 W BC/ES retrofit CFL and giving connection etc as required	216.00	16,848.00
h	6	nos	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 14 w CFL lamp & giving connection.	575.00	3,450.00
i	3	nos	Supply, conveyance, installation, testing and commissioning single piece integral luminare suitable for roadway installation with die-cast aluminium housing with top opening in powder coated finish with POT optics reflector, toughened glass cover (IP65 protection), toggles, control gear and lamp holder suitable for 70W SV lamp pre wired upto the terminal block including supply and providing suitable lamp in the existing GI pipe and giving connection etc as required.	2943.00	8,829.00
j	254	nos	Supply, conveyance, installation, testing and commissioning of ceiling fan of 1200mm sweep 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.	1227.00	311,658.00
k	254	nos	Supply and installation MS rod type fan clamp.	92.50	23,495.00
l	26	nos	Supply, conveyance, installation, testing and commissioning of 300/305mm , single phase light duty exhaust fan in metal frame 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	1672.00	43,472.00
<b>19 NETWORK POINTS</b>					
			Supplying & Drawing the following types of <i>UTP Cable</i> conforming to relevant standards through the existing conduit and giving connections as required		
a	750	m	Cat 6 UTP Cable (DIGITAL Library 40Nos Computers)	44.00	33,000.00
b	275	m	Supply & laying of 20mm casing capping/white PVC conduit for laying of CAT 6	22.50	6,187.50

Item No	Qty	Unit of Measurement	Specification of Items	Rate	Amount
c	40	nos	Supply and termination, fixing of CAT 6 information outlet (I/O Single ) with company made box and front plate. (Group B)	523.00	20,920.00
d	40	Nos	2mts (3ft) length patch cord - CAT 6	187.00	7,480.00
<b>20 TELEPHONE &amp; COMPUTER WIRING</b>					
a	600	mts	Supply all materials & wiring recessed/surface through wall, floor, ceiling, partitions etc. using 4 pair 0.5 mm telephone cable in 20 mm PVC conduit from the exchange concealed wall, floor, partitions etc. including the cost of modular 2 plate type telephone jack RJ-11 mounted in metal boxes, one separate cable for each point. No. of cables in one conduit limited to three. The rate is for average length & no cost is allowed for additional length.	25.00	15,000.00
b	12	nos	Supply and fixing modular telephone socket in company made MS box with inner and outer plate	250.00	3,000.00
c	1	no	Supply and installation of KRONE connector telephone junction box of 20 pair.	1750.00	1,750.00
d	206	nos	Supplying and providing Computer power socket consisting of 8 modular box with front plate and 3nos 6A modular 3pin socket with 1 no 16A mega switch in suitable MS box outlet and cover plate.	706	145,436.00
<b>21 LIGHTNING PROTECTION ( Dept Block )</b>					
a	210	mts	Supply and clamping 25x3mm aluminum strip on parapet using clamps fabricated from 25x3mm aluminum strip spacing of clamps not exceeding 1metre (horizontal run)	101.00	21,210.00
b	50	mts	Supply and clamping 25x3mm aluminum strip on parapet using clamps fabricated from 25x3mm aluminum strip spacing of clamps not exceeding 0.5metre (vertical run)	124.00	6,200.00
c	5	nos	Supply and providing test joint made of 2nos of lead strips on either side of the conductors Aluminum and GI with 4nos of tinned /galvanized bolts and nuts spring washers etc complete on suitable MS box clamped 1.5m from floor level.	52.00	260.00
d	5	nos	Supply and providing pipe earthing as per IS 3043 with 3.6 m long 38/40mm dia B class GI pipe, GI funnel with weld mesh, filling required quantity of charcoal and salt including construction of inspection chamber with a bed concrete of 1:4:8 PCC using 40mm broken stone (100mm 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, 12mm thick, (the finished inside dimensions shall be 300x300x300mm) but excluding test joints, earth continuity conductor to the plate and covering at the top (in hard soil)	2311.00	11,555.00
e	40	mts	Supply and laying/clamping 25x6mm GI strip from test joint to electrode and electrode interconnection.	123.00	4,920.00
f	5	nos	Supplying and providing test joint for the earthing system using two numbers 25x3mm GI strip including cutting bending to shape and drilling holes	124.00	620.00
g	5	nos	Supplying and providing cast iron gully trap with covering at top of inspection chamber of the earth pit 300x300x6mm	244.00	1,220.00
h	240	mts	Supply and laying 25x6mm GI strip 0.6m below ground for interlinking of earth electrodes.	151.00	36,240.00
<b>22 LIGHTNING PROTECTION ( ELECTRONICS Block )</b>					
a	210	mts	Supply and clamping 25x3mm aluminum strip on parapet using clamps fabricated from 25x3mm aluminum strip spacing of clamps not exceeding 1metre (horizontal run)	101.00	21,210.00
b	50	mts	Supply and clamping 25x3mm aluminum strip on parapet using clamps fabricated from 25x3mm aluminum strip spacing of clamps not exceeding 0.5metre (vertical run)	124.00	6,200.00
c	5	nos	Supply and providing test joint made of 2nos of lead strips on either side of the conductors Aluminum and GI with 4nos of tinned /galvanized bolts and nuts spring washers etc complete on suitable MS box clamped 1.5m from floor level.	52.00	260.00

Item No	Qty	Unit of Measurement	Specification of Items	Rate	Amount
d	5	nos	Supply and providing pipe earthing as per IS 3043 with 3.6 m long 38/40mm dia B class GI pipe, GI funnel with weld mesh, filling required quantity of charcoal and salt including construction of inspection chamber with a bed concrete of 1:4:8 PCC using 40mm broken stone (100mm 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, 12mm thick, (the finished inside dimensions shall be 300x300x300mm) but excluding test joints, earth continuity conductor to the plate and covering at the top (in hard soil)	2311.00	11,555.00
e	40	mts	Supply and laying/clamping 25x6mm GI strip from test joint to electrode and electrode interconnection.	123.00	4,920.00
f	5	nos	Supplying and providing test joint for the earthing system using two numbers 25x3mm GI strip including cutting bending to shape and drilling holes	124.00	620.00
g	5	nos	Supplying and providing cast iron gully trap with covering at top of inspection chamber of the earth pit 300x300x6mm	244.00	1,220.00
h	240	mts	Supply and laying 25x6mm GI strip 0.6m below ground for interlinking of earth electrodes.	151.00	36,240.00
<b>23</b>	<b>LIGHTNING PROTECTION ( Library Block )</b>				
a	120	mts	Supply and clamping 25x3mm aluminum strip on parapet using clamps fabricated from 25x3mm aluminum strip spacing of clamps not exceeding 1metre (horizontal run)	101.00	12,120.00
b	45	mts	Supply and clamping 25x3mm aluminum strip on parapet using clamps fabricated from 25x3mm aluminum strip spacing of clamps not exceeding 0.5metre (vertical run)	124.00	5,580.00
c	3	nos	Supply and providing test joint made of 2nos of laed strips on either side of the conductors Aluminum and GI with 4nos of tinned /galvanized bolts and nuts spring washers etc complete on suitable MS box clamped 1.5m from floor level.	52.00	156.00
d	3	nos	Supply and providing pipe earthing as per IS 3043 with 3.6 m long 38/40mm dia B class GI pipe, GI funnel with weld mesh, filling required quantity of charcoal and salt including construction of inspection chamber with a bed concrete of 1:4:8 PCC using 40mm broken stone (100mm 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, 12mm thick, (the finished inside dimensions shall be 300x300x300mm) but excluding test joints, earth continuity conductor to the plate and covering at the top (in hard soil)	2311.00	6,933.00
e	24	mts	Supply and laying/clamping 25x6mm GI strip from test joint to electrode and electrode interconnection.	123.00	2,952.00
f	3	nos	Supplying and providing test joint for the earthing system using two numbers 25x3mm GI strip including cutting bending to shape and drilling holes	124.00	372.00
g	3	nos	Supplying and providing cast iron gully trap with covering at top of inspection chamber of the earth pit 300x300x6mm	244.00	732.00
h	140	mts	Supply and laying 25x6mm GI strip 0.6m below ground for interlinking of earth electrodes.	151.00	21,140.00
<b>24</b>	<b>Surge Protector</b>				
a	3	nos	Supply and fixing Class C arrester, SPD device 4P (at the incomer of MCCB DBs at E-Block, Academic block, and subpanel of library)	7397	22,191.00
<b>25</b>	<b>Single Phase DOL Starter</b>				
a	7	nos	Supply and fixing 0.5 HP to 1 HP	600	4,200.00
<b>26</b>	<b>3 Phase DOL Starter</b>				
a	1	nos	Supply and fixing 5 HP	1500	1,500.00

Item No	Qty	Unit of Measurement	Specification of Items	Rate	Amount
			<b>TOTAL</b>		<b>3,532,173.70</b>
			Contingency & Unforeseen Expenses		7,826.30
			Grand Total		<b>3,540,000.00</b>