



Main Work: Construction of Indoor Stadium In Government College of Technology
Coimbatore-13. Est. Rs.800.00 Lakhs, CR.No.54CE/2022-2023

Name of Sub Work: Providing Internal and External Electrical arrangements to Construction
of Indoor Stadium in Government College of Technology Coimbatore-13

Estimate Amount:52.00 Lakhs

REPORT FOR ELECTRICAL WORK

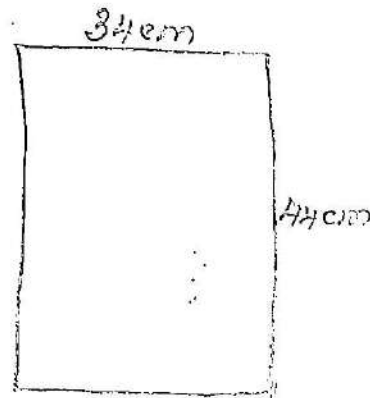
Report to accompanying the working estimate for the work of "Providing Internal and External Electrical arrangements to Construction of Indoor Stadium in Government College of Technology Coimbatore-13

The Government of Tamil Nadu have accorded Administrative Sanction for the Construction of Indoor stadium in Government College of Engineering (IRTT), Erode" for Rs. 800.00 Lakhs Vide. G.O.MS No.123 / Higher Education (B1) Department Dated:01.07.2022 and the same has been technically sanctioned by the Chief Engineer, Technical Education Circle, Chennai vide CR. No.54CE /22-23 for 800.00 lakhs where in an LS provision of Rs.52.00 lakhs was provided for provision of electrification. Based on the LS provisions made in the main scheme estimate for electrical arrangements an estimate is prepared for Rs.52.00 lakhs and which is within the LS provisions allotted in the main scheme estimate.

In this estimate, Internal Electrification such as LED fittings, fans, power plugs and External Electrifications as LTUG cable and Street lights arrangements are also proposed.


The following Electrical provisions are made for the beneficial use of the buildings.

- 1) Wiring with 2 x1.5 sq.mm (22/0.3) PVC unsheathed PVC rigid pipe concealed in wall and ceiling for light and fan points with modular MS box and modular flush type switches
- 2) Wiring with 3 x1.5 sq.mm (22/0.3) PVC unsheathed PVC rigid pipe concealed in wall and ceiling for Staircase light points with modular MS box and modular flush type switches




- 3) Supply and fixing of 3 No's 5A plugs for computer terminals to students and coach rooms, Gyms and gallery area.
- 4) Supply and fixing of SBT type 4'20W LED flu fittings on wall are proposed to coach rooms, dormitory and toilets.
- 5) Supply and fixing of TBT type 4'20W LED flu fittings on wall are proposed to first floor gallery area.
- 6) Supply and fixing of Surface mounted round type 18W LED fittings on wall are proposed to Table tennis and Chess room.
- 7) Supply and fixing of 150W LED High bay down light fittings are proposed in playing area as the roof height is more than 9.5mtrs.
- 8) Supply and fixing of 150W LED flood light fittings are proposed in playing area for more illumination in night times.
- 9) Supply and fixing of 11W CFL water tight bulk head fitting with Lamp for Toilets.
- 10) Supply and fixing of 1200mm (48") AC ceiling fans complete with stepped electronic regulator on the exciting fan clamps are provided for Students and coach Rooms.
- 11) Supply and fixing of 8 way SPN MCB DB's for light points and computer terminals
- 12) Supply and fixing of 3 phase 4 ways MCB DB's for lighting points and power plugs loads at various locations.
- 13) Supply and fixing of 3 Phase 4 way/8 way vertical type MCCB DB's for Floor control for Main Lighting sub switch board and Main Power sub switch board.
- 14) Supply and run of 2x2.5 sq. mm copper conductor is proposed for incoming mains to power plugs and computer plugs.
- 15) Supply and run of 2x4 sq. mm copper conductor is proposed for incoming mains to lighting distribution boards.
- 16) Supply and run of 4x10 sq. mm copper conductor for incoming mains to Lighting DB's and power distribution boards.

- 17) Supply and run of 3.5x120 sq mm LTUG cable for incoming feeder mains to Main control MCCB DB in Indoor Stadium.
- 18) Necessary cable gland and terminations are included in this estimate for electrical standards and specification.
- 19) Necessary ear thing arrangement including earth conductors are provided for safety measures.
- 20) Supply and fixing of 65 mm (2 1/2") GI pipe (Class 'B') of 6 mt Length of street lights poles are proposed to external lighting arrangements for approach road to Indoor Stadium.
- 21) Preparation of site plan, Physical layout, Electrical line schematic diagram, getting drawing approval from CEIG for preparation of completion report, rectification report, etc., and arranging for CEIG inspection and obtaining CEIG's safety certificate are also included in this estimate.
- 22) Supply and erecting of 630A capacity dust and vermin proof cubical panel board in existing power house as there is no spare switch in the existing panel. Hence this panel board is proposed.
- 23) Supply and fixing of 2 Nos 630A capacity FP switch disconnecter fuse units with HRC fuse Double Break Switch in existing cubical panel board.
- 24) Supply and fixing of 400A capacity FP MCCB (25KA) with spreader terminal and rotary handle in existing cubical panel board. As the existing SDF switch is worn-out condition. Hence this MCCB's are proposed.


05.12.2022
Junior Engineer (Electrical) P.W.D.,
Technical Education Electrical Section-I
G.C.T. Campus, Coimbatore-641 013.


Assistant Executive Engineer (Elec)
Technical Education Division
Coimbatore - 14


05/12/22
Principal
Government College of Technology
Coimbatore -641 013.

ABSTRACT

Work: Construction of Indoor Stadium In Government College of Technology Coimbatore-13. Est. Rs.800.00
 CR.No.54CE/2022-2023

Item of Sub Work: Providing Internal and External Electrical arrangements to Construction of Indoor Stadium in
 Government College of Technology Coimbatore-13

Estimated Amount: 52.00 Lakhs

No	Qty	Description of work	Rate	Unit	Amount
109	point	Wiring with 2x1.5 sqmm (22/0.3) PVC insulated SC unsheathed Cu Conductor of 1100V grade in suitable PVC rigid pipe concealed in wall and ceiling with PVC accessories in flush with wall with MS Modular Junction and modular switch box and 6A modular FT switch (Higher end) with front cover plate in flush with wall and making good of the concealed portion with suitable colour for PVC concealed light / Fan Point (For electronic regulator) (5 Points Per Coil) (DATA-1)	2287.00	point	249283.00
32	point	Wiring with 2x1.5 sqmm (22/0.3) PVC insulated SC unsheathed Cu Conductor of 1100V grade in suitable PVC rigid pipe concealed in wall and ceiling with PVC accessories in flush with wall with MS Modular Junction and modular switch box and 6A modular FT switch (Higher end) with front cover plate in flush with wall and making good of the concealed portion with suitable colour for PVC concealed light/fan point (6 Points Per Coil) (For Rooms like Bath, Toilet & Pump room etc) (DATA-2)	1924.00	point	61568.00
8	point	Wiring with 3 x 1.5sqmm (22/0.3) PVC insulated SC unsheathed Cu Conductor of 1100V grade in suitable PVC rigid pipe concealed in wall and ceiling with PVC accessories in flush with wall with MS Modular Junction and modular switch box and 6A modular FT switch (Higher end) with front plate (Two way) in flush with wall and making good of the concealed portion with suitable colour for PVC concealed staircase light point (DATA-3)	2991.00	point	23928.00
23	Nos	Supply and fixing of single box type 4'20 W flu fitting (Higher end) complete with electronic driver with TW round block on wall or ceiling with flu Tube with PVC unsheathed leads from terminals to the fitting with LED tube (DATA-4)	1062.00	Each	24426.00
20	Nos	Supply and fixing of single box type 4'20 W flu fitting complete with electronic driver (Higher end) with conduit pipe suspension from the ceiling with PVC unsheathed Copper leads from terminals to the fitting with LED tube (DATA-5)	1310.00	Each	26200.00

No	Qty		Description of work	Rate	Unit	Amount
5	8	Nos	Supply and fixing of 2'x2' 6500K 34W LED surface mounted square type LED Fitting (Higher end) complete on ceiling, with PVC unsheathed Copper leads from the terminals to the fittings (DATA-6)	3814.00	Each	30512.00
7	24	Nos	Supply and fixing of 4'20W twin box type LED flu Fitting (Higher end) complete with conduit pipe suspension from the ceiling with LED flu tube with PVC unsheathed leads from terminals to the fitting (DATA-7)	1404.00	Each	33696.00
8	14	Nos	Supply and fixing of 18W LED surface mounted round type Fitting (Higher end) complete on ceiling, with PVC unsheathed Copper leads from the terminals to the fittings (DATA-8)	3010.00	Each	42140.00
9	53	Nos	Supply and Fixing of 150 W High bay LED down light industrial fitting (Havells make model No.SAUCERGENXADVMIDHBP150WLED857PWBBORL) suitable for mounting from existing channel welding with 'L' Angle with mounting accessories is an integrally designed, versatile lighting solution with in the industrial space with PVC unsheathed copper leads from terminals to the fitting (DATA-9)	20036.00	Each	1061908.00
10	16	Nos	Supply and fixing of 150W LED flood light fitting (Higher end) complete suitable angle iron frame work on wall / framed stress with unsheathed Cu Leads with MS clamps and aluminium painting complete (DATA-10)	14278.00	Each	228448.00
11	22	Nos	Supply and fixing of WT bulk head fitting with guard (Higher end) suitable for 11W CFL lamp with CFL bulb (SD-83)	598.00	Each	13156.00
12	22	Nos	Supply and fixing of 1200 mm (48") AC ceiling fan (Higher end) complete 300W stepped electronic regulator with 500 mm down rod on the existing clamp (DATA-11)	2451.00	Each	53922.00
13	12	Nos	Supply and fixing of 450 mm (18") (Higher end) AC wall mounted fan complete on wall with connection (DATA-12)	4828.00	Each	57936.00
14	4	Nos	Supply and fixing of 375 mm (15") sweep (light duty) AC exhaust fan complete with out provision of hole with the wall (SD-117)	2040.00	Each	8160.00
15	4	Nos	Supply and fixing of louver shutter arrangements for 375 mm (15") sweep (light duty) AC exhaust fan (SD-121)	492.00	Each	1968.00

No	Qty	Description of work	Rate	Unit	Amount
16	10	Nos Supply and fixing of 3 Nos 15A flush type control switch concealed in suitable MS modular Box covered w modular white cover plate in flush with wall with earth connection (DATA-13)	943.00	Each	9430.00
17	31	Nos Supply and fixing of 3 Nos. 6A modular 2 in one 3 pin wall socket with 6A modular FT control switches (Higher end) concealed in suitable MS modular Box covered with modular cover plate in flush with wall with earth connection (For Computer Plug Socket) (DATA-14)	1346.00	Each	41726.00
18	10	Nos Supply and fixing of 1 No 16A modular 3pin wall socket with 16A modular FT control switch (Higher end) concealed in suitable MS modular Box covered with modular cover plate in flush with wall with earth connection (DATA-15)	799.00	Each	7990.00
19	12	Nos Supply and fixing of 1 No 6A modular 2 in one 3 pin wall socket with 6A modular FT control switches (Higher end) concealed in suitable MS modular Box covered covered with modular cover plate in flush with wall with earth connection (DATA-16)	696.00	Each	8352.00
20	7	Nos Supply and fixing of 8 way single pole and neutral MCB sheet steel enclosure Distribution board with Double Door and 1No 32 Amps DP MCB 10 KA as incoming , 6 No's 6 Amps to 32 Amps SP MCB 10 KA outgoing in flush with wall and making good of the concealed portion with earth connection only. The MCB DB and MCB's with ISI mark (Higher end) (DATA-17)	3884.00	Each	27188.00
21	3	Nos Supply and fixing of 3 phase 4 way vertical 7 segment TPN sheet steel double door distribution board surface type fitted with bus bar and neutral links with 1 No. 63 Amps 4 pole MCB 10 KA as incoming, 1No 63A FP ELCB 30 MA as sub incoming and 3Nos, 63A DP MCB 10 KA as sub incomer and 12 No's 32A SP MCB 10KA as outgoing in flush with wall and making good of the concealed portion with earth connection only. The MCB DB, and MCB's Like (Higher end) (DATA-18)	16163.00	Each	48489.00

No	Qty	Description of work	Rate	Unit	Amount
2	1 Nos	Supply and Fixing of 3 Ph 8 way Vertical type 160 A 16 KA MCCB DB with IP 43 protection Double door type DB (legrand) with 1No 160A 4P MCCB 16 KA as incoming and 6 No's 63A TP MCB 10 KA & 2 No's 32A TP MCB 10 KA as outgoing with cable entry boxes in suitable angle iron frame work with earth connection only. (The MCCB DB , and MCCB's and MCB's Like (Higher end) (DATA-19)	46387.00	Each	46387.00
3	12 Nos	Supply and fixing of 30W LED street light fitting (Higher end) complete with 19 mm dia GI pipe (class 'B') complete on the existing post / wall with unsheathed Cu. Leads with MS clamps and aluminium painting complete (DATA-20)	3623.00	Each	43476.00
4	100 Mtr	Supply and run of 2 of 1.5 sq.mm. (36/0.3) PVC insulated SC unsheathed Cu Conductor of 1100V Grade in suitable PVC rigid pipe concealed in wall and ceiling with continuous earth wire connection of 14 SWG TC wire and making good of the concealed portion with painting of suitable colour (SD-54)	154.00	Mtrs	15400.00
5	210 Mtr	Supply and run of 2 of 2.5 sq.mm. (36/0.3) PVC insulated SC unsheathed Cu. Conductor of 1100V Grade in suitable PVC rigid pipe concealed in wall and ceiling with continuous earth wire connection of 14 SWG TC wire and making good of the concealed portion with painting of suitable colour (DATA-21)	243.00	Mtrs	51030.00
6	845 Mtr	Supply and run of 2 of 2.5 sq.mm (36/0.3) PVC insulated SC unsheathed Cu. Conductor of 1100V Grade in suitable MS conduit pipe on wall and ceiling with continuous earth wire connection of 14 SWG TC wire with painting of suitable colour (DATA-22)	235.00	Mtrs	198575.00
7	330 Mtr	Supply and run of 2 of 4 sq.mm (56/0.3) PVC insulated SC unsheathed Cu. Conductor of 1100V Grade in suitable PVC rigid pipe concealed in wall and ceiling with continuous earth wire connection of 14 SWG TC wire with and making good of the concealed portion with painting of suitable colour (SD-57)	281.00	Mtrs	92730.00
8	115 Mtr	Supply and run of 4 of 10 sq.mm (140/0.3) PVC insulated SC unsheathed Cu. Conductor of 1100V Grade in suitable PVC rigid pipe concealed in wall and ceiling with continuous earth wire connection of 14 SWG TC wire and making good of the concealed portion with painting of suitable colour (DATA-23)	589.00	Mtrs	67735.00

No	Qty	Description of work	Rate	Unit	Amount	
9	200	mtr	Supply and laying of 3 1/2 X 120 sq mm PVC armoured LTUG cable in a trench excavated at a depth of 0.75 metre putting 0.15 mt Layer of sand and covering the cable completely with bricks and sand refilling the earth to make good (SD-209)	1044.00	Each	208800.00
0	20	Nos	Supply and laying of 3 1/2 X 120 sq mm PVC armoured LTUG cable in Suitable GI pipe and covering the cable completely with brick and refilling the earth to make good (DATA-24)	1084.00	mtr	21680.00
1	30	Mtr	Supply and clamping of 3 1/2 X 120 sq mm PVC armoured LTUG cable on post or on wall with MS Clamps (SD-227)	941.00	Mtrs	28230.00
2	2	Nos	Supply and fixing of brass cable gland for 3 1/2 X 120 sqmm PVC LTUG armoured cable with earth connection (SD-191)	595.00	Each	1190.00
3	2	Nos	Supply and providing cable end termination of 3 1/2 X 150 sq mm PVC LTUG Aluminum armoured cable with necessary aluminium cable sockets by crimping etc with electrical connection complete (SD-240)	509.00	Each	1018.00
4	1	No	Supply and run of 1" x 1/8" copper flat of 30cm length on suitable bus insulators with necessary bolt and nuts. (DATA-25)	409.00	Each	409.00
5	60	mtr	Supply and run of No.8 copper conductor for earth connection (DATA-26)	87.00	Mtrs	5220.00
5	4	Nos	Earthing as per the ISI specification with an earth electrode of 2.1 mt class 'B' GI pipe of dia not less than 40mm, with copper earth plate of size 125mmx50mmx6mm, with necessary funneling arrangements with necessary masonry work and with 38mm RCC cover slab for the brick masonry (SD-233)	2703.00	Each	10812.00
7	30	Nos	Supply and fixing of LT cable route indicator with suitable angle not less than 38mm x 38mm 6mm and 0.6mtr long excavation of earth to a depth of 0.6mtr and concreting the ground level and making good of the ground as directed by the departmental officers (DATA-27)	407.00	Each	12210.00

Sl No	Qty	Description of work	Rate	Unit	Amount
38	1 set	Preparation of site plan, Physical layout, Electrical line schematic diagram, 10 sets getting drawing approval from CEIG for preparation of completion report, rectification report, etc., and arranging for CEIG inspection and obtaining CEIG's safety certificate, preparation of one set approved drawing and copy of safety certificate and payment of CEIG's inspection fees (LT & HT) for Indoor stadium in GCE Salem. (MR)	80000.00	LS	80000.00
39	15 nos	Supply and fixing of 65 mm (2 1/2") GI pipe (Class 'B') of 6 mt Length with 300mm x 300mm x 6mm MS base plate, duly welded at the bottom with concreting with construction of Masonary pedestal with suitable MS box to house 5A control switch with suitable angle iron frame work, with door and with lock and key arrangements with supply and fixing of 1No.48W LED street light fitting with heat resistant toughened glass with IP 65 Protection with PVC unsheathed Copper leads MS clamps and aluminium painting (Higher end) (DATA-28)	12433.00	Each	186495.00
40	300 Mtr	Supply and laying of 2 X 10 sq mm PVC armoured aluminum LTUG cable in a trench to be excavated at dept of 0.75 mtr putting 0.15 layer of sand and covering the cable completely with bricks and sand and refilling the earth to make good (SD-198)	423.00	Mtrs	126900.00
41	60 Mtr	Supply and clamping of 2 X 10 sq mm PVC LTUG armoured LTUG cable on post or on wall with MS Clamps (SD-216)	289.00	Mtrs	17340.00
42	30 Nos	Supply and fixing of brass cable gland for 2 X 10 sq mm PVC armoured LTUG cable with earth connection (SD-199)	269.00	Each	8070.00
43	1 Nos	Supply and Errection of 630A capacity dust and vermin proof cubical panel board made up of 16 SWG CRCA sheet steel with supply and fixing of the following interior mounting fuse switch with HRC fuses arrangement in two horizontal rows top and bottom of horizontal bus bar chamber and two ends one on each side next to the fuse switch chamber and cable alloy conforming to IE rules EB INCOMER: 630A FP switch disconnecter fuse units interior only with HRC fuse Double Break Switch -1No OUTGOING:	335482.00	Each	335482.00

Sl No	Qty	Description of work	Rate	Unit	Amount	
		<p>400A TPN switch disconnecter fuse units interior only with HRC fuse Double Break Switch -4 Nos</p> <p>315A TPN switch disconnecter fuse units interior only with HRC fuse Double Break Switch -4 Nos</p> <p>200A TPN switch disconnecter fuse units interior only with HRC fuse Double Break Switch -4 Nos</p> <p>(All the TPN Switch should be Siemens / L&T with Front Handle Make)</p> <p>The bus bar chamber will consist of suitable size of tinned copper flat for phase and neutral buses on epoxy moulded bus insulated at proper and sufficient spacing between the buses as per IE Rules. This bus bar chamber should be segregated from the adjacent chamber by providing hylem sheet of suitable thickness as partisans. 2 Nos 25x3mm tinned copper flats should be provided all round the panel for earth bus.</p> <p>The fuse Switches should be connected with the phase and natural buses with suitable size of rigid copper flat/rod and each switch should be connected with the 2 Nos earth bus with 2 runs of No.8 SWG rigid Tinned copper rod with suitable lugs Phase and neutral tinned buses should be tinned properly.</p> <p>The panel should have a separate metering chamber at the top side consisting of 0 -600V Digital Voltmeter with Selector Switch, 0 - 400A Digital Ammeter with Selector Switch and C.T arrangement Pilot lamps, toggle switches, fuse unit (Siemens) indicator lamps should be provided with MCB. The panel should be Powder Coat paint of approved colour, approved by the site officer and also the danger board</p> <p>The capacity of the switches size of incoming and out going cable the place to which the supply is feed shall be mounted on switch chamber. The pannel board should be mounted on 75mmx37mm MS channel provided all round at bottom of the panel. The whole arrangement should be erected on a masonry pedestal to be constructed with suitable foundation bolts and nuts such that the lowest switch handle is at a height of 0.45 m from the ground level with necessary earth connection (DATA -29)</p>				
44	25	Mtr	Supply and clamping of 2 Run of 3 1/2 X 240 sq mm PVC LTUG armoured LTUG cable on post or on wall with MS Clamps. (DATA-30)	3030.00	Mtrs	75750.00

Sl No	Qty	Description of work	Rate	Unit	Amount
45	4 Nos	Supply and fixing of brass cable gland for 3 1/2 x 240 sq mm PVC armoured LTUG cable with earth connection (SD-194)	783.00	Each	3132.00
46	4 Nos	Supply and providing cable end termination of 3 1/2 x 240 sq.mm PVC LTUG Aluminum armoured cable with necessary aluminium cable sockets by crimping etc with electrical connection complete (DATA-31)	738.00	Each	2952.00
47	① 2	Job Supply and fixing of 2 Nos 630A capacity FP switch disconnector fuse units with HRC fuse Double Break Switch in existing cubical panel board with suitable size of tinned copper bus bar for interconnection of phase and neutral and the bus chamber should be segregated from adjacent chamber by providing hylem sheet. The fuse Switches should be connected with top and bottom of the bus bar chamber in existing MV panel with 2 runs of No.8 SWG rigid Tinned copper rod with suitable lugs are connected to earth. The mounted switch should painted with neatly as approved by the departmental officers. (DATA-32)	88766 77363.00	Job	77363.00
48	14 ⑬ ⑭	Nos Supply and fixing of 400A capacity FP MCCB (25KA) with spreader terminal and rotary handle in existing cubical panel board with suitable size of tinned copper bus bar for interconnection of phase and neutral. The MCCB should be connected 2 runs of No.8 SWG rigid Tinned copper rod with suitable lugs are connected to earth (DATA-33)	44677.00	Each	625478.00
		Sub total			4404290.00
		GST @ 18%			792772.20
					5197062.20
		Unforseen items			2937.80
		Total value of Electrical work			5200000.00
(Rupees Fifty Two Lakhs Only)					

J. Oshnis
05.12.2022
Junior Engineer (Electrical) P.W.D.,
Technical Education Electrical Section-I
G.C.T. Campus, Coimbatore-641 013.

[Signature]
Assistant Executive Engineer (Elec)
Technical Education Division
Coimbatore - 13

P. [Signature]
06/12/22
Principal
Government College of Technology
Coimbatore - 641 013.