

**Name of Project :-Electrification works of DEOC Center**

**Sub Title:- Cost estimate for electrical works**

**Based on BSR 2020 Thimphu base Rates**

SI/No	BSR CODE	Description	Unit	Qty	Rate	Amount
<b>A.WIRING</b>						
1	WC0300	1.5 sq.mm 1.1kV grade, PVC insulated copper conductor cable in recessed HDPE pipe with modular switches and frames including connections, painting, testing and commissioning etc. as required- <b>Short Point</b>	points	9.00	1,556.46	14,008.14
2	WC0301	1.5 sq.mm 1.1kV grade, PVC insulated copper conductor cable in recessed HDPE pipe with modular switches and frames including connections, painting, testing and commissioning etc. as required- <b>Medium Point</b>	points	29	2,652.25	76,915.25
3	WC0302	1.5 sq.mm 1.1kV grade, PVC insulated copper conductor cable in recessed HDPE pipe with modular switches and frames including connections, painting, testing and commissioning etc. as required- <b>Long Point</b>	points	8.00	3,891.49	31,131.92
4	WC0251	insulated copper conductor cable in recessed HDPE pipe including connections, painting, testing and commissioning etc. as required	m	350.00	392.49	137,371.50
5	WC0382	Wiring for points in excess length above long points with 2x4 sq.mm 1.1kV grade, PVC insulated copper conductor cable in recessed HDPE pipe including connections, painting, testing and commissioning etc. as required	m	150.00	470.53	70,579.50
6	WC0400	copper conductor cable in recessed HDPE pipe including connections, painting, testing and commissioning etc. as required-2x4 sq.mm	m	500.00	470.53	235,265.00
7	TC0001	Provide and draw high density polythene insulated & sheathed copper conductor 0.5mm dia telephone wire in recessed conduit wiring system complete as required-2 pair	each	9.00	27.17	244.53
8	AR	Telecommunication cables, aluminium foil and aluminium wire braided, RG 6 (Foam), 5 signal losses/100 yds at 100Mhz in existing HDPE pipe including necessary connection, testing etc. complete as required.	m	50.00	122.39	6,119.50

9	WP0209	conductor cable in PVC casing & capping including connections, painting, testing & commissioning etc. as required-4x10 sq.mm	m	10.00	796.10	7,961.00
10	WC0251	Providing and drawing of 2.5 sq.mm pvc insulated copper wire for loop earthing in existing recessed HDPE pipe and along with other power point wires as required	m	450.00	232.64	104,688.00
						<b>684,284.34</b>
<b>B. SUPPLYING OF FITTINGS</b>						
11	AR	Supplying of ceiling mounted LED tube/batten lighting suitable for 20 Watt made of ultra slim co-extruded polycarbonate channel with housing part in white finish & diffuser part in reeded opal finish and white finish ABS end caps with decorative circular colored polycarbonate cap snap fitted on end cap to enhance the aesthetic of the fixture including all accessories complete as required ( <i>ordering</i>	each	8	1,400.00	11,200.00
12	AR	Supply of recessed downlight 21Watt LED polycarbonate, UV stabilized diffuser in opal finish for glare-free uniform light distribution Optocs, powered by an independent electronic LED drivers (SMPS based constant current supply) with output short circuit protection, surge & any other safety test, mirror finish anodized with facets for uniform light discussion reflector, fixing into false ceiling by means of 2 nos SS spring/clips and elegantly designed pressure die-cast aluminium heat sink housing, connection, testing complete as required including driver. Ordering code:LHEAAGP6PL4W02, Ceiling cutout Ø 205 mm,	each	16	1,680.00	26,880.00
13	AR	aluminium, SS Spring clip mounting arrangement circular housing white painted inside act as reflector including all accessories complete as required. ( <i>ordering code: LHEAAVP6IL1W012 diameter:140 mm, height:23mm</i> ) Havells, Phillip or Anchor. <i>for toilet</i>	each	6	1,700.00	10,200.00

14	AR	fixture made up of Polycarbonate, retrofit type, projection 185mm, height 100mm with suitable to fix on surface mounted luminaries suitable for LED lamp for maximum wattage upto 1x18 watts complete with all accessories such as base, holder, reflector, rails, glass globe, etc. with lamp Maximus 10 Watt LED Contemporary Companion bracket Light for use with Smart Fixtures including all accessories, testing & commissioning complete as required (Ordering code: LHFOFUE1TZ1W012) Havells, Phillip or Anchor.	each	5	950.00	4,750.00
15	AR	Supplying of 18watt LED surface mounted ceiling light with durable housing with aluminium heat sink with diffuser to give glare free light including all accessories complete as required. (ordering code:LHEAARP7UL1W006 Fixture size in mm Ø 234, Height 57.) Havells, Phillip or Anchor.	each	8	2,520.00	20,160.00
16	AR	Supplying & fixing of prewired indoor mirror/picture light luminaries suitable for 2x5W (rectofit) LED complete with all accessories such as base, holder, cover, etc. including S/F of 5W lamp, testing etc. as required including connection with PVC insulated copper conductor.Havells, Phillip or Anchor	each	2	950.00	1,900.00
17	FN0002	Supplying of 1200 mm sweep ceiling fan 240 volt A.C 1400 rpm, 100watt with all accessories such as down rod, sweep 3 Nos.,canopy 2 Nos., condenser and fan body etc. complete as required including electronic regulator. Havells, Phillip or Anchor.(for tropical region only)	set	2.00	1,373.66	2,747.32
18	FN0045	Supplying of Aluminium louvers for exhaust fan complete all accessories as required (Havells/Khaitan/Crompton)- 300mm sweep	Set	1.00	724.82	724.82
19	SS0166	Supplying & fixing of 3/5 pin 6/16A universal switched socket outlet with shutter on existing metal box in recessed inclusive of suitable module frame/plate (inner/outer) including all accessories testing & commissioning etc. complete as required.All the switch, socket outlet & base plate shall be of Modular type.Legrand/Havells/equivalent.	no	28.00	426.58	11,944.24

20	AR	6/16A universal switched socket Socket Outlet with CAT6 data module, stainless steel made socket outlet with shutter on metal box in floor flushed type inclusive of suitable module frame/plate (inner/outer) including all accessories testing & commissioning etc. complete as required. cutout size:100mm x 100mm, overall width:119mm x 119mm & cavity depth:56mm, .All the switch, socket outlet & base plate shall be of Modular type.Legrand/Havells/equivalent.	no	8.00	2,730.00	21,840.00
						<b>112,346.38</b>
<b>C. ERECTION AND INSTALLATION OF FITTINGS</b>						
21	EI0081	Installation, testing and commissioning of provided LED Tube/batten light fittings of all recessed type complete with all accessories and tubes directly on ceiling & wall as required including connection with PVC insulated copper conductor 1.5 sq.mm single core cable 1.1 KV grade	each	8.00	195.38	1,563.04
22	EI0002	Erection of all indoor/outdoor surface type wall bracket/ceiling light/mirror lighting single surface ceiling fittings LED lamps all types call bell / pendent type all type picture or mirror lighting luminaires fittings with all accessories, fixing of lamp, testing etc. as required including connection with PVC insulated copper conductor- 1.5 sq.mm single core cable 1.1 KV grade	each	37.00	42.32	1,565.84
23	EI0096	Installation, testing and commissioning of all size ceiling fan and regulator including wiring the down rod of standard length upto 300mm with PVC insulated copper conductor-1.5 sq.mm single core cable 1.1 KV grade	each	2.00	310.24	620.48
24	EI0121	450mm sweep the existing opening including making the hole to suit the size of the indicated fan making good the damages, and connection with PVC insulated copper conductor-1.5 sq.mm single core cable 1.1 KV grade	each	1.00	407.27	407.27
						<b>4,156.63</b>
<b>D. SUPPLY &amp; INSTALLATION OF CONTROL GEARS</b>						
25	GB0290	Supply of miniature circuit breaker (MCB) single pole, 230 volt A.C complete with all accessories suitable to fix on a dinbar etc. as required-6A	each	6.00	727.65	4,365.90

26	GB0292	Supply of miniature circuit breaker (MCB) single pole, 230 volt A.C complete with all accessories suitable to fix on a dinbar etc. as required-16A	each	28.00	727.65	20,374.20
27	GB0293	Supply of miniature circuit breaker (MCB) single pole, 230 volt A.C complete with all accessories suitable to fix on a dinbar etc. as required-20A	each	3.00	727.65	2,182.95
28	GB0316	Supply of miniature circuit breaker (MCB) double pole, 230 volt A.C complete with all accessories suitable to fix on a din-bar etc. as required- <b>40A</b>	each	1.00	1,160.78	1,160.78
29	GB0428	Supply of residual current circuit breaker (RCCB) double pole, sensitivity 30mA, 230 volt A.C complete with all accessories suitable to to fix on a din-bar etc.as required- <b>40A</b>	each	1.00	3,094.25	3,094.25
30	GB0355	Supply of miniature circuit breaker (MCB) triple pole & neutral, 415 volt A.C complete with all accessories suitable to to fix on a din-bar etc. as required- <b>63A</b>	each	1.00	2,402.40	2,402.40
31	GB0474	Supply of residual current circuit breaker (RCCB) 4 pole, sensitivity 30mA, 415 volt A.C complete with all accessories suitable to to fix on a din-bar etc. as required - <b>63A</b>	each	7.00	4,158.00	29,106.00
32	EI0380	miniature circuit breaker DIN type complete with all accessories to accommodate on/in prefabricated MS surface /MS cubical control panel board including drilling holes, connections etc as required	each	38.00	155.62	5,913.56
33	EI0390	circuit breaker DIN type complete with all accessories to accommodate on/in prefabricated MS surface /MS cubical control panel board including drilling holes, connections etc as required- <b>40A</b>	each	38.00	271.86	10,330.68
34	EI0340	miniature circuit breaker(MCB) (DIN type) complete with all accessories to accommodate on/in prefabricated MS surface /MS cubical control panel board including drilling holes, connections etc as required- <b>63A</b>	each	1.00	511.26	511.26
35	EI0411	Installation, testing and commissioning of Four pole RCCB (DIN type) complete with all accessories to accommodate on/in prefabricated MS surface /MS cubical control panel board including drilling holes, connections etc as required- <b>63A</b>	each	1.00	143.59	143.59

36	GB0541 & EI0545	Supply & Fixing of 8 ways TPN distribution board (DIN type, horizontal)with metal door, 415 volt A.C complete with all accessories without MCB/isolator/RCCB out going or incoming etc. as required. ( <i>Flushed Type</i> )	each	1.00	3,743.14	3,743.14
37	GB0524 & EI0515	type) with metal door, 230 volt A.C complete with all accessories without MCB/isolator/RCCB out going or incoming etc. as required	each	1.00	2,177.69	2,177.69
38	GB0002	busbar complete with all accessories etc. as required-4 strips, 300mm bar, 63A	each	1.00	4,158.00	4,158.00
39	EI0171	Installation, testing and commissioning of prefabricated bus bar chamber with copper bus bar complete with all accessories including connections etc. as required-4 strips, 300mm bar, 63A	each	1.00	4,493.98	4,493.98
40	E(DB)	Providing and fixing of Main Distribution wooden box 600 x450 x 200mm deep internal finished sizes with mesh locking arrangement.( <i>for MDB</i> )	each	1.00	2,500.00	2,500.00
						<b>96,658.38</b>
<b>E</b>	<b>SUPPLY AND LAYING OF POWER CABLEs</b>					
41	PC0150	Supplying of 3.5- Core 25 sq.mm 1.1KV grade PVC insulated and sheathed Aluminium conductor armoured power cables ( <i>The length of Main service UG cable depends upon the availability of nearby BPC pole/feeder pillar</i> ).	m	100.00	357.47	35,747.00
42	PC0121	Supplying of 2- Core 4sqmm 1.1KV grade PVC insulated and sheathed Aluminium conductor armoured power cables.	m	10.00	94.25	942.50
43	CL0002	Laying of Above 6sq.mm to 25sq.mm one number PVC insulated and sheathed power cable copper/aluminium,armoured/un-armoured 1.1KV single core to four core direct in the ground including excavation, sand cushioning, protective covering and refilling the trenches etc. as required	m	100.00	449.90	44,990.00
						<b>81,679.50</b>
<b>F.</b>	<b>HDPE PIPES</b>					
44	CD0224	P/F 50mm dia HDPE conduit pipe on recessed( <i>Cable</i>	m	20.00	376.05	7,521.00
45	CD0222	P/F 32 mm dia HDPE conduit pipe on recessed( <i>Cable</i>	m	15.00	275.51	4,132.65
						<b>11,653.65</b>
<b>G.</b>	<b>LIGHTING PROTECTION AND EARTHING</b>					
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45	LG0001 & LG0015	Providing and fixing lightning conductor including holes etc. complete as required-25mm dia 300mm long copper tube single prong at top with 85mm dia 3mm thick copper base plate including Riveting, sweating and soldering as required. <i>(for</i>	each	1.00	3,274.83	3,274.83
46	LG0046	Providing and fixing metal strip on parapet or surface of wall/roof for lightning conductor as required for vertical run-25x4mm copper strip. <i>(for tropical regoin)</i>	each	3.00	990.83	2,972.49
47	ET0001	Providing & fixing of earthing with GI earth plate 600X600X6mm including all accessories, machinery enclouser, C.I cover plate having locking arrangement, watering pipe with exavation and refilling work including charcoal of coke and salt complete as per the standard earthing drawing complete as	each	1	14087.97	14,087.97
48	ET0015	Providing and laying earth connection from earth electrodes in 15mm dia G.I pipe from earth electrodes as required as per guidance of standard earthing drawing-With 4.06mm dia	m	15.00	253.65	3,804.75
49	E(EM)	Supplying and fixing of Three Phase four wire Digital Energy Meter LCD display including earth testing and commissioning complete as required.	each	1.00	9,750.00	9,750.00
						<b>33,890.04</b>
<b>H. TELEVISION NETWORKS</b>						
50	SS0016	cutting, connection testing etc. as required-RJ 11 telephone socket.	each	9.00	185.36	1,668.24
51	SS0017	Supplying & fixing of socket on wall including necessary cutting, connection testing etc. as required-TV socket outlet.	each	4.00	172.50	690.00
52		Supplying and fixing of HDPE pipe for television point including all accessories such as screws, bends,elbows,tees,corners etc. as required-25mm dia.	m	200.00	163.46	32,692.00
						<b>35,050.24</b>
<b>I. AIR CONDITIONERS</b>						
53A	AR	rating, 230V, 50 Hz including providing and fixing of AC stand clamp to fit the outdoor unit, PVC pipe 25mm dia. Heavy duty for water drainout, etc complete as required as per the site conditions-1 tonne, split type Air Conditioner (both heating & cooling), with all accessories complete as required. <i>(For Template Region)</i>	each	3.00	40,015.04	120,045.12





