



Estimate of Electrical Work Extention Block Homi Baba Hall at NIT Rourkela

S.No	DESCRIPTION	Unit	Qty	Supply of Materials	
				Rate	Amount
A	Internal Electrification				
1	Wiring				
1.1	Wiring to light, with 1.5sqmm FR PVC insulated 1100 volt grade multistranded copper conductor wire for phase, neutral and earth continuity conductor from switch board upto points including circuit wiring with 2(1x2.5)+1(1x1.5) from BDB to Switch Board run inside 2mm thick non-metallic PVC conduit pipe of rquired sizes recessed in wall/ column/ ceiling of the building including supply of materials such as flush type piano switches, GI concealed box, wire, ceiling rose, angle / batten holder, m.s. junction box, pull box, PVC conduit accessories, etc as per technical specifications complete with making good the damages caused as required and as per direction of Engineer-in-charge.				
(a)	Single light point or first light point of group control controlled by one 5A switch	Nos	340.0	680.00	2,31,200.00
(b)	Subsequent light point	Nos	60.0	586.00	35,160.00
(c)	Emergency light point	Nos	50.0	586.00	29,300.00
(d)	Ceiling fan point including flush type stepped fan regulator with fan hook (Box type).	Nos	225.0	983.00	2,21,175.00
(e)	Ceiling fan point including flush type stepped fan regulator with fan hook made out of 12mm plain round steel .	Nos	75.0	883.00	66,225.00
(f)	Exhaust fan point/Wall Fan point	Nos	16.0	680.00	10,880.00
(g)	5A plug on same board	Nos	302.0	158.00	47,716.00
(h)	5A plug on separate board	Nos	20.0	625.00	12,500.00
(i)	Two numbers 5A plug with switches for computer plug outlet	Nos	288.0	680.00	1,95,840.00
1.2	Wiring for twin control light point with 1.5 sq.mm FR PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, 2 way piano type switch , phenolic laminated sheet, suitable size MS box and earthing the point with 1.5 sq.mm. FR PVC insulated copper conductor single core cable etc as required.	Nos	12.0	680.00	8,160.00
1.3	Supply, delivery, installation & testing of TV antenna outlet boards containing a flush type piano TV antenna socket fixed on GI concealed box including connections and making good the damages caused complete as required and as per direction of Engineer-in-charge.	Nos	5.0	166.00	830.00
1.4	Supplying and fixing suitable Size of PVC conduit pipe recessed in wall/ column/ ceiling of the building including supply of materials such as 6 pin 5/6 & 15/16 amps Piano type socket outlet and 15/16 amps , GI concealed box with phenolic laminated sheet and cover, m.s. junction box, pull box, PVC conduit accessories, etc as per technical specifications complete with making good the damages caused as required and as per direction of Engineer-in-charge.	Nos	24.0	387.00	9,288.00
1.5	Wiring for circuits and submain with following number & sizes of FR PVC insulated 1100 volt grade multistranded copper conductor wire run inside 2mm thick PVC conduit pipe recessed in ceiling/ column/ walls of building including supply of all materials such as wires, PVC conduit pipe & accessories, ms junction box & pull box etc complete with making good the damages caused as required and as per direction of Engineer-in-charge.				

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				Rate	Amount
(a)	2 numbers single core 2.5 sqmm copper wire for phase & neutral and 1 number single core 1.5 sqmm copper wire for earth continuity conductor.	Metre	250.0	135.00	33,750.00
(b)	Wiring for light/ power plug with 2X4 sq. mm FR PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit alongwith 1 No 4 sq. mm FR PVC insulated copper conductor single core cable for loop earthing as required.	Metre	350.0	178.00	62,300.00
(c)	2 numbers single core 6.0 sqmm copper wire for phase & neutral and 1 number single core 4 sqmm copper wire for earth continuity conductor.	Metre	25.0	403.00	10,075.00
(d)	4 numbers single core 10.0 sqmm copper wire for phase & neutral and 2 number single core 6 sqmm copper wire for earth continuity conductor.	Metre	400.0	850.00	3,40,000.00
1.6	Supply, delivery and laying of following sizes of 2mm wall thicknees rigid PVC conduit concealed in wall/ column/ roof slab of the building or mounted on surface alongwith other accessories and 18 swg GI fish wire complete for telephone / TV / Circuit or Submain wiring as required and as per direction of Engineer-in-charge.				
(a)	19mm dia	Metre	500.0	40.00	20,000.00
(b)	25mm dia	Metre	700.0	51.00	35,700.00
(c)	32mm dia	Metre	200.0	80.00	16,000.00
2	Distribution Boards				
2.1	Supply, delivery, installation, testing & commissioning of L.T. indoor floor/ wall mounted type distribution boards made out of 2 mm thick CR sheet metal cubicle fixed on m.s. channel base, duly acid treated for derusting, primered and painted with 2 coats of enamel paint of approved shade; dust, damp & vermin proof ; having hinged door and compartmental arrangement for each equipment & busbar chamber on the top of the panel running horizontally; having provision for cable/ conduit entry, earthing studs as per specification mentioned below duly factory wired conforming to the relevant ISS and as per special conditions of contract making good the damages caused complete as per the direction of Engineer-in-charge. Busbars sizes should be 1.3 times current rating of MCB/MCCB(Current Density 0.8A/mm² for CU) Wires size should be 1.2times current rating of MCB/MCCB. NOTE :- Colours coded wire such as Red, Yellow, Blue Black & Green for Phase, Neutral & earth shall be used for the internal wiring of the panel. Approve the panel drawing before fabrication from Engineer In-Charge. (Panels should be at NIT site before start RA)				
(a)	MDB (G F)	Set	1.0	52,385.00	52,385.00
	Incommer				
	1 No. 160A,25 KA,4 pole MCCB Thermal Magnetic Trip unit, 415 V, (Adjustable overload & adjustable Short Circuit Setting)				
	Busbar : 4 Nos 25 x 6mm Electrolytic copper strips				
	Outgoing				
	5 No.63 amps,10 KA, TPN MCB with C-characteristics .				
	2 No.25 amps,10 KA, DP MCB with C-characteristics .				
	1 No. 40 amps, 10KA, TPN MCB with C-characteristics .				
	Instruments: 1 No 0-500 volt Voltmeter with selector switch & control fuses				
	1 No 0-150-A ac ammeter with 200/5A CTs and selector switch				
	1set: LED type R-Y-B phase indicating lamps with control fuses				
2.2	DBs				

S.No	DESCRIPTION	Unit	Qty	Supply of Materials	
				Rate	Amount
4	MV Cable				
4.1	Supply, Laying & testing of following size of XLPE insulated, PVC sheathed, round/strip armoured aluminium conductor power cable of 1100 volt grade clamped on surface of wall/ column/ existing RCC/ stone ware/ masonry cable trench/ cable tray/ through G.I. pipe/ hume pipe as the case may be, including cost of saddles/ clamps/ markers etc but including the cost of G. I. pipe/ hume pipe complete with making good the damages caused and returning the balance unused cables to stores as required and as per direction of Engineer-in-charge. (16 bricks/mtr)				
(a)	4 core x 95/120 sqmm A2XFY	Metre	250.0	1,050.00	2,62,500.00
(b)	4 core x 25 sqmm A2XFY	Metre	50.0	850.00	42,500.00
4.2	Supply of materials and end termination of following cables including supply of double compression brass cable glands, cable sockets etc complete as required and as per direction of Engineer-in-charge.				
(a)	4 core x 95/120 sqmm A2XFY	Nos	6.0	850.00	5,100.00
(b)	4 core x 25 sqmm A2XFY	Nos	18.0	550.00	9,900.00
5	Earthing				
5.1	Supply of materials and installation of pipe earth electrode made out of 50mm dia class B G.I. pipe of 3.0 metre long with arrangements for fitting/ termination of G.I. flat / wire with G. I. nut bolts & washers including cost of charcoal, salt, foreign soil, water pouring arrangements, brick masonry enclosure on top with removable RCC cover complete with labour for excavation of pit in all kinds of soil & rock as required and as per direction of Engineer-in-charge. (5.17kg/mtr)	Nos	9.0	4,000.00	36,000.00
5.2	Supply of materials and laying under ground/ floor/ wall including making connection at both ends and testing with following size of hot dip galvanised iron flats for earthing of equipments, switch boards & panels as required complete as per direction of Engineer-in-charge.				-
(a)	25mm x 5mm	Metre	100.0	100.00	10,000.00
(b)	8 swg	Metre	50.0	40.00	2,000.00
6	Lighting Conductor				
6.1	Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc. complete as required.	Each	6.0	1,100.00	6,600.00
6.2	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For horizontal run)	Metre	600.0	80.00	48,000.00
6.3	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	200.0	110.00	22,000.00
6.4	Providing and fixing testing joint, made of 20 mm X 3 mm thick G.I. strip, 125 mm long, with 4 nos. of G.I. bolts, nuts, chuck nuts and spring washers etc. complete as required.	Each	6.0	90.00	540.00
7	Area Lighting				
7.1	Supply, delivery, installation, testing & commissioning of bracket light 90w (BRP322 48LED CW 90 PC SI PSU GR lemen 900) make philips or equivalent with suitable size G.I pipe, clamp, etc and sundry materials as required complete as per direction of Engineer-in-charge.	Set	8	21,500.00	1,72,000.00
				Total Rs	36,65,817.00

NATIONAL INSTITUTE OF TECHNOLOGY, ROURKELA

List of approved make for Electrical Items w.e.f 20/01/2014

Sl No.	Equipment/ description	Approved Make
1	SWITCH GEARS	Siemens/Schneider/ABB
	a)ACBs,SFU,Contactors,AuxRelay	
	b) MCCBs 200 Amp and above	
2	MCCBs 160 Amp & below	Siemens/Legrand/ABB/Schneider
3	MCBs/RCCBs/RCBOs/DBs	Siemens/Legrand/Schneider/ABB
4	Change over Switch	L&T/ Havell's/Legrand/HPL
5	Motor Starters	Siemens/CGL/L&T
6	A C Starters	Siemens/ Electronic type- GETRON
7	Push Buttons	Siemens/L&T/ABB
8	Al./ Cu. conductor XLPE/PVC insulated power & control cable	Polycab/Havell's/Gloster/KEC/NICCO/CCI/INCAB/Universal/Finolex/RR/V-Guard/KEI
9	FR and PVC insulated stranded flexible copper wires as per IS 694	Finolex/Anchor/Polycab/Havell's/Lapp/ V-guard/KEI
10	PVC rigid conduit heavy duty	Finolex/Plaza/Harsha/Precision/AKG/Berlia/polycab other make with approval of Engineer Incharge but minimum thickness 1.5mm for 20mm and 2 mm for 25mm and above
11	Piano reed type Switches and accessories.	Anchor/RR/Havells/HPL
12	Decorative swirch board cover with white top lamination	Hylam/Formica/RR
13	Modular type Switches and accessories	Legrand(Mosssaic)/Crab tree(Athena)/ HPL /Siemens/Schneider/Anchor(wood/Ave)/MK
14	FTL/CFL	Philips/CGL/WIPRO
15	M H/SV Street/Flood light Fittings, lamps & accessories	Bajaj/Philips/CGL/Schreder/WIPRO
16	Post top/garden lights	Philips/CGI/Schreder/WIPRO
17	High Mast lights	Philips/CGL/Bajaj/Schreder
18	Energy meters	Alstom/Secure
19	Measuring Instruments	AE/L&T/COSMO/HPL socomec
20	Ceiling Fans i) DGS&D	Usha/CGL/Bajaj
	ii) Energy Eff. fans with 5 * rated as per BEE	
21	Exhaust fans/Wall fans	CGL/Usha/Bajaj/Havell's
22	Tubular/Octagonal Galvanized/ Mild steel poles.	Aster/Bansal/Bajaj/Schreder
23	CT/PT	Kappa/L&T/AE
24	Paints	Berger/Asian/Nerolac
25	Selector Switch	Kaycee/L&T/GE
26	Geysers	Bajaj/Usha/CGL/V-guard/Jaguar
27	Panel Builders	EAP/Balaji Electricals/Eliens Switchboards/Konarak Electronix/Alfa Automation
28	Cable trays	Legrand/Rexton/Pushpak Fabricators
29	Bus Trunking,Raising mains	Legrand/Schneider/C&S
30	HT Cable Joint and end termination	3M/CCI/ Raychem
31	LT Cable Joint and end termination	3M/ Raychem
32	Cable Luck	Dowels/Ismal/Jainson
33	Gland	Dowels/CCI/Electrowerke
34	All Other Items	As per approval of Engineer Incharge

Handwritten signature and date: 20/01/14

