

Name of Company:

Address:

Name of Project: Construction of Five Storied (G+4F) Academic Building (AKKUTVET) at Kalurghat, Chattogram

Summary of Financial Offer

Sl No	Item Description	Amount in Taka	Remarks
1	Part-A, Civil Works		
2	Part-B, Internal Electrical Works		
3	Part-C, Plumbing Works		
4	Part-D, Substation Set		
5	Part-E, Generator Set		
Grand Total Amount (including Govt Vat &AIT)			

Md. Asraful Hoque
Site Engineer, Infra. Development
Social Enterprise Development
UCEP Bangladesh

Nikhil Chandra
Chief Manager
Capital Investment
Social Enterprise Development
UCEP Bangladesh

Signature with seal

A KKHAN UCEP TVET COMPLEX

ENGINEERING DEPARTMENT

Name of Works :-CONSTRUCTION OF A FIVE STORIED (G+4F) ACADEMIC BUILDING, KALURGHAT, CHATTOGRAM

PART: A CIVIL WORKS

Sl. No.	Description of Item	Unit	Quantity	Rate in Taka	Amount in Taka
1	Erection and maintenance of site office and removal of the same after completion of work in accordance with the conditions of contract. In addition to the office required for his own use, the contractor shall provide and maintain furnished field office for the use of the Engineer-in-charge and his staff. The field office is to have a concrete floor, adequate foundation, brick walls, false ceiling of hard board with seasoned Garijan wood frame and painted, and all windows are to be glazed and provided with steel grill. Outside and inside wall surface are to be painted on plaster acceptable to the Engineer-in-charge. The field office shall be maintained in a secure and watertight condition by the contractor until the completion of the contract and shall be provided with electricity, running water and sewerage. All doors shall be fitted with approved locks and windows shall be provided with screen/blinds. Before construction the contractor shall submit plans and drawings showing proposed details and location for the field office, including foundations, access roads, shades, layout of electrical and water supply and hard standings thereto for the approval of the Engineer-in-charge. The Engineer-in-charge may require revision of the plans prior to giving approval for construction. The contractor shall also submit details proposed furniture, fittings and other items of equipment and plant to the Engineer-in-charge for approval. These items shall be of the standard quality suitable for site. The office, complete with furnishings, fittings, access roads and hard standings shall be ready for occupation by the Engineer-in-charge within 28 days of the date when the contractor first occupies the site. The contractor will provide day and night guards and a tea boy for the field office. At the end of the project all materials, equipment and plant, furniture, fittings recovered from dismantling the office and removing access road will be the property of the contractor. No interim payment shall be certified unless engineer's office with required facilities are constructed and accepted by the Engineer-in-charge. (This is a time related item; proportionate payment for this item shall be made a) Engineer's site office of minimum 15 sqm plinth area with providing necessary facilities including office furniture, consumables, stationeries, water purifier etc. b) Supplying and providing of first aid box with necessary materials/medicine (hygienic gauge, thermometer, adhesive dressings, antiseptic solutions, bandages, cotton balls or swaps, emergency blanket, gloves, hand sanitizer, ice pack, saline etc). All complete as per direction of engineer in charge.				
		job/ 15 sqm	1.00		
		each	1.00		


Md. Asraful Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh


Nikhil Chandra
 Design Engineer
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description of Item	Unit	Quantity	Rate in Taka	Amount in Taka
	c) Providing and maintenance one project profile signboards of the size not exceeding 1 m x 2 m, to be placed at a suitable place of the site including submission of proposals for the materials of the signboards and text layout to the Engineer-in-charge for approval which will be positioned as directed by the Engineer-in-charge and removing the same on completion of the works or as instructed by the Engineer-in-charge.	Sqm	2.00		
2	Providing Lay-out and carry over PWD/temporary bench-mark (BM) at site from nearby BM pillar, property lines, Existing ground level (EGL), formation ground level (FGL), highest flood levels (HFL), plinth level (PL), setting and marking all pillars, marker, pegs etc, showing and maintaining reduced levels (RL) including location, establishing, protecting all public utilities within the premise of work and finally all to be presented in black and white.	Sqm	920.00		
3	Mobilization and cleaning site before commencing actual physical work and during contract period and demobilization after completion of the work under contract to be accepted by the Engineer-in-charge this work shall also cover cleaning and clearing, cutting or filling dressing the project area on and in the ground to an extent that all the events of works of the project can be executed smoothly in a working environment with a particular attention on safety and security in all respects, and to stockpile the end outcome to a place for disposal agreed by the Engineer-in-charge.	Sqm	920.00		
4	Earth work in excavation in all kinds of soil for foundation trenches including layout, providing center lines, local bench-mark pillars, levelling, ramming and preparing the base, fixing bamboo spikes and marking layout with chalk powder, providing necessary tools and plants, protecting and maintaining the trench dry etc., stacking, cleaning the excavated earth at a safe distance out of the area enclosed by the layout etc. all complete and accepted by the Engineer-in-charge, subject to submit method statement of carrying out excavation work to the Engineer-in-charge for approval. However, engineer's approval shall not relieve the contractor of his responsibilities and obligations under the contract.				
	a) Layout and marking for earthwork in excavation in foundation accepted by the Engineer-in-charge. [Plinth area of the structure shall be considered for measurement]	Sqm	920.00		
	b) Earthwork in excavation in foundation trenches up to 1.5 m depth and maximum 10 m lead: in very stiff (hard) clayey soil/ rubbish etc.	Cum	700.00		
	c) Extra rate for each additional 0.5 meter depth exceeding 1.5 meter.	Cum	100.00		


 Md. Asif Hossain
 Site Engineer
 Social Development
 UC-2, Bangladesh


 Nikhil Chandra
 Social Development
 UC-2, Bangladesh

Sl. No.	Description of Item	Unit	Quantity	Rate in Taka	Amount in Taka
5	Earth filling in foundation trenches and plinth in 150 mm layer with earth available within 90 m of the building site to achieve minimum dry density of 95% with optimum moisture content (Modified proctor test) including carrying, watering, leveling, dressing and compacting to a specified percentage each layer up to finished level etc. all complete and accepted by Engineer-in-charge.	Cum	700.00		
6	Sand filling in foundation trenches and plinth with sand having F.M. 0.5 to 0.8 in 150 mm layers including leveling, watering and compaction to achieve minimum dry density of 95% with optimum moisture content (Modified proctor test) by ramming each layer up to finished level as per design supplied by the design office only, all complete and accepted by the Engineer-in-charge.	Cum	311.00		
7	Cleaning and disposing of excavated earth from the construction site by truck or by any other means to a place within 30 km radius of the city or town area including loading & unloading at both ends, leveling and dressing the carried earth etc. complete and accepted by the Engineer-in-charge.	Cum	50.00		
8	Mechanical compaction of earth beyond plinth area , required for pre-approved specific engineering purpose in 150 mm layers including levelling, watering and consolidation each layer with chain dozer, grader, roller etc. to achieve minimum dry density of 95% with optimum moisture content (modified proctor test) up to finished level all complete and accepted by the engineer-in-charge subjected to submission of the method statement.	Cum	405.00		
9	Bailing out trapped water by 1 cusec diesel operated pump including hire charge of pump, fuel operator spares and maintenance etc. all complete and accepted by the Engineer-in-charge.	hour	500.00		
10	One layer Brick Flat Soling in foundation or in floor with 1st class /picked jhama bricks (BDS 208) including preparation of bed and filling the interstices with local sand leveling etc. all complete and accepted by the Engineer-in-charge.	sqm	271.00		
10	Mass concrete (1:2:4) in foundation with cement, sand (F.M. 1.2) and picked jhama chips including breaking chips, screening, mixing, laying, compacting to levels, side shuttering and curing for at least 7 days including the supply of water, electricity and other charges and costs of tools and plants etc. all complete and accepted by the Engineer.	Cum	30.00		


Md. Asraful Hoque
 Site Engineer, Infra, Development
 Social Enterprise Development
 UCEP Bangladesh


Nikhil Chandra Chakrabarti
 Senior Manager, Infra Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description of Item	Unit	Quantity	Rate in Taka	Amount in Taka
11	Boring/drilling (500 mm dia) by wash or percussion method for cast in situ pile up to the required depth and diameter with minimum 6m long temporary steel casing, true to vertical, providing bentonite slurry and maintaining water level in the hole, washing the hole for at least 30 minutes, cleaning the bore hole and making the bore hole ready for placing steel cage and concreting including hire charge of rig set with winch machine, tripod stand, tremie pipe, cost of fuel, lubricant, mobilization, demobilization, maintenance, spares, stand-byes, insurance coverage, water, electricity and other charges all compete, approved and accepted by the Engineer-in-charge. Before commencing boring operation, contractor shall submit the method statement of cast-in-situ pile work including sequence of boring and casting, disposal of spoils, test result of materials to the Engineer-in-charge for approval. However, Engineer's approval shall not relieve the contractor of his responsibilities and obligations under contract.	meter	3,657.00		
12	Removing of spoils / mud accumulated during boring for cast in situ pile by wash boring from working site to a safe distance by contractor's own arrangement i.e. with container set in truck or on cart including loading, unloading everything complete as per standard practice and accepted by the Engineer-in-charge.	Cum	600.00		
13	Cast in situ pile with reinforced cement concrete works of high slump by adding high range water reducing admixture (ASTM C494 Type A or F) with minimum cement content relates to mix ratio 1 : 1.5 : 3 having minimum $f'_{cr} = 26$ Mpa, and satisfying a specified compressive strength $f'_{c} = 21$ Mpa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM & cement conforming to BDS EN-197-1-CEM -1,52.5 N/ASTM-C 150 Type - I, best quality coarse sand [Sylhet sand or coarse sand of equivalent F.M.2.2], 20 mm down well graded crushed stone chips conforming to ASTM C-33, including breaking chips, screening through proper sieves, making, placing re-bar cage in position, placing and removing tri-pod as per requirement, pouring the concrete in bore-hole with the help of a tremie pipe, maintaining the tremie pipe immersed in concrete by at least 1 meter throughout the period of concreting, maintaining required slump, etc. mixing the aggregates with standard mixer machine with hopper, casting in forms, all complete including water, electricity, testing of materials and concrete etc and other charges as per design, drawing etc all complete approved and accepted by the Engineer in-charge. (Rate is excluding the cost of reinforcement and its fabrication, binding, welding, placing and admixture (approx doses 150 to 250 ml per bag of cement which is to be fixed upon consultation with design office).	Cum	745.00		

Md. Asraful Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Nikhil Chakraborty
 Deputy Manager, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description of Item	Unit	Quantity	Rate in Taka	Amount in Taka
14	Providing and making point welding at contact point of the spiral binders at reasorable intervals with the main reinforcements by electric arc welding for construction of cast in situ bored pile carefully with highly oxidized electrodes, making the points prominent and accepted by the Engineer-in-charge (Rate is inclusive of all materials labour, tools and plants, electricity and all equipment).	point	90,000.00		
15	Providing and making welded splice over two sides of contact by welding of minimum 300 mm length at the lap of main reinforcement in re-bar cage to be placed in bore - hole where necessary by electric arc welding with highly oxidized electrodes making the joint prominent all complete and accepted by the Engineer-in-charge. (Rate is inclusive of all materials labour, tools and plants, electricity and all equipment).	meter	337.00		
16	Labour for breaking head of hardened cast in situ bored pile/pre-cast pile up to a required length by any means but without damaging the rest and removing the dismantled materials such as concrete to a safe distance including scraps and cleaning concrete from steel/M.S. rods, straightening and bending of pile bars, preparation and making platform where necessary, carrying, all sorts of handling, stacking the same properly after clearing, leveling and dressing the situ and clearing the bed etc. complete in all respect and accepted by the Engineer-in-charge. (Measurement will be given for the actual pile head volume to be broken).	Cum	40.00		
17	Conducting static load test as per ASTM D1143 or equivalent standard for the cast-in-situ/pre-cast pile providing required scaffolding, bracing, jacks, pressure test gauge, loading unloading, kentledge and other plants and equipment including staging, mobilization, demobilization, hire charge, gunny bags, sand and filling sacs/gunny bags for loading, record readings and preparation of results in standard forms and other incidental charges as per standard practice and procedures including submission of load test report, furnishing all graph and chart etc. complete in all respect approved and accepted by the Engineer-in-charge (Minimum two cyclic loading; one at service load and another cycle at double the service load then to continue loading till failure of the pile). Before commencing load test, contractor shall submit method statement for conducting load test to the Engineer-in-charge for approval. However, Engineer's approval shall not relieve the Contractor of his responsibilities and obligations under Contract. Load test and report shall be conducted under the supervision of a professional Geotechnical Engineer registered in BPERB or Geotechnical firm registered in PWD. Boring and pouring logs / driving logs of piles and method statement shall be the part of load test report.				
	For 200 tonne load test.	Per test	2.00		

Md. Asraful Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Nikhil Chandra Mojumder
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description of Item	Unit	Quantity	Rate in Taka	Amount in Taka
18	PIT (Pile integrity test) : Conducting low strain dynamic testing of pile as per ASTM D5882-The standard method for low-strain integrity testing of pile by a qualified and approved PIT expert, preparing pile heads and providing all relevant materials, equipment, experts, labour, mobilization, demobilization, data acquisition and analysis, preparation of results in standard forms and compiling final report with recommendations on the tests etc. complete in all respect approved and accepted by the Engineer-in-charge. (Report shall contain driving log / boring and pouring logs, graphs & statement on "Calibration Pile" (pile that tested for its capacity and PIT done earlier on it, at a place of known soil profiles), soil investigation report. (Calibration pile shall be made and tested first). Method statement for conducting PIT shall be submitted to the Engineer for approval, and shall be the part of PIT report, However, Engineer's approval shall not relieve the contractor of his responsibilities and obligations under contract. (1set equals to 12 Nos pile)				
	a) Mobilization and demobilization to site and PIT on piles .	set (1st 12 pile)	1.00		
	b) For PIT test of each additional pile after 12(Twelve) pile tested at same site	per pile	3.00		
19	Supplying, fabrication and fixing to detail as per design : ribbed or deformed bar reinforcement for Reinforced cement concrete, produced and marked in accordance with BDS ISO 6935 - 2: 2016 (or standard subsequently released from BSTI) including straightening and cleaning rust, if any, bending and binding in position with supply of G.I. wires, necessary laboratory tests (excluding splices or laps) etc. complete in all respect and accepted by the Engineer-in-charge (Measurement shall be recorded only on standard mass per unit length of bars, while dia of bars exceeds its standard).				
	(a) Grade 500 (RB 500 / 500W) : complying BDS ISO 6935-2:2006) ribbed or deformed bar produced and marked according to Bangladesh Standard, with minimum yield strength, fy (ReH)=500 Mpa but fy not exceeding 550MPa, the ratio ultimate tensile strength fu to yield strength fy, shall be at least 1.25.	kg	460,000.00		


Md. Arshadul Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh


Nikhil Chandra
 Deputy Director, Social
 Enterprise Development
 UCEP Bangladesh

Sl. No.	Description of Item	Unit	Quantity	Rate in Taka	Amount in Taka
20	Reinforced cement concrete works with minimum cement content relates to mix ratio 1:1.5:3 having maximum water cement ratio = 0.40 and minimum $f'c = 33.5$ MPa, satisfying a specified compressive strength $f'c = 28$ MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM, Cement conforming to BDS EN-197-1-CEM-I, 52.5N (52.5 MPa) / ASTM-C 150 Type - I, best quality Sylhet sand or coarse sand of equivalent F.M. 2.2 and 20 mm down well graded stone chips conforming to ASTM C-33 (Aggregate grading as per table shown in technical specification), conducting necessary tests, making and placing shutter in position and maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; mixing with standard mixer machine with hopper, fed by standard measuring boxes, casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, other charges etc. all complete, approved and accepted by the Engineer-in-charge. (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing, binding etc. and the cost of shuttering & centering)				
	a) UP TO PL Pile Cap, Short column, Grade beam, Stair case slab and steps, lift wall, Shear Wall etc.	Cum	580.00		
	b) GROUND FLOOR Column, beam, slab, Stair case slab and steps, lift wall, Shear Wall etc.	Cum	302.00		
	c) 1st FLOOR Column, beam, slab, Stair case slab and steps, lift wall, Shear Wall etc.	Cum	310.00		
	d) 2nd FLOOR Column, beam, slab, Stair case slab and steps, lift wall, Shear Wall etc.	Cum	310.00		
	e) 3rd FLOOR Column, beam, slab, Stair case slab and steps, lift wall, Shear Wall etc.	Cum	310.00		
	f) 4th FLOOR Column, beam, slab, Stair case slab and steps, lift wall, Shear Wall etc.	Cum	310.00		
	g) Rooftop FLOOR Column, beam, slab, Stair case slab and steps, lift wall, Shear Wall etc.	Cum	150.00		


Md. Asad Hossain
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh


Nikhil Chandra Mojumdar
 Deputy Manager - Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description of Item	Unit	Quantity	Rate in Taka	Amount in Taka
21	Reinforced cement concrete works with minimum cement content relates to mix ratio 1:2:4 having maximum water cement ratio = 0.40 and minimum f_{cr} = 30.5 MPa, satisfying a specified compressive strength f_c = 22 MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM, cement conforming to BDS EN-197-1-CEM-I, 52.5N (52.5 MPa) / ASTM-C 150 Type - I, best quality Sylhet sand or coarse sand of equivalent F.M. 2.2 and 20 mm down well graded stone chips conforming to ASTM C-33 (Aggregate grading as per table shown in technical specification), conducting necessary tests, making and placing shutter in position maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; mixing in standard mixer machine with hopper fed by standard measuring boxes, casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, other charges etc. all complete, approved and accepted by the Engineer-in-charge. (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing, binding etc. and the cost of shuttering & centering)				
	b) Lintels, railing, Cornice, False slab, louver, fins, sunshade, false ceiling drop walls, etc.	Cum	130.00		
22	Supply and use of water-reducing and accelerating chemical admixture in concrete, complying ASTM C-494 Type - E of approved brand/origin/manufacturer and supplied by only manufacturer's authorised dealer with certificate of origin. The admixture to reduce the quantity of mixing water required to produce concrete of given consistency, i.e. low water-cement (W/C) ratio and intend to accelerate setting time of concrete, and early strength gain in concrete etc.	Liter	1,500.00		
23	FORM WORK(Steel) : Centering and shuttering, including strutting, propping etc. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 16 BWG, angles of minimum size 40 mm x 40 mm x 5 mm, flat bars etc.) and removal of form for pile cap, grade beam, Column, beam, slab etc.				
24	FORM WORK(Wooden) : Centering and shuttering, including strutting, propping etc. and removal of form for Lintel, Sunshade, false Slab etc.	Sqm	14,964.00		
25	Damp proof course (DPC) (1:1.5:3) in cement concrete with cement, sand (F.M. 1.8) and picked jhama including breaking chips, screening, centering, shuttering, casting, curing and finished with a coat of bitumen including the supply of water, electricity and other charges and costs of tools and plants etc. all complete and accepted by the Engineer. (Cement: CEM-II/A-M)	Sqm	1,350.00		
		Sqm.	460.00		


Md. Asraful Hoque
 Site Engineer: Infra. Development
 Social Enterprise Development
 UCEP Bangladesh


Nikhil Chandra Majumdar
 Deputy Manager: Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description of Item	Unit	Quantity	Rate in Taka	Amount in Taka
26	Brick work with 241 mm x 114 mm x 70 mm size machine made first class bricks having uniform colour carefully laid in cement sand (F.M. 1:2) mortar (1:4) in super-structure with uniform width and depth of joints, true to vertical and horizontal lines including raking out joints, filling the interstices with mortar, cleaning and soaking bricks at least for 24 hours before use and washing and screening of sand, necessary scaffolding, curing at least for 7 days and pointing with cement sand (F.M. 1:2) mortar (1:2) including cost of water, electricity and other charges etc. complete and accepted by the Engineer-in-charge. (Cement: CEM-II/A-M)	Cum.	200.00		
27	125 mm thick Pointing brick work with machine made first class bricks with cement sand (F.M. 1:2) mortar (1:4) and making bond with connected walls including necessary scaffolding, raking out joints, cleaning and soaking the bricks for at least 24 hours before use and washing of sand, curing at least for 7 days in all floors including cost of water, electricity and other charges etc. all complete and accepted by the Engineer-in-charge. (Cement: CEM-II/A-M)	Sqm	3,610.00		
28	Exposed 125mm thick pointing ornamental brick work with automatic machine made first class brick with cement sand (F.M. 1:2) mortar (1:4) and making bond with connected walls including necessary scaffolding, raking out joints, cleaning and soaking the bricks for at least 24 hours before use and washing of sand, curing at least for 7 days in all floors including cost of water, electricity and other charges etc. all complete and accepted by the Engineer-in-charge. (Cement: CEM-II/A-M)	Sqm	350.00		
29	Supplying, fitting and fixing window grill made of 10 mm x 10 mm M.S. solid bar @ 100mm c/c with outer frame of 38 mm x 6mm F.I. bar and 25 mm x 6 mm F.I. bar for clamp as per design including fabrication, welding, cost of electricity workshop charges, carriage, cutting grooves, mending good the damages, tools and plants, finished with anti-corrosive painting (Red-Oxide) etc. complete for all floors approved and accepted by the Engineer-in-charge. (Total weight per sqm should be approx 17 kg and add or deduct @ Tk. 100.00 for each kg/sqm excess or less respectively)	Sqm	1485.00		
30	Safety Canopy: Supplying temporary safety canopy around construction work place where public safety is likely to be endangered due to construction activities; which shall be made of truss system of steel sections (main frame) at 750 mm c/c with purlins @ 750mm c/c, making flooring system by corrugated galvanized iron sheets of thickness 0.45mm, laying wire mesh net on iron sheets, providing continuous gutter along the edges of the building with downpipe @ 6000 mm c/c, including fitting and fixing in position providing necessary anchors, cables, wires, ties etc. by standard anchoring and welding, nut-bolts etc, all complete and accepted by the Engineer-in-charge.	Sqm.	250.00		

Asraf

Md. Asraf Hoque
Site Engineer, Infra. Development
Social Enterprise Development
UCEP Bangladesh

Asraf

Md. Asraf Hoque
Site Engineer, Infra. Development
Social Enterprise Development
UCEP Bangladesh

Sl. No.	Description of Item	Unit	Quantity	Rate in Taka	Amount in Taka
31	Matt or rustic wall tiles less than or equal to 300 mm x 600 mm size: Supplying, fitting and fixing country made rustic or matt finished wall tiles complying BDS ISO 13006: 2015, irrespective of color &/or design, with 20 mm thick cement sand (F.M. 1.2) mortar (1:3) base and raking out the joints with white cement including cutting, laying and hire charge of machine and finishing with care etc. including water, electricity and other charges complete in all respect and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M).	Sqm.	1,180.00		
32	GP (homogeneous) 600 mm x 600 mm floor tiles: Supplying, fitting and fixing country made GP (Gross Porcellanto) - glazed or unglazed homogeneous floor tiles complying BDS ISO 13006: 2015, water absorption $\leq 0.5\%$, modulus of rupture (MOR) ≥ 27 N/mm ² , irrespective of color &/or design, with 20 mm thick cement sand (F.M. 1.2) mortar (1:4) base and raking out the joints with white cement including cutting and laying the tiles in proper way and finishing with care etc. all complete and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M).	Sqm	5,835.00		
33	Rustic stair tiles of size 300 mm x 600 mm : Supplying, fitting and fixing country made rustic or matt finished stair tiles having non-skidding offsets complying BDS ISO 13006: 2015, water absorption $\leq 0.5\%$, modulus of rupture (MOR) ≥ 27 N/mm ² , irrespective of color &/or design, with 20 mm thick cement sand (F.M. 1.2) mortar (1:4) base and raking out the joints with white cement including cutting, laying and hire charge of machine and finishing with care etc. including water, electricity and other charges complete in all respect and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M).	Sqm	323.00		
34	Supplying, fitting and fixing 20mm to 25mm thick machine made cement pavement tiles (300 mm x 300 mm) having minimum compressive strength of 27 MPa, irrespective of color &/or design, with 20 mm thick cement sand (F.M. 1.2) mortar (1:4) base and making the joints carefully in true straight line including cutting, laying and hire charge of machine and finishing with care etc. including water, electricity and other charges complete in all respect and accepted by the Engineer-in-charge. (Cement: CEM-II/A-M).	Sqm	160.00		
35	Supplying, fitting and fixing M.S. door shutter made with 38 mm x 38 mm x 6 mm angle outer frame, inner member 25 mm x 6 mm F.I. bar, cladding with 16 BWG M.S. sheet, 04 nos. 75 mm long hinge, 02 nos locking arrangement with 50 mm x 50 mm x 6 mm M.S. angle crowkat including all charges for welding, riveting etc. including cost of supplying all essential fittings like iron hinges, socket bolts, clamps, for fitting and fixing the frame, making necessary holes in brick walls and R.C.C works and fitting with C.C. (1:2:4) and mending good the damages including all cost of carriage, workshop charges, electricity, and labour for fittings, fixing, curing etc. all complete and accepted by the Engineer-in-charge.	Sqm	4.56		


Md. Asraful Hoque
 Site Engineer, Infra, Development
 Social Enterprise Development
 UCEP Bangladesh


Nikhil Chandra Majumdar
 Deputy Manager, Infra Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description of Item	Unit	Quantity	Rate in Taka	Amount in Taka
36	Supplying, fitting and fixing of Aluminium fixed composite window as per the U.S. Architectural Aluminium Manufacturer's Association (AAMA) standard specification having 1.2 mm thick outer bottom (size 75.50 mm, 32mm, 0.695 kg/m), 1.2 mm thick outer top (size 75.50 mm, 26.80 mm, 0.78 kg/m), 1.2 mm thick shutter top (size 33 mm, 26.80, 0.536 kg/m), 1.25 mm thick shutter bottom (size 60mm, 24.40 mm, 0.736 kg/m), 1.2 mm thick outer side (size 75.50 mm, 19.90 mm, 0.616 kg/m), 1.2 mm thick sliding fixed side (size 31mm, 26mm, 0.422kg/m), 1.2mm thick shutter lock (size 49.20 mm, 26.20 mm, 0.661 kg/m), 1.2 mm thick inter lock (size 4.40mm, 32.10mm, 0.656kg/m) 1.2mm thick bottom cover (size 37.78mm 31.78mm 0.313kg/m), 1.2mm thick groove cover (76.20mm, 38.10mm, 0.912kg/m), 1.2mm thick groove cover (size 57.15mm, 15.80mm, 0.452kg/m) and 1.2mm thick top and side (size 76.20mm, 38.10mm, 0.3kg/m) all aluminium members (total weight 12.297 kg/sqm) will be anodized to aluminium s.s/black colour with a coat not less than 15 micron in thickness and density of 4 mg per square cm etc. including all accessories like sliding door key lock, sliding door wheel, slicing door mohiar, sliding door neoprene, bolts and nuts including sealants etc. and including supplying and fitting fixing 5 mm thick tinted/clear glass, complete in all respect as per drawing and accepted by the Engineer.	Sqm	1485.00		
37	Supplying and making door and window frames (Chowkat) for all floors with matured Mehgoni/Iron wood seasoned wood of required size. Painting two coats of coal tar to the surface in contact with wall. Fitting and fixing in position etc. all complete and accepted by the Engineer-in-charge. (All sizes of wood are finished).	Cum	6.00		
38	Supplying, fitting and fixing 38 mm thick well matured seasoned (minimum 250 mm wide plank) solid wood (Gamari/mehogoni/ equivalent) single leaf door shutter having top rail style of sections 100 mm x 38mm, lock rail 125 mm x 38 mm and bottom rail 225 mm x 38 mm. Closed joints with 25mm x 12 mm size wooden peg and provided with best quality 4 nos 100 mm iron hinges, 2(two) nos best quality 12 mm dia 250 mm and 200 mm long iron tower and socket bolts, 2 (two) nos heavy type nickel plated handle, 1 (one) no best quality hasp bolt, hinged cleats, buffer blocks and finished by sand papering etc. all complete in all floors and accepted by the Engineer-in-charge. (All sizes of wood are finished).	Sqm	240.00		


Md. Asratul Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh


Nikhil Chandra Mo-umder
 Deputy Manager, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description of Item	Unit	Quantity	Rate in Taka	Amount in Taka
39	Supplying, fitting and fixing of the best quality any sizes UPVC plastic door shutter with frame having specific gravity of 1.35 - 1.45, panel wall thickness 1.7 mm-2.2 mm, shutter/panel thickness 37.5 mm & weighing 17.25 kg/m ² and other physical, chemical, thermal, fire resistivity properties etc. as per BSTI approved manufacturer standards and ASTM, BS/ISO/IS standards of different sizes UPVC plastic door shutter with UPVC plastic frame (frame size: 150mm x 62.50mm) fitting - fixing in brick wall/ R.C.C wall with at least 3 Nos. SS hinges by min 64 Nos. Ø 3.17 mm and 3.97 mm 12.7 mm long rivets, 12 nos. 25.4 mm SS screws, Ø 9.38 mm, 150 mm long SS tower bolts 2 nos., 146 mm SS handle by rivet 6 Nos., G.I inner joint, 234.95 mm x 127 mm clamp, 76.2 mm x 57.15 mm, 6 Nos. GI clamp, 2 nos. outer GI joint clamp making necessary grooves and mending good the damages, finishing, curing, carrying the same to the site and local carriage etc. complete in all respect and accepted by the Engineer-in-charge	sqm	54.00		
40	Supplying, fitting and fixing M.S. flat bar clamp 150 x 38 x 6 mm size having bifurcated ends to door frames with rowel plug, necessary screws etc. including cutting groove in Chowkat if necessary etc. complete in all respect accepted by the Engineer.	Each	516.00		
41	Supplying, fitting and fixing of made in hydraulic door closer standard quality (big size) including all necessary tools and accessories etc. all complete approved and accepted by the Engineer.	Each	86.00		
42	Supplying, fitting and fixing rim/round door lock of approved quality including all necessary tools and accessories etc. all complete and accepted by the Engineer-in-charge.	Each	86.00		
43	Supplying, fitting and fixing of best quality magnetic door holder of approved quality including all necessary tools and accessories all complete and accepted by the Engineer-in-charge.	Each	86.00		
44	Supplying, fitting and fixing best quality heavy type 19 mm dia and to 300 mm long ss/brass hasp bolt including cutting grooves in door shutter and frames, screws etc. all complete approved and accepted by the Engineer.	Each	86.00		
45	Minimum 12 mm thick cement sand (F.M. 1:2) plaster (1:4) with fresh cement to both inner- and outer surface of wall, finishing the corner and edges including washing of sand, cleaning the surface, curing at least for 7 days, cost of water, electricity, scaffolding and other charges etc. all complete in all respect as per drawing and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M)	sqm	1,850.00		

Amrui
Md. Asraful Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Nikhil
Nikhil Chandra Mondal
 Deputy Manager, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description of Item	Unit	Quantity	Rate in Taka	Amount in Taka
46	Minimum 6 mm thick cement sand (F.M. 1.2) plaster (1:3) with fresh cement to ceiling, R.C.C. columns, beams, surface of stair case, sunshades, cornices, railings, drop wall, louvers, fins and finishing the corners and edges including washing of sand, cleaning the surface, curing at least for 7 days, cost of water, electricity, scaffolding and other charges etc. all complete in all respect as per drawing and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M)	sqm	11,760.00		
47	Supply and application of 19 mm thick (9.5 mm X 2 layer) water proof, damp proof, dry and breathable plaster on roof slab/underground water reservoir/ overhead water reservoir/ basement/retaining wall with water proof, damp proof, dry and breathable Izonil cement (STN-EN-1015-11, compressive strength 34 MPa, max depth of water penetration into hardened plaster is < 1 mm) or equivalent compound in a proportion of 1:2.4 (Izonil cement or equivalent compound 1: sand 2.4) after cement grouting on existing concrete surface including finishing the corner and edges, washing sand, cleaning the surface scaffolding and curing at least 3 days etc. all completed in all respects as per direction of Engineering-in-charge. Above mentioned plaster includes glass fiber mesh of 10 mm X 10 mm grid and weight 110 gm/sqm placed in between two layers.	Sqm.	800.00		
48	Interior standard acrylic emulsion paint (plastic or matt finish) of approved best quality and colour delivered from authorized local agent of the manufacturer (Berger robbialac plastic emulsion/Asian apcolite plastic emulsion or equivalent brand) in a sealed container; applying to interior wall and ceiling with surface preparation including cleaning drying, making free from dirt, grease, wax, removing all chalked and scaled materials, fungus, mending good the surface defects using sand paper and necessary scaffolding; applying 1 coat of interior sealer of specified brand on prepared surface; then applying 1 coat of interior putty of specified brand for levelling, spot filling and cutting by sand paper/zero water paper; finally applying 2 coats of interior emulsion paint spreading by brush/roller/spray & necessary scaffolding etc. upto desired finishing, elapsing specified time for drying or recoating; all complete in all floors and accepted by the Engineer-in charge.	Sqm.	8,500.00		
49	Standard synthetic enamel paint of approved best quality and colour delivered from authorized local agent of the manufacturer (Berger jhilk synthetic enamel/Elite quick drying/Asian decora synthetic enamel or equivalent brand) in a sealed container, having high water resistance, high bondability, flexibility property; using specified brand thinner applying to metallic or wooden surface by brush/roller/spray in 2 coats over single coat anti-corrosive coating including cleaning, drying, making free from dirt, grease, wax, removing all chalked and scaled materials, all complete in all floors and accepted by the Engineer-in-charge.	Sqm.	1,530.00		

Sl. No.	Description of Item	Unit	Quantity	Rate in Taka	Amount in Taka
50	Exterior standard acrylic emulsion paint of approved best quality and color having water resisting properties and resistance properties against fungi, fading & flaking delivered from authorized local agent of the manufacturer (Berger weather coat smooth/Elite smooth exterior/ Asian apex weather coat or equivalent brand) in a sealed container; applying to exterior surface with surface preparation including cleaning, drying, making free from dirt, grease, wax, removing all chalked and scaled materials, fungus, mending good the surface defects using sand paper and necessary scaffolding; applying 1 coat of exterior sealer of specified brand on prepared surface; then applying 1 coat of exterior putty of specified brand for levelling, spot filling, crack filling and cutting by sand paper/zero water paper; finally applying 2 coats of exterior emulsion paint spreading by brush/roller/spray & necessary scaffolding etc. upto desired finishing, elapsing specified time for drying or recoating; all complete in all floors and accepted by the Engineer-in charge.	Sqm	1838.00		
51	Silicon based water repellent of approved quality delivered from authorized local agent of the manufacturer in a sealed container surface preparation including cleaning druing making free from dirt grease wax; removing all chalked and scaled materials, fungus, mending good the surface defects using and sand paper and necessary scaffolding; applying 3 coat of silicon based water repellent on exposed brick surface/fair face surface spreading by brush/roller/spray & necessary Scaffolding etc. up to desired finishing, elapsing specified time for drying or recoating, all complete in all floor and accepted by the Engineer -in-charge.	Sqm	2562.00		
52	Wood varnishing of approved quality and colour delivered from authorized local agent of the manufacturer in a sealed container using brand specified thinner to door and window frame and shutter in three coats, applied with brush including cleaning oil, grease, dirt, making dry, sand papering, if required washing with weak detergent solution, stripping out the colour straps, finishing the surface, etc. all complete in all floors accepted by the Engineer.	Sqm	485.00		
53	Manufacturing, supplying, fitting and fixing of stair railing of standard height of any design and shape with 75mm x 50mm x 3mm MS box for hand rail and 03 nos vertical post of 75mm x 50mm x 3mm MS box in each flight, welding the vertical post box with 100 mm x 100 mm x 6 mm anchor base plate and fixing with concrete of stair by royal bolt, welding With MS box of size: 20 mm x 20 mm of 1.5 mm wall thickness or MS F.I bar of any shape and design horizontally between the vertical post @ 125 mm c/c, applying 2 (two) coats of synthetic enamel paint of approved quality and color over an anti-corrosive prime coat etc. finished in all respect for all floors and accepted by the Engineer-in-charge. (Exposed area of railing will be considered for measurement, rate is excluding the cost of painting).	Sqm	79.00		

Arashul
Md. Asratul Haque
 Site Engineer, Infra. Development
 Social Enterprises Development
 "CEP Bangladesh"

Nikhil Chandra
 Deputy Manager - Infra.
 Social Enterprises Development
 "CEP Bangladesh"

Sl. No.	Description of Item	Unit	Quantity	Rate in Taka	Amount in Taka
54	Door sill work in 62mm x 25mm size using concrete in 1:2:4 proportion top surface finished with tiles complete as per direction of the Engineer-in-Charge. (provisional rate).	meter	124.50		
55	Labour charge for scraping lawn surface up to 38 mm depth by spade, picking up all sorts of brick bats, rubbish by suitable tools, removing the same by head load or by any other means and stacking the same to a safe distance beyond 300 m including supply of tools and plants etc. all complete and accepted by the Engineer-in-charge.	Sqm	227.00		
56	Preparation of ground to make ready for plantation by spading the ground to a depth of 150 mm to 230 mm beyond 38 mm deep scrapped ground by spade, breaking earth clods to powder by hammers, picking up all sorts of rubbish, unwanted grasses by suitable tools, carrying and spreading the surplus earth into low lying area including supply of tools and plants etc. all complete and accepted by the Engineer-in-charge.	Sqm	227.00		
57	Leveling and dressing of lawn area to proper slope and grade by spading the same up to 150 mm including supplying tools and plants etc. all complete and accepted by the Engineer-in-charge.	Sqm	227.00		
58	Supply of lawn grass of approved quality by truck or by any other means, sorting the grass to proper size, washing the grass, dibbling the grass 6 mm to 50 mm apart, irrigation of lawn area till the grass grown at least for two months after plantation, weeding the undesirable grass, mowing the lawn grass by lawn mower up to two months after plantation, applying urea fertilizer on the lawn surface @ 1 kg per 9.29 sqm including supply of tools and plants etc. all complete and accepted by the Engineer-in-charge.	Sqm	227.00		
59	Spading for preparation of flower beds in pits up to 600 mm depth, re-molding, picking up and placing and removing the spaded earth to a safe distance, mixing @ 1 cft well decomposed cow dung with 20% loamy silty soil and 6 cft excavated soil and fill back the pit including supply of tools and plants, all complete and accepted by the Engineer-in-charge.	Sqm	311.00		
60	Supply, fabrication and installation of hot rolled structural grade steel channel and angle in roof truss or any form of structure of any thickness conforming to ASTM A36 with a minimum yield strength of 250 MPa, including the cost of testing, application of red/grey-oxide primer etc. (up to level-4) all complete as per drawing, specification and direction of Engineer-in-charge.	kg	5000.00		


Md. Asraful Hoque
 Site Engineer, Infra, Development
 Social Enterprise Development
 UCEP Bangladesh


 Nilhil Chandra
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description of Item	Unit	Quantity	Rate in Taka	Amount in Taka
61	Supply and installation of 0.47 mm thick zinc alum color coated profile sheet from SYSCO Taiwan/ TATA Blue Scope LYSAGHT of durability class 2 with minimum warranty period of 10 years of durability, for roof, wall, capping, flashing, trimming, gutter etc. conforming to ASTM A792, Grade: 80, AZ150 gm/m2, including the cost of necessary accessories (sheeting screws with washers, silicon sealant etc.), testing of materials etc. all complete as per drawing specification and direction of Engineer-in-charge (supplier has to produce papers to proof the source of material).	kg	2815.00		
62	Supply and installation of double bubble foil insulation at wall and roof of nominal thickness of 8 mm conforming to Class A in accordance with the ASTM-E84-09 fire test standard, including the cost of lapping, costape, adhesive and necessary accessories, all complete as per drawing, specification and direction of Engineer-in-charge.	sqm	627.32		
63	Supply and installation of GI purlin & girt of any size (up to level-4) conforming to "ASTM A653" grade 45, with a minimum yield strength of 310 MPa, including the cost of testing of materials, all complete as per drawing, specification and direction of Engineer-in-charge.	kg	3000.00		
64	Supply and fixing of sag rod conforming to grade 40, with a minimum yield strength of 275 MPa, including the cost of making threads, nuts and washers, red oxide primer etc. all complete as per drawing, specification and direction of Engineer-in-charge.	kg	500.00		
65	Supply and application of Epoxy based corrosion protection paint to the surface of the structural steel members conforming to SA 2.5; the corrosion class shall be -C3 in accordance with BS EN ISO 12944-2 and durability class in accordance with BS EN ISO 12944-5; the Steel members to be shot blasted inside the enclosed shot blasting chamber, final coat paint must be applied on site after installation, including the cost of primer, testing and necessary accessories, all complete as per drawing, specification and direction of Engineer-in-charge.	kg	8000.00		
66	Supply and fixing of galvanized anchor bolts of variable dia for rigid frame conforming to ASTM F1554 Grade 55, Galvanized to A153, Class C or equivalent with minimum yield strength of 380 MPa, manual of steel construction by American Institute of Steel Construction (AISC) etc. including the cost of washer & bolts, material testing etc. all complete as per drawing, specification and direction of the Engineer-in-charge.	kg	36.00		
67	Supply and pouring of non-shrink grout to steel column bases conforming to ASTM C 109 having compressive strength not less than 45 MPa, including the cost of shutter and necessary accessories, all complete as per drawing, specification and direction of Engineer-in-charge.	cum	0.55		

Arshul
Md. Asraful Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 ICEP Bangladesh

MD. Kamrul Hossain
Nikhil Chandra Mondal
 Deputy Project Manager
 Social Enterprise Development
 ICEP Bangladesh

Sl. No.	Description of Item	Unit	Quantity	Rate in Taka	Amount in Taka
68	Colored: 0.27 mm thick galvanized iron plain sheet ridging with 300 mm lap on either side fitted and fixed with galvanized bolts and nuts etc. all complete and accepted by the Engineer-in-charge.	meter	55.00		
69	Manufacturing, supplying, fitting and fixing of ordinary type MS Folding gate with 12mm x 12mm x 6mm MS square solid bar and 25mm x 25mm x 6mm MS Angle box frame and two nos outer side fixed box post made with 40mm x 40mm x 6mm angle at both ends attached to column/wall side including locking arrangement providing 38mm x 38mm x 6mm MS Angle clamps fitted and fixed with the outer frame of the main pillar with cement concrete (1:2:4) in masonry including cutting hole and mending good the damage finishing curing etc. including reveting welding as and where necessary painting tow coat with approved quality of synthetic enamel paint over a coat of priming of anticorrosive paint.all complete as per drawing , design and accepted by the Engineer in charge.	Sqm	96.00		
Total Amount, Civil Work			-		
Total Amount, PART -A Civil Work (Including Govt VAT & AIT)			-		


Md. Asratul Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh


Nikhil Chandro Akumder
 Social Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

UCEP Bangladesh

SCHEDULE OF ITEMS, BILL OF QUANTITY FOR INTERNAL ELECTRIFICATION WORKS FOR CONSTRUCTION OF A FIVE STORIED ACADEMIC BUILDING, KALURGHAT, CHATTOGRAM

PART-B INTERNAL ELECTRICAL WORKS

Sl. No.	Description	Unit	Qty.	Rate in (Tk)	Amount in (Tk)
---------	-------------	------	------	--------------	----------------

INTERNAL ELECTRICAL WORKS					
1.0	<u>CONCEALED CONDUIT POINT WIRING : (BYA) (WITHOUT SWITCH)</u>				
	Concealed conduit wiring for following point looping at the switch board with earth terminal with IC-2x1.5 sqmm PVC insulated cable (BYA) & IC-2x1.5 sqmm PVC insulated ECC(BYA) Green / Yellow bi-colour including circuit wiring (From SDB to Switchboard) with IC-2x2.5 sqmm PVC insulated cable (BYA) & IC-2x2.5 sqmm PVC insulated ECC (BYA) (Green / Yellow bi-colour) through PVC conduit (one conduit from switch board to common point on ceiling is considered to draw 3 pair of cable) of reputed manufacturer of minimum 25 mm dia & 1.7 mm wall thickness complete with 18 SWG GP sheet / PVC switch board pull box with 3mm thick ebonite sheet cover. fixing materials etc.(without switch) as required including mending the damages good. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standard along with relevant BDS standard as per detailed specification mentioned in Annexure- I. The work shall be carried out as per direction & approval of the Engineer In Charge.				
	Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge				

Asraf

Md. Asraf Hoque
Site Engineer, Infra. Development
Social Enterprise Development
UCEP Bangladesh

Arshad

Nabil Chakraborty
Senior Engineer, Infra. Development
Social Enterprise Development
UCEP Bangladesh

Sl. No.	Description	Unit	Qty.	Rate in (Tk)	Amount in (Tk)
1.1	Light / Exhaust fan or wall bracket fan point.	Point	805		
1.2	Fan Point	Point	319		
1.3	Call bell point with gang bell push	Point	5		
2.0	CONCEALED WIRING (BYA) :				
2.1	Concealed conduit wiring with the following PVC insulated stranded cable (BYA) & PVC insulated Green / Yellow bi-colour ECC wire (BYA) through PVC conduit of reputed manufacturer complete with 18 SwC (P sheet pull box with 3mm thick ebonite sheet cover, fixing materials. other accessories etc as required including mending the damages good. All electrical contacts shall be of brass/ copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standards along with relevant BDS standard as per detailed specification mentioned in Annexure- I. The work shall be carried out as per direction & approval of the Engineer In Charge.				
	Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge.				
2.1.1	1C-2x2.5sqmm (BYA) cable with 2.5sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 16 mm having wall thickness of 1.5 mm	Meter	6750		
2.1.2	1C-2x4.0sqmm (BYA) cable with 4 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 16 mm having wall thickness of 1.5 mm	Meter	2100		


 Md. Asif Hossain
 Site Engineer, Planning & Development
 Social Enterprise Development
 UCIEP Bangladesh


 Md. Asif Hossain
 Site Engineer, Planning & Development
 UCIEP Bangladesh

Sl. No.	Description	Unit	Qty.	Rate in (Tk)	Amount in (Tk)
3.0	<u>SURFACE WIRING (NYY) (THROUGH PVC CONDUIT) :</u>				
3.1	Surface conduit wiring with the following PVC insulated and sheathed stranded cable (NYY) / XLPE insulated and PVC sheathed stranded cable (2XY) & PVC insulated Green / Yellow bi-colour ECC wire (BYA) through PVC conduit of reputed manufacturer complete with fixing materials, other accessories etc. as required including mending the damages good. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to relevant IEC / BDS / BS / VDE standards along with relevant BDS standard as per detailed specification mentioned in Annexure-1. The work shall be carried out as per direction & approval of the Engineer In Charge.				
	Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer in Charge.				
3.1.1	1C-4x6sqmm (NYY / 2XY) with 6 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 30 mm having wall thickness of 1.9 mm	Meter	160		
3.1.2	1C-4x10sqmm (NYY / 2XY) with 10 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 2.2 mm	Meter	220		
3.1.3	1C-4x16sqmm (NYY / 2XY) with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 2.2 mm	Meter	80		


Md. Asraful Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

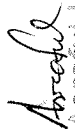

 Sheikh Choudhury Alimul Haque
 Senior Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description	Unit	Qty.	Rate in (Tk)	Amount in (Tk)
4.0	<u>WIRING (NYY)(THROUGH PVC PIPE)</u>				
4.1	Providing & laying of the following PVC insulated & sheathed cable (NYY) / (XLPE) insulated & PVC sheathed cable (2XY) with PVC insulated Green / Yellow bi-colour ECC wire (BYA) connecting at both ends, through PVC pipe & accessories in the following manner. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standards along with relevant BDS standard as per detailed specification mentioned in Annexure 1. The work shall be carried out as per direction & approval of the Engineer In Charge.				
	In kutcha ground by cutting 45.70 cm width x 91.40 cm depth trench with necessary brick or tile protection and mending the damages good by refilling trench with proper compaction;				
	In pucca floor through PVC pipe by cutting trench of necessary size and mending the damages good by brick soling, 75 mm (1:2:4) CC work with neat cement finishing etc.				
	Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc.) accepted / approved by the Engineer In Charge.				
4.1.1	1C-4x95 sqmm (NYY / 2XY) with 50 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 75 mm having wall thickness of 3 mm				
4.1.1.1	In pucca floor	Meter	50		

Md. Asratul Hoque
 Site Engineer, Infra, Development
 Social Enterprise Development
 UCEP Bangladesh


 Nikhil
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description	Unit	Qty.	Rate in (Tk)	Amount in (Tk)
4.1.2	1C-4x120 sqmm (NYY / 2XY) with 70 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 75 mm having wall thickness of 3 mm				
4.1.2.1	In pucca floor	Meter	50		
5.0	CABLE / SOCKET / FERULES				
5.1	Supply and fixing of copper made sockets / ferules for following size cables (need to be shown voltage rating.)				
5.1.1	16 sqmm	Each	30		
5.1.2	50 sqmm	Each	2		
5.1.3	70 sqmm	Each	2		
5.1.4	95 sqmm	Each	8		
5.1.5	120 sqmm	Each	8		
6.0	PVC PIPE				
6.1	Providing & laying of following PVC pipe (best quality PVC pipe of reputed manufacturer) embedded in wall / column / ceiling / floor etc. with all accessories, 18 SWG GP sheet pull box with 3 mm thick ebonite sheet cover, fixing materials etc. as required including mending the damages good.				
6.1.1	Minimum inner Dia. 20 mm & minimum wall thickness 1.5 mm.	Meter	1200		


Md. Asratul Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

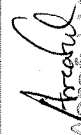

Nikhil Chandra
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description	Unit	Qty.	Rate in (Tk)	Amount in (Tk)
6.1.2	Minimum inner Dia. 25 mm & minimum wall thickness 1.7 mm.	Meter	1800		
7.0	LIGHT FITTINGS:				
	TUBE LIGHT FITTINGS (LED)				
7.1	Providing & fixing the 4' x 40 watt tube light fitting with superior quality electronic driver of one year guarantee, holder, necessary wiring with 2x0.4 sq. mm PVC insulated (stranded) flexible FR wire, earth terminal etc. (except lamp) The Fittings shall be suitable for use of LED lamp and complete sample to be accepted / approved by the Engineer-in-charge (with 2 years warranty).				
7.1.1	Light source 20W LED T-8 tube Material : MS Sheet L-1235mm B-50mm P-40mm Gloria cat no-GTF (LED) 751x1x20W Energy + EPIL-43001 Cosmo cat no-BDTCL-TLF-02 Asha Cat no-ACS-335x1x40W CRESCENT CITLS-7x1x40 Watt or equivalent.	Each	60		

Md. Anwarul Haque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Md. Anwarul Haque
 Deputy Manager, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description	Unit	Qty.	Rate in (Tk)	Amount in (Tk)
7.1.2	Light source 20W T-8 LED tube Material: MS Sheet, Design Acrylic (thick-2.5mm) L-1240mm B-60mm H-106mm Gloria cat no-GTF(LED)755x1x20W Energy + EPIL-43002 Cosmo cat no-BDTCL-TLF-03 Asha Cat No. ACS-TLS 317x1x40W Crescent-CTLS-68x1x40 Watt or equivalent.	Each	280		
7.2	SPOT/PANEL LED LIGHT FITTINGS				
7.2.1	Supply & fixing spot/Panel LED light fittings of following specifications: Luminous efficacy: i) For Spot/Bracket LED Light Fittings: 80 lm/W (min), ii) For Panel/Tube Light Fittings: 100 lm/W (min) Power Factor: minimum 0.95 Colour Rendering Index(Ra) : i) For Residential building Ra≥80 ii) For office and other types of buildings 70≤Ra<85 Driver: Should be of IEC standard such as MEANWELL/ OSRAM/ ENERGY+ / SIGNIFY (PHILIPS) or equivalent LED chips : EPISTAR / OSRAM / SIGNIFY (PHILIPS) / CREE / BRIDGELUX or equivalent. Colour temperature : 3500K-6500K (Warm-White) Model & sample to be accepted / approved by the Engineer-in-charge (with 2 years warranty).				


Md. Asratul Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh


Nikhil Chandro Majumdar
 Project Manager, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description	Unit	Qty.	Rate in (Tk)	Amount in (Tk)
	Round panel (surface type) Material: Alu Alloy, Acrylic Gloria Cat No-GSDL-513 Energy + cat No-EPPLLED-2006 Cosmo cat no-BDTCL-LSRPL-01 Adex-AD SDL 830/840/865 Asha Cat no- ACS LPL-1451 Megaman-MXTL1013-Y Walton WLED-DSPLR-200-UL or equivalent.				
7.2.1.1	18 W, Approximate Dia -218 mm	Each	250		
7.2.2	Material: Alu Alloy, Acrylic Gloria Cat No-GSDL-514 Energy + cat No-EPPLLED-2005 Cosmo cat no-BDTCL-LSSPL-01 Adex-AD SDL 830/840/865 Asha Cat no- ACS LPL-1460 Megaman-MXTL1013-F-PS Walton WLED-DSPLS-225-III or equivalent square panel light fittings				
7.2.2.1	12 W, Approximate Size - 173 mm(Each side)	Each	135		
7.2.2.2	24 W, Approximate Size - 297 mm(Each side)	Each	40		
7.3	LED BULBS & TUBE LAMPS				

Arashid
Md. Asraful Hoque
Site Engineer, Infra. Development
Social Enterprise Development
UCEP Bangladesh

Nikhil
Nikhil Chandra Mojumder
Early Infrastructure Development
Social Enterprise Development
UCEP Bangladesh

Sl. No.	Description	Unit	Qty.	Rate in (Tk)	Amount in (Tk)
7.3.1	Supply & fixing of the following LED bulbs & tube lamps manufacturers by OSRAM / SIGNIFY (PHILIPS) ENERGYPAC / CBE / CORONA / HAVELLS / GE / EDISON / EASTREN / PRODIP / MEP / METRO / MEGAMAN / WALTON / HARMONICS / SUPERSTER / TRANSTEC / ENERGY+ / GLORIA / ADEX / PASHA / SQ / COSMO or equivalent brand accepted / approved by the Engineer-in-charge (with 2 years warranty).				
7.3.1.1	1200 mm/ 4'-18/20 Watt-T8 AC LED tube Lamp	Each	340		
8.0	CEILING FAN				
8.1	Supplying & fixing AC capacitor type ceiling fan (without regulator) of following specifications and sizes complete with minimum 305 mm (1 ft) long and 0.75 -1.0" dia, 2.3 mm thickness MS pipe down rod, tempered cast aluminum blades, 2.5 µf 400V AC capacitor, canopy, double Z ball bearing, best quality silicon sheet core, best quality copper made super enamel wire, aluminum alloyed casting body / metal body having safety pin with powder coated heat / docu paint as required as per BDS 818 etc. connecting PVC wire complete as required. Rated voltage : 230 volts Rated frequency : 50 Hz Rated speed : 300 rpm ± 5 % Service value : Minimum 3.5 m3 / min / watt Temperature rise : Maximum 55°C Class of Insulation : Minimum E Noise level : Maximum 60 dB at a distance of 1 meter.				
	1442 mm. (56") Sweep				
8.1.1	Input power : Maximum 70 watt.	Each	319		


Md. Asraful Hoque
 Site Engineer, Infra, Development
 Social Enterprise Development
 UCEP Bangladesh


Nikhil Chandra Majumdar
 Deputy Manager - HR & Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description	Unit	Qty.	Rate in (Tk)	Amount in (Tk)
8.2	FAN CLAMP				
8.2.1	Providing & fixing box type fan clamp made of 25.4 mm. x 6.35 mm. (1"x 1/4") MS flat bar using a 12 mm. dia MS rod having at least 750 mm clearance around and shall be placed above the MSrod mesh of the roof slab including necessary bolts, nuts etc. as required as per sample approved by the Engineer.	Each	319		
8.3	EXHAUST FAN				
8.3.1	Providing and fixing of following axial flow A.C capacitor type wall mounted exhaust fan complete with blade, steel frame standard wall louver shutter, PVC insulated connecting wire etc. complete as required including cutting wall and mending good the damages as per direction of the Engineer.				
8.3.1.1	12" Exhaust fan plastic body (foreign made accepted / approved by the Engineer).	Each	40		
9.0	GANG SWITCH.				
9.1	Providing & fixing 250 volts. 5 / 6 amps (minimum) concealed type following switch/ switch socket manufactured / Assembled and tested in accordance with IEC / VDE / NEMA / BS / JIS along with relevant bds iec standards mounted on required size 18 SWG galvanized plain sheet/ PVC board (Self-extinguishing 650 Degree Centigrade) of 76.2 mm (3") depth. All electrical contacts shall be of brass / copper.				


Md. Asraful Haque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh


Vikhil Chandra Majumder
 Senior Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description	Unit	Qty.	Rate in (Tk)	Amount in (Tk)
Made in HONGKONG / MALAYSIA / SINGAPORE / S KOREA / THAILAND					
9.1.1	One gang switch	Each	50		
9.1.2	Two gang switch	Each	120		
9.1.3	Three gang switch	Each	135		
9.1.4	Four gang switch	Each	135		
9.1.5	One gang switch & one 5/10 amps. 2-pin socket combined.	Each	65		
9.1.6	20 AMP DP Switch	Each	31		
10.0	SOCKET OUTLET:				
10.1	Providing & fixing 250 volt single phase 3-pin combined switch socket outlet (surface / Concealed type) Manufactured / Assembled and tested in accordance with IEC / VDE / NEMA / BS / JIS along with relevant BDS IEC standards mounted on required size 18 SWG galvanized plain sheet board / Plastic Board (Self-extinguishing 650 degree centigrade) of 76.2 mm. (3") depth. (Manufacturer shall have certificate of standard which they follow).				
	13 / 15 / 16 / 20 Amps.				
10.1.1	Made in HONGKONG / MALAYSIA / SINGAPORE / S KOREA / THAILAND	Each	306		
10.2	GANG TYPE FAN REGULATOR				


Md. Asraful Hoque
 Site Engineer, Infra, Development
 Social Enterprise Development
 UCEP Bangladesh


Nurul Ghafoor Moinimder
 Deputy Engineer, Infra, Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description	Unit	Qty.	Rate in (Tk)	Amount in (Tk)
10.2.1	Made in HONGKONG / MALAYSIA / SINGAPORE / S KOREA / THAILAND	Each	319		
10.3	GANG TYPE CALLING BELL PUSH				
10.3.1	Made in MALAYSIA / THAILAND / SINGAPORE / HONGKONG / S.KOREA	Each	10		
10.4	CALL BELL				
10.4.1	Providing & fixing ding dong 250 V grade call bell on prepared board including required length of PVC twin flexible cord etc. complete.	Each	10		
10.5	GANG TYPE TV SOCKET				
10.5.1	Made in HONGKONG / MALAYSIA / SINGAPORE / S KOREA / THAILAND	Each	5		
10.6	CO-AXIAL CABLE				
	Supplying & drawing of following sizes PVC insulated & sheathed 75 ohm impedance co-axial cables through pre-laid pipes.				
10.6.1	Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge				
10.6.1.1	RG-11	Meter	250		
11.0	BOARD				


Md. Adnan Hossain
 Site Engineer, In-charge, Development
 Social Enterprise Development
 UCEP Bangladesh

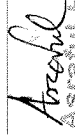

Nikhil Chandra Majumdar
 Deputy Manager, In-charge, Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description	Unit	Qty.	Rate in (Tk)	Amount in (Tk)
11.1	Supplying and fixing of almirah type 18 SWG metal board of depth 228mm (6") duly painted with powder coating with epoxy polyester resin on all surfaces of board (gray / off-white) having built in push type / suitable locking arrangement including metal bridges of suitable size for fixing of all electrical control devices complete with suitable anchoring arrangement in wall / column and keeping provision for cable inlets and exits as required (only front surface of the board will be considered for measurement) accepted / approved by the Engineer-in-Charge.				
11.1.1	Normal board (without water tight)	Sqm	20		
	CIRCUIT BREAKER (SPMCB)				
11.2	Providing & fixing on a prepared board 250 volt grade following single pole miniature circuit breaker (SP MCBs) having minimum breaking capacity 6-KA / 10 KA with thermal over-current and instantaneous electromagnetic short circuit release provision as per BDS IEC and IEC / VDE / NEMA / BS / JIS standards.				
	SP MCBs accepted/ approved by the Engineer-in-Charge.				
11.2.1	5 - 40 Amps (minimum 6 KA)	Each	238		
11.2.2	6 - 40 Amps DP (minimum 10 KA)	Each	2		
	TP MCB				
11.3	Providing & fixing on a prepared board 500 volt grade following Triple pole miniature circuit breaker (TP MCB) having minimum breaking capacity 6-KA / 10 KA with thermal over-current and instantaneous electromagnetic short circuit release provision as per BDS IEC and IEC / VDE / NEMA / BS / JIS standards				
	TP MCBs accepted/ approved by the Engineer-in-Charge.				


Md. Asraf Hossain
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh


 Md. Asraf Hossain
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description	Unit	Qty.	Rate in (Tk)	Amount in (Tk)
11.3.1	5 - 60 Amps.	Each	29		
	TP MCCB				
11.4	Providing & fixing on a prepared board 500 volt grade following Triple pole molded case circuit breaker (TP MCCB) having minimum breaking capacity 6-KA / 10 KA with thermal over-current and instantaneous electromagnetic short circuit release provision as per BDS IEC and IEC / VDE / NEMA / BS / JIS standards				
	TP MCCB_s accepted/ approved by the Engineer-in-Charge.				
11.4.1	15 - 100 Amps. (minimum 10-KA)	Each	5		
11.4.2	120 - 200 Amps. (minimum 16-KA)	Each	1		
	CAPACITY CONTROL CIRCUIT BREAKER FEEDER UNIT :				
11.5	Supplying of 415V, 3 phase, 50Hz following capacity control circuit breaker feeder unit as per following specification with thermal overcurrent & instantaneous electromagnetic short-circuit release manufactured and tested as per NEMA / IEC / VDE / BS / JIS along with relevant BDS standards (adjustable type above 100A rating) for sub-station LT panel. Rated operating voltage : 220-690 V. Rated insulation voltage : 690 volt. Rated impulse withstands voltage : 6KV. Utilization category : A or B accepted / approved by the Engineer-In-Charge.				
11.5.1	250A (36KA) TP MCCB	Each	1		


Md. Asratul Haque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh


Nikun Chandra
 Deputy Manager, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description	Unit	Qty.	Rate in (Tk)	Amount in (Tk)
---------	-------------	------	------	--------------	----------------

11.6	BUS-BAR				
	Providing and fixing 500 V 3-phase busbar system assembled in prelaid board with porcelain insulators. There will be equal size holes on every bar at 0.5" interval and bar to bar gap shall be 2" - 3".				


Md. Asratul Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh


Vipul Chandra Mondal
 Deputy Manager, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description	Unit	Qty.	Rate in (Tk)	Amount in (Tk)
11.6.1	60 - 100 Amps.	Each	15		
	Copper flat bar (5 nos.): 4 nos. 9" x1"x3mm and 1 no 4"x1"x4mm for earthing mounted on insulator at both ends individually.				
11.6.2	400 - 500 Amps.	Each	2		
	Copper flat bar (5 nos.): 4 nos. 18"x1.5"x10mm and 1 no 4"x1.5"x10mm for earthing mounted on insulator at both ends individually.				
12.0	GALVANIZED CABLE TRAY				
12.1	Supply, fitting and fixing galvanized cable tray made of 18 SWG (1.2 mm) MS Sheet evenly perforated with 7 mm width Capsule hole punch with self-Hanging Facility at top, joint clamp, including fabricating cost of electricity, tools and plants, workshop charges, carriage of the same, cutting groves in the RCC or brick work, mending good the damages with CC (1:2:4), etc. complete for all floors accepted by the engineer.				
12.1.1	300x100 mm without cover	Meter	50		


Md. Asraful Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh


Nikhil Chandro Mojumder
 Deputy Manager, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Description	Unit	Qty.	Rate in (Tk)	Amount in (Tk)
13.0	EARTHING SYSTEM:				
13.1	Earthing the electrical installation with 40 mm (1.5") Dia. G.I. pipe (earth electrode) having 6.35 mm. Dia. hole across the pipe at 305 mm. interval securely bonded by soldering with 2 nos. of No-2 SWG HDBC earth leads (at the top of the electrode) with its protection by 20 mm. (3/4") Dia. G.I. pipe up-to plinth level run at a depth of 609.6 mm (2 ft.) below G.L up-to main board to be earthed including necessary connecting copper sockets, bolts, nuts, etc. complete for maintaining earth resistance less than 1 ohm. [Fig : 4.19]				
13.1.1	Depth of bottom of main electrode at 37338 mm. (122.5 ft.) from GL & length of electrode 36576 mm. (120 ft.)	Set	2		
13.2	Construction of earthing inspection pit inside measurement 600 mm x 600 mm with 250 mm thick brick in cement mortar (1:4) with 100mm thick RCC top slab (1:2:4) with 1% re-enforcement 450 mm Dia. water sealed CI man-hole cover with locking arrangement including necessary earth works, site filling and one brick flat soling 75 mm thick (1:3:6) base concrete for making inlet channel & 12mm thick (1:2) cement plaster with neat finishing etc. all complete up to a depth of .75 meter.	Set	2		
				Total in Taka =	
	Total Amount (Part-B) including Govt VAT & AIT				


Md. Asrafui Hoque
 Site Engineer, Infra, Development
 Social Enterprise Development
 UCCEP Bangladesh


Nikhil Chandra Majumdar
 District Manager, Infra Development
 Social Enterprise Development
 UCCEP Bangladesh

UCEP Bangladesh

PART-C PLUMBING WORKS OF FIVE STORIED ACADEMIC BUILDING AT KALURGHAT, CHATTOGRAM

SI No.	Description of Item	Unit	Qty.	Amount (BDT)		Remarks
				Rate (BDT)		
1	Supplying, fitting and fixing of country made European type special quality combi closet (one piece) including inbuilt flushing unit, of white color, including plastic seat cover with soft closing ,cistern system, water consumption 6 litre, siphon jet single flushing system which reduce water consumption, hygienic glaze in toilet bowl ,glaze in inner waste line, round bowl, outlet range 280~305 mm. The sanitary ware shall conform BDS1162:2014. The glaze shall be thoroughly fused to body. The minimum thickness of body at any section shall be 5 mm. When assembled together and when examined from a distance of 60 cm, the outer surface shall not show to the unaided eye, blemishes or defects in excess of those listed in BDS standard. The mean value of water absorption shall not be greater than 0.5% of the ware when dry. When tested with chemical solutions (Acetic acid, Citric acid, Detergent, Hydrochloric acid, Sodium hydroxide, Sodium stearate and Sulfuric acid of various strength) as per BDS1162:2014 procedure, none of the test pieces should suffer any loss of reflectivity on the glaze. There shall be no crazing and no stain on the ware. The materials used for making glaze shall not contain lead compound. In case of certain coloring oxides used for making colored glaze, the lead content, if any, shall not exceed 5 percent of the weight of the glaze materials. Appliances shall be clearly and indelibly marked at a prominent place, visible even after the appliances are installed with the following: a) manufacturer's name and/or registered trademark, b) the number of Bangladesh standard and c) country of origin. Each product shall also be marked with the BSTI Certification Mark. The fixture should be placed in position preparing the base with cement concrete and with wire mesh or rods if necessary, in all floors including making holes wherever required and mending good the damages and fitting, fixing, finishing, complete with all necessary fittings and connection approved and accepted by the Engineer-in-charge.					

Amal
Md. Asraful Hoque
Site Engineer, Infra, Development
Social Enterprise Development
UCEP Bangladesh

Amal
Nikhil Chandra
Site Engineer, Infra, Development
Social Enterprise Development
UCEP Bangladesh

SI No.	Description of Item	Unit	Qty.	Rate	Amount (BDT)	Remarks
				(BDT)		
a	Approx. 760~735 X 430~490 mm size, minimum 40 kg of weight, Equivalent to Stella: Viola / COTTO: C1026 or similar brand	pcs	40.00			
2	Supplying and fitting-fixing stainless steel hand / push shower for ablution including holder etc. all complete approved and accepted by the Engineer- in- charge.					
a	Moving type push shower	pcs	40.00			


Md. Asratul Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh


 Md. Asratul Hoque
 Social Enterprise Development
 UCEP Bangladesh

SI No.	Description of Item	Unit	Qty.	Rate	Amount (BDT)	Remarks
				(BDT)		
3	Supplying, fitting and fixing of country made glazed vitreous standing bowl urinal. The sanitary ware shall conform BDS1162:2014. The glaze shall be thoroughly fused to body. The minimum thickness of body at any section shall be 5 mm. When assembled together and when examined from a distance of 60 cm, the outer surface shall not show to the unaided eye, blemishes or defects in excess of those listed in BDS standard. The mean value of water absorption shall not be greater than 0.5% of the ware when dry. When tested with chemical solutions (Acetic acid, Citric acid, Detergent, Hydrochloric acid, Sodium hydroxide, Sodium stearate and Sulfuric acid of various strength) as per BDS1162:2014 procedure, none of the test pieces should suffer any loss of reflectivity on the glaze. There shall be no crazing and no stain on the ware. The materials used for making glaze shall not contain lead compound. In case of certain coloring oxides used for making colored glaze, the lead content, if any, shall not exceed 5 percent of the weight of the glaze materials. Appliances shall be clearly and indelibly marked at a prominent place, visible even after the appliances are installed with the following: a) manufacturer's name and/or registered trademark, b) the number of Bangladesh standard and c) country of origin. Each product shall also be marked with the BSTI Certification Mark. The fixture should be placed in position after making holes in walls and floors, providing 32 mm dia plastic waste pipe with brass coupling up to grading below, 12 mm dia plastic connection pipe with brass coupling, 12 mm dia brass stop cock including mending good the damages with cement mortar (1:4) etc. all complete approved and accepted by the Engineer- in-charge.					
a	Approx. 300 X 350 X 690 mm size, minimum 18.0 kg of weight	pcs	24.00			


Md. Asifur Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh


Nikhil Chandra Majumder
 Project Engineer
 UCEP Bangladesh

SI No.	Description of Item	Unit	Qty.	Amount (BDT)		Remarks
				Rate (BDT)		
4	Supplying of country made glazed vitreous W/H wash basin of any color including pedestal. The sanitary ware shall conform BDS1162:2014. The glaze shall be thoroughly fused to body. The minimum thickness of body at any section shall be 5 mm. When assembled together and when examined from a distance of 60 cm, the outer surface shall not show to the unaided eye, blemishes or defects in excess of those listed in BDS standard. The mean value of water absorption shall not be greater than 0.5% of the ware when dry. When tested with chemical solutions (Acetic acid, Citric acid, Detergent, Hydrochloric acid, Sodium hydroxide, Sodium stearate and Sulfuric acid of various strength) as per BDS1162:2014 procedure, none of the test pieces should suffer any loss of reflectivity on the glaze. There shall be no crazing and no stain on the ware. The materials used for making glaze shall not contain lead compound. In case of certain coloring oxides used for making colored glaze, the lead content, if any, shall not exceed 5 percent of the weight of the glaze materials. Appliances shall be clearly and indelibly marked at a prominent place, visible even after the appliances are installed with the following: a) manufacturer's name and/or registered trademark, b) the number of Bangladesh standard and c) country of origin. Each product shall also be marked with the BSTI Certification Mark. The fixture should be placed in position with heavy type C.I. Brackets. 30 mm dia PVC waste water pipe with brass coupling (not exceeding 750 mm in length), basin waste with chain plug including making holes in walls and floors and fitting with wall, screws and mending good the damages, finishing etc. all complete approved and accepted by the					
a	Approx. 550 x 470 mm, minimum weight 34 kg	pcs	42.00			


Md. Asraful Haque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh


Alkhalid Mouloud
 Social Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

SI No.	Description of Item	Unit	Qty.	Rate	Amount (BDT)	Remarks
				(BDT)		
5	Supplying, fitting and fixing of best quality CP basin/sink mixer. The laucet conforms BDS EN 200:2009. The fucel tap shall be free from any leakage, permeation and other abnormalities. The water hammer value shall be 1.47 Mpa or under. The faucet after it has been operated 100000 times it shall be free from a seat leakage and shall satisfy the reverse flow preventing performance. The inside and outside surfaces of the faucet shall be smooth and be free from blowholes. fissures, remarkable flows or injurious defects. The chromium plating on the faucet shall be of class 2 grade 1. The final coating should be done with chromium of minimum 0.1 micron. Tle faucet shall be made leak proof and fixing in position with selected tape etc. , all complete approved and accepted by the Engineer' in-charge.					
a	Moving basin mixer		42.00			
6	Supplying, fitting and fixing of best quality pillar cock made from copper or copper alloy, chromium plated materials. The faucet conforms BDS EN 200:2009. The faucet tap shall be free from any leakage, permeation and other abnormalities. The water hammer value shall be 1.47 Mpa or under. The faucet after it has been operated 100000 times it shall be free from a seat- leakage and shall satisfy the reverse flow preventing performance. The inside and outside surfaces of the faucet shall be smooth and be free from blowholes, fissures, remarkable flows or injurious defects. The chromium plating on the faucet shall be of class 2 grade 1. The final coating should be done with chromium of minimum 0.1 micron. The faucet shall be made leak proof and fixing in position with selected tape etc. all complete approved and accepted by the Engineer- in- charge.					
a	CP Two way Swan Cock	pcs	42.00			


Md. Asratul Hoque
 Site Engineer, Infra, Development
 Social Enterprise Development
 UCEP Bangladesh

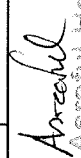

Sybil Chandro Mojumder
 Assistant Site Engineer
 Social Enterprise Development
 UCEP Bangladesh

SI No.	Description of Item	Unit	Qty.	Amount (BDT)		Remarks
				Rate (BDT)		
7	Supplying, fitting and fixing of best quality surface mounted or conceal stop cock/angle stop cock (lever or round headed) with wall flange chromium plated. The faucet conforms BDS EN 200:2009. The faucet tap shall be free from any leakage, permeation and other abnormalities. The water hammer value shall be 1.47 Mpa or under. The faucet after it has been operated 100000 times it shall be free from a seat-leakage and shall satisfy the reverse flow preventing performance. The inside and outside surfaces of the faucet shall be smooth and be free from blowholes, fissures, remarkable flows or injurious defects. The chromium plating on the faucet shall be of class 2 grade 1. The final coating should be done with chromium of minimum 0.1 micron. The faucet shall be made leak proof and fixing in position with selected tape etc., all complete approved and accepted by the Engineer- in- charge.					
a	CP angle stop cock	pcs	146.00			
8	Supplying, fitting and fixing of country made best quality towel rail/ring/shelf minimum 20 mm in dia with C.P. holder including making holes in walls and mending good the damages with cement mortar (1:4) etc. all complete approved and accepted by the Engineer- in- charge.					
a	600 mm long C.P. towel shelf	pcs	54.00			
9	Supplying, fitting and fixing of best quality toilet paper holder of standard size including making holes in walls and mending good the damages with cement mortar (1:4) etc. all complete approved and accepted by the Engineer- in- charge.					
a	Porcelain toilet paper holder (any color)	pcs	64.00			
10	Supplying, fitting and fixing of standard size country made soap tray including making holes in walls and mending good the damages with cement mortar (1:4) etc. all complete approved and accepted by the Engineer- in- charge.					
a	Stainless steel soap tray	pcs	24.00			


Md. Asraful Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh


Md. Asraful Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Sl No.	Description of Item	Unit	Qty.	Amount (BDT)		Remarks
				Rate (BDT)		
11	Supplying, fitting and fixing of Push-Up type liquid soap dispenser to dispense 16 oz (.47 liters) of soap, detergent or lotion. Unit shall be fabricated of tamper resistant, chrome plated plastic, a translucent white polyethylene soap container, and a corrosion resistant dispensing valve which can provide no more than 5 lbs (22.2 Newtons) pressure and unit can be reloaded by unscrewing base from bracket collar, inverting unit, and unscrewing soap container in which soap will continue to feed properly until empty with a continuously visible soap level etc. all complete approved and accepted by the Engineer-in-charge.	pcs	24.00			
a	Push-Up type liquid soap dispenser (foreign): special quality	pcs	24.00			
12	Supplying, fitting and fixing of floor grating net in traps or in drains including making holes in walls/floors and mending good the damages with cement mortar (1:4) etc. all complete approved and accepted by the Engineer-in-charge. of following type.					
a	Approx. 50 mm x 50 mm stainless steel floor grating net	pcs	42.00			
b	Approx. 125 mm x 125 mm stainless steel floor grating net	pcs	72.00			
13	Supplying different inside dia best quality CPVC pressure pipe for water supply having specific gravity 1.35 - 1.45, and other physical, chemical, thermal, fire resistivity properties etc. as per BSTI approved manufacturer standards or ASTM, BS/ISO/IS standards fitting and fixing in position with sockets, bends, with all accessories such as round grating/domed roof grating, bends, sockets etc. approved and accepted by the Engineer-in-charge.					
a	12 mm dia wall thickness 2.8 mm - 3.3 mm	Rm	510.00			
b	25 mm dia wall thickness 3.4 mm - 4.0 mm	Rm	215.00			
c	32 mm dia wall thickness 3.6 mm - 4.2 mm	Rm	75.00			
d	37 mm dia wall thickness 3.7 mm - 4.3 mm	Rm	50.00			
e	50 mm dia wall thickness 3.9 mm - 4.5 mm	Rm	110.00			
f	65 mm dia wall thickness 5.15 mm - 7.25 mm	Rm	85.00			


Md. Asraful Hoque
 Site Engineer, Infra, Development
 Social Enterprise Development
 UCEP Bangladesh


 Md. Chandra Mohiuddin
 Deputy Engineer, Infra, Development
 Social Enterprise Development
 UCEP Bangladesh

SI No.	Description of Item	Unit	Qty.	Amount (BDT)		Remarks
				Rate (BDT)		
14	Supply & fitting of CPVC Ball Valves shall be ball pattern of the square head type with stainless steel ball. Valves of sizes up to 50 mm in diameter shall be bronze with threaded ends conforming to ASTM B62 and for valves of sizes larger than 50 mm in diameter, the body shall be carbon steel conforming to ASTM A216. The valve body shall be of 15 bar working pressure rating. Complete with required fitting, fixture & accessories. Complete as per satisfaction of the Owner/ Consultant. Brand: National Polymer (nPoly) Origin: BANGLADESH, Brand: Astral Origin: USA.					
a	40 mm dia.	pcs	12.00			
b	50 mm dia.	pcs	4.00			
c	65 mm dia.	pcs	5.00			
15	Supply & fitting of CPVC Union shall be ball pattern of the square head type with stainless steel ball. Valves of sizes up to 50 mm in diameter shall be bronze with threaded ends conforming to ASTM B62 and for valves of sizes larger than 50 mm in diameter, the body shall be carbon steel conforming to ASTM A216. The valve body shall be of 15 bar working pressure rating. Complete with required fitting, fixture & accessories. Complete as per satisfaction of the Owner/ Consultant. Brand: National Polymer (nPoly) Origin: BANGLADESH, Brand: Astral Origin: USA.					
a	40 mm dia.	pcs	12.00			
b	50 mm dia.	pcs	4.00			
c	65 mm dia.	pcs	5.00			
16	Supplying, fitting and fixing of best quality G.I. check valve , threaded joint with sealant etc. complete approved and accepted by the Engineer- in- charge.					
b	62 mm brass check valve	pcs	2.00			
17	Supplying, fitting and fixing of best quality G.I. float valve , threaded joint Pit valve etc. complete approved and accepted by the Engineer- in- charge.					
a	40 mm brass float valve	pcs	2.00			

SI No.	Description of Item	Unit	Qty.	Amount (BDT)		Remarks
				Rate (BDT)		
18	Supplying different inside dia best quality uPVC soil, waste and ventilation pipe having specific gravity 1.35 - 1.45, wall thickness 2.5 mm - 3.0 mm, and other physical, chemical, thermal, fire resistivity properties etc. as per BSI approved manufacturer standards or ASTM, BS/ISO/IS standards fitting and fixing in position with sockets, bends, of uPVC Pipe with all accessories such as Round grating /domed roof grating bands, sockets etc. approved and accepted by the Engineer- in- charge.					
a	37 mm inside dia wall thickness 2.5 mm - 3.1 mm	Rm	95.00			
b	50 mm inside dia wall thickness 2.5 mm - 3.0 mm	Rm	405.00			
c	100 mm inside dia wall thickness 3.4- 4.0 mm	Rm	725.00			
d	150 mm inside dia wall thickness 4.5 mm - 5.2 mm	Rm	150.00			
19	Supplying and laying uPVC pipe for underground including fitting, fixing etc. all complete approved and accepted by the Engineer- in- charge.					
a	200 mm dia with wall thickness 5.3 mm - 7.8 mm uPVC pipe	Rm	165.00			
b	250 mm dia with wall thickness 6.6 mm - 7.6 mm uPVC pipe	Rm	115.00			
c	315 mm dia with wall thickness 7.8 mm - 9.0 mm uPVC pipe	Rm	50.00			
20	Groove cutting in brick work and R.C.C work, including cost for concealing of water distribution pipe work (12 mm and 20 mm dia) in brick wall by cutting groove in wall, lintel, beam etc. by any means carefully without damaging the structure and filling the grooves with C.C (4:2:1) after laying of pipe including cost of scaffolding, finishing, curing etc. all complete approved and accepted by the Engineer- in- charge.					
a	Groove size 40 mm x 40 mm (For laying 12 mm to 20 mm dia pipes)	Rm	750.00			
b	Punching or cutting hole of any diameter in RCC floor for sanitary works.	pcs	200.00			
c	Supply, fitting & fixing of 300 mm dia C.I. man hole cover etc. all complete approved by the Engineer- in- charge.	pcs	47.00			
d	Supply, fitting & fixing of 600 mm dia C.I. man hole cover etc. all complete approved by the Engineer- in- charge.	pcs	16.00			


Md. Asraful Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh



Nikhil Chandro Molmunder
 Social Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

SI No.	Description of Item	Unit	Qty.	Rate	Amount (BDT)	Remarks
				(BDT)		
21	Construction of masonry inspection pits up to a depth of 700 mm with 250 mm thick brick work in cement mortar (1:4) including 100 mm thick R.C.C. top slab (1:2:4) with 1% reinforcement, man-hole cover with locking arrangement including necessary earth work, side filling and one brick flat soling. 75 mm thick (1:3:6) base concrete for making invert channel and 12 mm thick (1:2) cement plaster with neat finishing etc. all complete approved and accepted by the Engineer-in-charge.					
a	Clear 450 mm x 450 mm and depth 450 mm to 600 mm, average 525 mm for single 150 mm dia R.C.C. pipes and 400 mm PVC pipe with pit cover and 450 mm dia C.I. man-hole cover.	pcs	41.00			
b	Clear 600 mm x 600 mm and depth 450 mm to 4000 mm, average 3500 mm for single 150 mm dia R.C.C. pipes and 4000 mm PVC pipe with pit cover and 450 mm dia C.I. man-hole cover.	pcs	6			
22	Providing of following capacity 2800-2900 RPM multi-stage Centrifugal water pump-motor set manufactured according to relevant BDS standard and ISO 9906:2012, GRADE 3B DIN / NEMA / IEC / BS / VDE / JIS & ISO 9001:2015 standard. CE certified / UL listed complete with gaskets bolts, nuts & standard, accessories etc. or closed coupled as required coupled with 1-phase / 3-phase, 230/400 V 5%, 50 Hz AC having Insulation: Class F & Protection : IP44 (minimum) 2900 RPM Horizontal motor having six terminals for star-delta or DOL starting & totally enclosed fan cooled & in built thermal protection etc. suitable for multi-storied high rise building manufactured by company having minimum 30 years of manufacturing experience in their own factory country of manufacture EU countries USA / Japan / UK as per sample accepted approved by the engineer in charge					
a	5.5 HP Discharge (liter / min) 100-400 Head 66-30 meter	set	2.00			

Abirul
Md. Asifur Hoque
 Site Engineer, Infra Development
 Social Enterprise Development
 UCEP Bangladesh

[Signature]
Abul Chandro Majumder
 Social Enterprise Development
 UCEP Bangladesh

Sl No.	Description of Item	Unit	Qty.	Rate	Amount (BDT)	Remarks
				(BDT)		
23	Providing of following capacity single stage submersible sump pump motor set, single entry closed coupled unit with marine cable & standard for fountain & reservoir & can be operate on single phase 1-phasae 230 V 5%, 50 Hz AC having Insulation: Class F & Protection : IP68 (minimum) with 10 meters long required marine cable in a single length made in accordance. with relevant BDS standard and ISO 9906:2012, GRADE 3B DIN / NEMA / IEC / BS / VDE / JIS & ISO 9001:2015 standard. CE certified / UL listed. manufactured by company having minimum 30 years of manufacturing experience in their own factory country of manufacture EU countries USA / Japan / UK as per sample accepted approved by the engineer in charge.					
a	1 HP Discharge (liter / min) 25-325 Head 14.5-2 meter	set	1.00			
24	Construction of septic tank of different sizes with walls of brick work in cement mortar (1:6) having a lining of minimum 125 mm R.C.C cast against the walls as per approved type plan over a brick flat soling and 150 mm thick reinforced cement concrete flooring (1:2:4) with 125 mm thick walls in partition and 12 mm thick cement plaster (1:4) with N.C.F. to insides of walls on floor and all around outside walls by 450 mm height at top including supplying, fitting and fixing of two R.C.C. Tees and providing 450 mm dia water sealed heavy type C.I. manhole cover with locking/unlocking arrangement and 100 mm thick R.C.C (1:2:4) top slab, including centering, shuttering, fabricating, casting and curing etc. complete up to required depth including necessary earth work in excavation and shoring, bailing out water and side filling including the cost of all materials, operations and incidental charges. etc. all complete as per type plan approved and accepted by the Engineer-in-charge (Rate is including cost of reinforcement of the weight of the glaze materials. Applia					
a	Septic Tank Size: 5'-6" x 36'-0" x 8'-0"(LxWxD)	pcs	2.00			


Md. Asraf Hossain
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh


Vahid Chandro Mojumder
 Civil Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

SI No.	Description of Item	Unit	Qty.	Amount (BDT)		Remarks
				Rate (BDT)		
25	Construction of soak well of different sizes (medium and large sizes) with 250 mm thick solid brick work and 250 mm honey comb brick work with cement mortar (1:6) as per design over R.C.C. (1:2:4) well curb with 1% reinforcement up to the depth as per drawing with 450 mm dia water sealed heavy type. C.I. manhole cover with locking arrangement, filling the well up to the required depth with graded khoa and sand including supplying and fabricating M.S. rod, casting, curing including necessary earth work in excavation, side filling and bailing out water including cost of all materials etc. all complete as per drawing, design approved and accepted by the (Rate is including cost of reinforcement and its fabrication, binding and placing) Engineer- in- charge.					
a	200 user and above	pcs	2.00			
26	Providing of following capacity 2800-2900 RPM multi-stage Centrifugal water pump-motor set manufactured according to relevant BDS standard and ISO 9906:2012, GRADE 3B DIN / NEMA / IEC / BS / VDE / JIS & ISO 9001:2015 standard. CE certified / UL listed complete with gaskets bolts, nuts & standard, accessories etc. or closed coupled as required coupled with 1-phase / 3-phase, 230/400 V 5%, 50 Hz AC having Insulation: Class F & Protection : IP44 (minimum) 2900 RPM Horizontal motor having six terminals for star-delta or DOL starting & totally enclosed fan cooled & in built thermal protection etc. suitable for multi-storied high rise building manufactured by company having minimum 30 years of manufacturing experience in their own factory country of manufacture EU countries USA / Japan / UK as per sample accepted approved by the engineer in charge.					
	15 HP Discharge (liter / min) 667-167 Head 147-51 meter	set	2			
	Dual Media Filter (DMF)					
27	Supplying, fitting & fixing of Foreign made Dual Media Filter. Mild Steel With Epoxy Paint (MSEP), Maximum Pressure : 3.5 KG/CM ² , Maximum flow: 15 m ³ /hr, Service flow : 10 m ³ /hr, Filter Media : Katalox Lite Mesh Sand/Pebbles/ Gravel, Type of valve: Multiport Valve ,Operations :Backwash Controlling Systems etc.complete as per specification and accepted by the Engineer in-charge	pcs	1			
	Activated Carbon Filter Filter					

SCHEDULE OF ITEM OF WORKS, BILL OF QUANTITIES FOR 200KVA SUBSTATION SET FOR FIVE STORIED ACADEMIC BUILDING, AT KALURGHAT, CHATTOGRAM

PART-D, SUBSTATION SET

Sl. No.	Short Description of Items	Unit	Qty.	Rate In (Tk)	Amount In (Tk)
---------	----------------------------	------	------	--------------	----------------

1.0 LIGHTNING ARRESTER & DROPOUT FUSE

- | | | | | | |
|-----|--|-----|---|--|--|
| 1.1 | Supply of outdoor type 11 KV, 50 Hz, 100A, (10 KA), 75 KV BIL lightning arrester complete with mounting accessories etc. Made in BANGLADESH / BRAZIL or EU countries. (3 Nos. in a set). | Set | 1 | | |
| | Supply of outdoor type 11KV, 50 Hz, 5KA (20 KA) dropout fuse complete with mounting accessories etc. Made in BANGLADESH / BRAZIL or EU countries. (3Nos. in a set). | Set | 1 | | |

2.0 HT METERING UNIT

- | | |
|-----|--|
| 2.1 | Supply of HT metering unit for 11kv sub-station with TP hard drawn electrolytic copper bus bar earth link bars manufacture 16 SWG power coat painted louver sheet steel metal enclosed free standing floor mounting dust and vermin proof completely factory assembled & suitable for indoor use including all standard IP54 accessories manufactured & type tested in accordance with NEMA / IEC / JIS along with relevant BDS standards (Country of origin : USA / Japan / EU countries or relevant electricity supply authority and as per approved/ accepted by the Engineer-in-charge). |
|-----|--|


Md. Asraful Hoque
 Site Engineer, Infra, Development
 Social Enterprise Development
 UCEP Bangladesh


Nikhil Chandro Mojumder
 Deputy Manager, Infra, Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Short Description of Items	Unit	Qty.	Rate In (Tk)	Amount In (Tk)
---------	----------------------------	------	------	--------------	----------------

1 no. 3-phase 4 wire single/ double tariff solid state programmable KWH meter with LCD display, MDI on kw integration period 30 minutes.

3 nos. cast resin PT

Ratio: 11000 : root 3/110v : root 3

Burden: 50VA, class : 0.5 for metering

1 no. TP MCCB for PT secondary protection

3 nos. cast resin CT 15/ 5A (adequate rating to be inserted)

15 VA class 0.5 M5 for metering with selector switch

3 nos. indicating light phase indicator RYB

1 set cable Test Terminal (TT) block with cover

1 no. panel heater.

2.1.1 Up to 3000 KVA

Set

1

3.0 OIL TYPE TRANSFORMER

3.1 Supply of following oil-immersed, natural air cooled, 3-phase, 50-Hz, 11KV/0.415 KV & 0.24 KV indoor/outdoor type distribution transformer of DYN11 vector group complete with two windings of high conductivity copper having basic impulse insulation level 75 KV, dielectric strength 28 KV (for 1 min), HT & LV porcelain bushings, manual 5 position (0, $\pm 2.5\%$, $\pm 5\%$) standard tap changer, conservator, thermometer, oil inlet & outlet valves, oil level indicator, dehydrating breather, lifting lugs, earthing terminals, wheel, rating and diagram nameplate etc. including painting, suitable for operation at 40°C ambient temperature with maximum temperature rise 60°C, locally manufactured and tested as per NEMA / VDE / IEC / BS standards along with BDS IEC 60076, PART 1 : 2016 as per accepted/ approved by the Engineer-in-charge.

Asraf
Md. Asraf Hoque
Site Engineer, Infra. Development
Social Enterprise Development
UCEP Bangladesh

Sl. No.	Short Description of Items	Unit	Qty.	Rate In (Tk)	Amount In (Tk)
3.1.1	(a) Capacity : 200 KVA (b) No load loss : 500 watts (maximum) (c) Full load loss : 2800 watts (maximum) (d) Percentage impedance: 4% @ ±10% at 75°C				
3.1.1.1	Manufactured by the valid ISO-9001 certified company having test certificate (within 5 years) for the required or higher capacity of transformer according to relevant IEC standards from BUET /RUET/ CUET / KUET /DUET/ MIST.	Each	1		
4.0	<u>LT SWITCHGEAR</u>				
4.1	Supply of 415V, 3-phase, 50 Hz, indoor type low tension switch-gear of following specification complete with digital voltmeter (0-500V) & ammeter of adequate rating both with selector switch, indicating lamps for ON-OFF and following components (components such as TPMCCBs shall be manufactured according to NEMA / VDE / IEC / JIS / BS standards along with relevant BDS standard shall have type test certificate (within 5 years) according to relevant IEC Standard) assembled locally in 14 SWG sheet steel metal clad, dust & vermin proof, free standing, floor mounting, epoxy resin powder coat painted cabinet as per relevant IEC standards and as per accepted / approved by the Engineer-in-charge.				
4.1.1	Panel board is provided with capacitive information level and all types of danger sign. All doors of panel board are connected by ECC with earthing bus bar. Assembled by the valid ISO-9001 certified company having test certificate (within at least five years) according to relevant IEC standards from BUET /RUET/ CUET / KUET /DUET/ MIST. circuit Breaker equivalent accepted / approved by the Engineer-in-charge.	Set	1		
4.1.1.1	<u>LT PANEL :</u>				
4.1.1.1.1	<u>200 KVA transformer:</u>				

Arshad

Md. Asraful Hoque
Site Engineer, Infra, Development
Social Enterprise Development
UCEP Bangladesh

Arshad

Md. Chandro Molunder
Site Engineer, Infra, Development
Social Enterprise Development
UCEP Bangladesh

Sl. No.	Short Description of Items	Unit	Qty.	Rate In (Tk)	Amount In (Tk)
---------	----------------------------	------	------	--------------	----------------

INCOMING

- 1 Set-415V, 400 amps. TP&NE hard drawn electrolytic copper bus bar
- 1 No. - 415V, 300 / 320 Amps (36KA), adjustable type TPMCCB for main control with thermal overload & instantaneous electromagnetic short circuit release.
- 3 no.s-415V, 300/5 ratio current transformer with suitable accuracy & burden.

OUTGOING

- 1 No. - 415V, 200A (36KA) adjustable type TPMCCB with thermal overload & instantaneous electromagnetic short circuit release (for PFI control).
- 1 No. - 415V, 150/160 (25KA) adjustable type TPMCCB with thermal overload & instantaneous electromagnetic short circuit release
- 2 Nos. - 415V, 100A (25KA) TPMCCB with thermal over current & instantaneous electromagnetic short circuit release.
- 1 No. - 415V, 60/63A (16KA), TPMCCB with thermal overload & instantaneous electromagnetic short-circuit release.
- 1 No. - 415V, 30/32A (16KA) TPMCCB with thermal overload & instantaneous electromagnetic short-circuit release.

5.0 CAPACITY CONTROL CIRCUIT BREAKER FEEDER UNIT :

- 5.1 Supplying of 415V, 3 phase, 50Hz following capacity control circuit breaker feeder unit as per following specification with thermal overcurrent & instantaneous electromagnetic short-circuit release manufactured and tested as per NEMA / IEC / VDE / BS / JIS along with relevant BDS standards (adjustable type above 100A rating) for sub-station LT panel.

Asraf

Md. Asraf Hossain
Site Engineer, Infra. Development
Social Entrepreneur Development
UCEF Bangladesh

Nikhil Chandra Mondal

Nikhil Chandra Mondal
Capacity Planning & Infra Development
Social Entrepreneur Development
UCEF Bangladesh

Sl. No.	Short Description of Items	Unit	Qty.	Rate In (Tk)	Amount In (Tk)
	Rated operating voltage : 220-690 V. Rated insulation voltage : 690 volt. Rated impulse withstands voltage : 6KV. Utilization category : A or B accepted / approved by the Engineer-In-Charge.				
5.1.1	250A (36KA) TP MCCB	Each	1		
6.0	<u>POWER FACTOR IMPROVEMENT PANEL (PFI)</u>				
6.1	Supply of following 415 volt, 3 phase, 50 Hz power factor improvement panel complete with TP bus bars and earth block, microprocessor controlled auto power factor correction relay with digital PF reading display, capacitor bank, contactor, fuse, ON indicators for every stage of capacitor bank (except directly connected one) etc. shall be manufactured & tested as per NEMA / VDE / IEC / JIS / BS standards along with relevant BDS standard assembled locally in 16 SWG sheet steel clad dust & vermin proof, free standing, floor mounting, epoxy resin powder coat painted cabinet as per relevant IEC standards and as per accepted / approved by the Engineer-in-charge. Assembled by the valid ISO-9001 certified company having test certificate (within five years) according to relevant IEC standards from BUET / RUET/ CUET / KUET /DUET/ MIST.				
6.1.1	<u>200 KVA Transformer (PFI Capacity - 120 KVAR)</u>	Set	1		

Asraf
Md. Asraf Hoque
 Site Engineer, Infra, Development
 Social Enterprise Development
 UCEP Bangladesh

Wakil
Wakil Chandra Mollick
 Deputy Engineer, Infra Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Short Description of Items	Unit	Qty.	Rate In (Tk)	Amount In (Tk)
---------	----------------------------	------	------	--------------	----------------

- 3 Nos. - 415V, 250A hard drawn electrolytic copper bus bar.
- 1 No. - 415V, 2.5 KVAR, 50 Hz TP power capacitor bank with built in / separate discharge coil for connection directly with line through fuse.
- 1 No. - 415V, 2.5 KVAR, 50 Hz TP power capacitor bank with built in / separate discharge resistor.
- 1 No. - 415V, 5 KVAR, 50 Hz TP power capacitor bank with built-in discharge resistor.
- 3 Nos. - 415V, 10 KVAR, 50 Hz TP power capacitor bank with built in discharge resistor.
- 4 Nos. - 415V, 20 KVAR 50 Hz TP power capacitor bank with built in discharge resistor.
- 2 Nos. - 415V, 10A 50 Hz TP magnetic contactor with AC3 duty.
- 3 Nos. - 415V, 16A 50 Hz TP magnetic contactor with AC3 duty.
- 4 Nos. - 415V, 32A 50 Hz TP magnetic contactor with AC3 duty.
- 9 Nos. - 415V, 10A HR.C fuses with base.
- 9 Nos. 415V, 20A HR.C fuses with base.
- 12 Nos. - 415V, 40A HR.C fuses with base.

7.0 HT CABLE (XLPE)

- 7.1 Providing & laying of following sizes HT (11KV) PVC insulated, sheathed, screened & armoured cable (NYSEYFGbY) / HT (11KV) armoured XLPE Cable : All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE along with relevant BDS standard as per detailed specification mentioned in Annexure-1. The work shall be carried out as per direction / approval / acceptance of the Engineer In Charge.

Ariful
Md. Asraful Hoque
Site Engineer
Social Enterprise Development
UCEP Bangladesh

OK

Nikhil Chandra Majumdar
Senior Manager - Infrastructure Development
Social Enterprise Development
UCEP Bangladesh

Sl. No.	Short Description of Items	Unit	Qty.	Rate In (Tk)	Amount In (Tk)
	In kutcha ground by cutting 45.70 cm width x 91.40 cm depth trench with necessary brick or tile protection and mending the damages good by refilling trench with proper compaction.				
	In pucca floor through required size of PVC pipe cutting trench of necessary size and mending good the damages with one layer 1st class flat brick soling, 75 mm thick (1:2:4) cc work with neat cement finishing etc.				
	In pucca ground/ road through required size of PVC pipe by cutting 45.70cm width x 91.40 cm depth trench mending good the damages by earth refilling with proper compaction providing 50 mm thick compacted premix bituminous carpeting over one layer of 1st class flat brick soling and 75 mm thick compacted water bound macadam of khoa of brick.				
	Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc.) accepted / approved by the Engineer In Charge.				
7.1.1	3C x 70 sqmm XLPE cable				
7.1.1.1	In pucca floor through 100mm PVC pipe having wall thickness of 3.4mm.	Meter	50		
8.0	LOOP CABLE				
8.1	Supply and fixing of loop cable of this following sizes : Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc.) accepted / approved by the Engineer In Charge.				
8.1.1	1C-4x150 Sqmm (NYY) (LT to ATS Panel)	Meter	30		


Md. Asratul Hoque
 Site Engineer, Infra, Development
 Social Enterprise Development
 UCEP Bangladesh


Nikhil Chandra
 Supply Manager - Infra Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Short Description of Items	Unit	Qty.	Rate In (Tk)	Amount In (Tk)
8.1.2	1C-3x70mm ² (NYY) (From LT switchgear to PFI)	Meter	10		
9.0	HEAT SHRINK TERMINATION KIT				
9.1	Supply & fixing of heat shrink termination kit out-door / in-door use complete with DIN lugs earth connection hardware & cable preparation kit (In-door & outdoor) at the point of cable termination for 11 KV 3-core PVC insulated & PVC sheathed & armored / non-armored cable of the following sizes (Made in GERMANY / USA / UK / FRANCE / JAPAN / ITALY / SWEDEN / SWITZERLAND or equivalent accepted / approved by the Engineer-in-charge.)				
9.1.1	3 x 70 mm ²	Each	3		
9.1.2	3 x 70 mm ²	Each	1		
9.2	INSULATING TAPE				
9.2.1	Supply and fixing of PVC insulating tape. (UK / JAPAN or equivalent brand accepted / approved by the Engineer In Charge)				
9.2.1.1	1" width PIB tape (25 m per reel)	Each	1		
10.0	<u>GALVANIZED CABLE TRAY</u>				


 Md. Asraful Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh



Nikhil Chandra Aljunied
 Deputy Manager, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Short Description of Items	Unit	Qty.	Rate In (Tk)	Amount In (Tk)
10.1	Supply, fitting and fixing galvanized cable tray made of 18 SWG (1.2 mm) MS Sheet evenly perforated with 7 mm width Capsule hole punch with self-Hanging Facility at top, joint clamp, including fabricating cost of electricity, tools and plants, workshop charges, carriage of the same, cutting groves in the RCC or brick work, mending good the damages with CC (1:2:4), etc. complete for all floors accepted by the engineer.				
10.1.1	300x100 mm without cover	Meter	15		
11.0	<u>GALVANIZED CABLE LADDERS</u>				
11.1	Supply, fitting and fixing of Galvanized cable ladders made of 14 SWG (2 mm) MS Sheet with rungs spaced of 300 mm centers, 100x25mm side rail with multiple formation to protect from torsion and bending with full loading capacity with self-Hanging Facility at top and bottom, joint clamp, including fabricating cost of electricity, tools and plants, workshop charges, carriage of the same, cutting groves in the RCC or brick work, mending good the damages with CC (1:2:4), etc. complete for all floors accepted by the engineer.				
11.1.1	300x100 mm	Meter	10		
12.0	<u>CABLE TRENCH</u>				


Md. Asraful Hoque
 Site Engineer, Infra. Development
 Social Enterprises Development
 UCEP Bangladesh


Nikhil Mondal
 Deputy Manager, Infra Development
 Social Enterprises Development
 UCEP Bangladesh

Sl. No.	Short Description of Items	Unit	Qty.	Rate In (Tk)	Amount In (Tk)
12.1	Making following cable trench in pucca floor having 76.2 mm (3") thick CC (4:2:1) base on one layer of flat brick soling over 76.2 mm (3") thick sand bedding at the bottom, 127 mm (5") thick brick work (4:1) at the sides complete with 12.7 mm (1/2") plaster and neat cement finishing duly covered with 4.8 mm (3/16") thick MS sheet having necessary lifting lugs:				
12.1.1	W (width) – 457 mm x D (depth) – 864 mm	Meter	10		
13.0	<u>INSTALLATION</u>				
13.1	Installations, testing and commissioning of following 11 KV, 50 Hz. 3-phase, indoor type HT switchgear and HT Meter on prepared foundation with the help of necessary tools, plants, skilled labour & technician as per direction of the Engineer-in-charge.				
13.1.1	HT meter	Job	1		
14.0	<u>INSTALLATION OF TRANSFORMER</u>				
14.1	Installation, testing and commissioning of following 11 KV/ 0.415KV transformer on prepared platform on pole / CC foundation with the help of necessary tools & plants, skilled labour & technician as per direction of the Engineer-in-charge.				
14.1.1	200 KVA 3 phase transformer on CC pad with proper fencing.	Job	1		

15.0 INSTALLATION, TESTING, COMMISSIONING OF LT SWITCHGEAR/ PFI PLANT

Md. Asstaf Hossain
 Site Engineer, (Inv. Development)
 Social Enterprise Development
 UCEP Bangladesh

Md. Choudhury Tahirul Karim
 Chief Engineer, (Inv. Development)
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Short Description of Items	Unit	Qty.	Rate In (Tk)	Amount In (Tk)
15.1	Installation, testing and commissioning of 415V, 3-phase, 50 Hz indoor type LT switchgear / PFI panel suitable for following capacity transformer on prepared CC foundation with the help of necessary tools & plants, skilled labour & technician as per direction of the Engineer-in-charge.				
15.1.1	For 200 KVA transformer	Job	3		
16.0	<u>CABLE / SOCKET / FERULES</u>				
16.1	Supply and fixing of copper made sockets / ferules for following size cables (need to be shown voltage rating.)				
16.1.1	70 sqmm	Each	12		
16.1.2	150 sqmm	Each	16		
17.0	<u>FIRE EXTINGUISHER</u>				
17.1	<u>DRY CHEMICAL POWDER TYPE</u>				

Amal
Md. Asraful Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Amal
Nikhil Chandra Majumdar
 Deputy Manager, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

SI. No.	Short Description of Items	Unit	Qty.	Rate In (Tk)	Amount In (Tk)
	Supply & fixing of the following capacities multi purpose ABC dry chemical powder stored pressure type with manometer system fire extinguisher suitable for repeated use complete with wall bracket, Nitrogen (N₂) cartridge, easy refilling system etc. as per sample accepted & approved by the Engineer in Charge. Mono Ammonium Phosphate (minimum 40%) based ABC dry chemical agent & has a moisture-proof, anti-caking properties. Working pressure : 12 BAR minimum & Test pressure : 25 BAR minimum. Proper fire rating (as per NFPA 10/BS/EN) according to the capacity of the extinguisher. Manufacturer's certificate shall have to be submitted if needed. Also sample of the dry chemical powder will be tested by the proper authority in Bangladesh if needed.	Each	4		
17.1.1	5 Kg. capacity.				
18.0	<u>EARTHING</u>				
18.1	Earthing the electrical installation with 40 mm (1.5") dia G.I. pipe (earth electrode) having 6.35 mm. dia hole across the pipe at 305 mm. interval securely bonded by soldering with 2 nos. of No-2 SWG HD/BC earth leads (at the top of the electrode) with its protection by 20 mm. (3/4") dia G.I. pipe up-to plinth level run at a depth of 609.6 mm (2 ft) below G.L up-to main board to be earthed including necessary connecting copper sockets, bolts, nuts, etc. complete for maintaining earth resistance within 1 ohm. [Fig : 4.19]				
18.1.1	Depth of bottom of main electrode at 37338 mm. (122.5 ft) from GL & length of electrode 36576 mm. (120 ft).	Each	4		

Arasul
Md. Asraful Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

[Signature]
Nikhil Chandra
 Deputy Manager, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Short Description of Items	Unit	Qty.	Rate In (Tk)	Amount In (Tk)
18.2	Construction of earthing inspection pit inside measurement 600 mm x 600 mm with 250 mm thick brick in cement mortar (1:4) with 100mm thick RCC top slab (1:2:4) with 1% reinforcement 450 mm dia water sealed CI man-hole cover with locking arrangement including necessary earth works, site filling and one brick flat soling 75 mm thick (1:3:6) base concrete for making inlet channel & 12mm thick (1:2) cement plaster with neat finishing etc. all complete up to a depth of .75 meter.	Each	4		
18.3	Providing & laying of of following sizes cable from Eastern Cable/ Paradise/ BRB/ BBS/ Poly cable or its equivalent manufacturers having ISO9001 certificate for grounding the neutral of transformers & generators, equipments to required sizes Equip-potential bars including G.I pipe & termination of connection with termination kits at both ends as per direction of the Engineer-in-charge.				
18.3.1	1C-150mm2 NYY for Equip-potential bar to various equipments	M	40		
18.3.2	Equip-potential earth bar (50mm X 5mm X 450mm) with all other facilities for cable connection.	Sets	2		

Amrullah
Md. Asratul Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Nikol
Nikol
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Short Description of Items	Unit	Qty.	Rate In (Tk)	Amount In (Tk)
---------	----------------------------	------	------	--------------	----------------

19.0 **SUPPLY & INSTALLATION OF RUBBER MAT :**

- 19.1 Supply, fittings & fixing of minimum 10mm thick perforated rubber mat hooking up with each other and approved quality suitable for use as electrical insulation of the floor and complete with all other necessary accessories per required and direction of the Engineer-in-charge.

20.0 **The contractor has to supply/ Provide Following Services:**

Miscellaneous charges for obtaining HT power connection from DPDC.

11 KV line construction cost (if required)

Electrical licensing Board Permission Works.

Fire Brigade Permission Works.

If required road cutting from concerned department/ authority permission.

The security money & Licencing Board fee, Fire Brigade fees and City Corporation charges if required, The contractor will include in this item the amount of security deposit, H.T Metering fees & Licencing Board fee.


Md. Asraful Haque
Site Engineer, Infra, Development
Social Enterprise Development
UCEP Bangladesh


Khalid Choudhury
Secretary Manager, Infra Development
Social Enterprise Development
UCEP Bangladesh

Sl. No.	Short Description of Items	Unit	Qty.	Rate In (Tk)	Amount In (Tk)
	The contractor shall be responsible for communicating with City Corporation, Fire Brigade department & Licencing Board in time and shall submit application forms for commissioning and complete all other formalities on behalf of Client till the sub-station is commissioning and handed over to the Client.				
				TOTAL in Taka=	
	Total Amount (PART_D) including Govt VAT & AIT				


 Md. Asstul Hoque
 Site Engineer, Infra, Development
 Social Enterprise Development
 UCEP Bangladesh


 Md. Asstul Hoque
 Site Engineer, Infra, Development
 Social Enterprise Development
 UCEP Bangladesh

**SCHEDULE OF ITEM OF WORKS, BILL OF QUANTITIES FOR 1NO. 200 KVA, GENERATOR SET
FOR FIVE STORIED ACADEMIC BUILDING AT KALURGHAT, CHATTOGRAM.**

PART-E, GENERATOR SET

Sl. No.	Short Description of Items	Unit	Qty.	Rate (Tk)	Amount (Tk)
---------	----------------------------	------	------	-----------	-------------

1.0 THREE PHASE GENERATOR WITH ATS AND SOUND ATTENUATED

ACOUSTICALLY TREATED CANOPY

(Maximum sound level : 75 dBA at 7m distance in the generator room).

- 1.1 Supply of 400V-415V, 3-phase, 4-wire, 50 Hz. air / water cooled, floor mounted, indoor type following continuous capacity (prime power) electric generating set with ATS and sound attenuated acoustically treated canopy (Maximum sound level : 75 dBA at 7m distance in the generator room) suitable for tropicalized country complete with four stroke, 1500 rpm, diesel engine with all standard accessories viz. 12/24 volt DC battery & auto battery charger with ammeter, radiator assembly, oil & fuel pump, auto speed governor, air cleaner, fuel & oil tank, level & oil pressure gauge, RPM & hour meter, start & stop switch, exhaust silencer (to keep standard emission level), mounting spring and vibration isolator (to keep very minimum

Arzaful
Md. Asraful Hoque
Site Engineer, Infra, Development
Social Enterprise Development
UCEP Bangladesh

Nikhil
Nikhil Chandra Mohimdar
Organizational Development
Social Enterprise Development
UCEP Bangladesh

Sl. No.	Short Description of Items	Unit	Qty.	Rate (Tk)	Amount (Tk)
---------	----------------------------	------	------	-----------	-------------

vibration in the room), mounting steel base frame etc. including safety & protection device viz. auto shut off with indicators for overload, over & under voltage, high temperature, low oil pressure, over speed, low fuel level etc. coupled with brush less, self excited alternator having control panel with auto voltage regulator, voltmeter & ammeter with selector switch, frequency meter, compatible with standard building management system.

TPMCCB of required rating for overload & instantaneous short circuit release, auto start and auto charge over to load within 10 sec during normal power failure and stop & auto change over to normal supply within 5 minutes after resolution of normal power supply, indicator for 3 phase indicator for ON-OFF-TRIP etc. including maintenance tools, 3 sets of detailed technical catalogues & maintenance manual. Manufactured, assembled and tested in accordance with NEMA / IEC / VDE / JIS standards along with relevant BDS IEC standard (subject to satisfy standard test and approved by PWD)

1.2 (USA / UK / JAPAN / EU COUNTRIES)

The generating set shall be assembled & tested in USA / UK / JAPAN / EU countries. The major components like engine shall be of Perkins / Deutz / Cummins / Mitsubishi / Volvo / Kohler / Yanmar brand and alternator shall be of Stamford / Mecc Alte Spa / Leroy Somer / Kohler brand. The engine, alternator, ATS, canopy shall also be manufactured and tested as per relevant standards in USA / UK / JAPAN / EU countries & accepted / approved by the Engineer-in-charge.

1.2.1 200 KVA

Each

1

Asraf
Md. Asraf Hoque
Site Engineer, Infra, Development
Social Enterprise Development
UCEP Bangladesh

Asraf
Md. Asraf Hoque
Site Engineer, Infra, Development
Social Enterprise Development
UCEP Bangladesh

SI. No.	Short Description of Items	Unit	Qty.	Rate (Tk)	Amount (Tk)
2.0	<u>INSTALLATION</u>				
2.1	Installation, testing & commissioning of following electric generator on prepared CC pad with the help of necessary T & P, skilled labour, technician, Engineer-in-charge including 2 hrs./ 5 day trial run operation by skilled operator with supply of necessary fuel & lubricant as per manufacturers instruction manual and in accordance with relevant IEC / NEMA / VDE / JIS standards so that vibration transfer rate to foundation shall be almost zero.				
2.1.1	200 KVA manual/auto/auto with soundproof acoustically treated canopy generating set.	Each	1		
3.0	<u>LOOP CABLE</u>				
3.1	Supply and fixing of loop cable of this following sizes : Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc.) accepted / approved by the Engineer In Charge.				
3.1.1	1C- 4 x 150 Sq. mm (NYY) (Gen. Panel to ATS panel)	M	30		
4.0	<u>CABLE / SOCKET / FERULES</u>				
4.1	Supply and fixing of copper made sockets / ferules for following size cables (need to be shown voltage rating.)				
4.1.1	150 sqmm	Each	8		


Md. Asraful Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh


Yashil Chandra
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Short Description of Items	Unit	Qty.	Rate (Tk)	Amount (Tk)
5.0	<u>GALVANIZED CABLE TRAY :</u>				
5.1	Supply, fitting and fixing galvanized cable tray made of 18 SWG (1.2 mm) MS Sheet evenly perforated with 7mm width Capsule hole punch with self Hanging Facility at top, joint clamp, including fabricating cost of electricity, tools and plants, workshop charges, carriage of the same, cutting groves in the RCC or brick work, mending good the damages with CC (1:2:4), etc. complete for all floors accepted by the engineer.				
5.1.1	300mm x 100mm without cover	M	15		
6.0	<u>EARTHING</u>				
6.1	Earthing the electrical installation with 40 mm (1.5") dia G.I. pipe (earth electrode) having 6.35 mm dia hole across the pipe at 305 mm. interval securely bonded by soldering with 2 nos. of No-2 SWG HDBC earth leads (at the top of the electrode) with its protection by 20 mm. (3/4") dia G.I. pipe up-to plinth level run at a depth of 609.6 mm (2 ft) below G.L up-to main board to be earthed including necessary connecting copper sockets, bolts, nuts, etc. complete for maintaining earth resistance within 1 ohm. [Fig : 4.19]				
6.1.1	Depth of bottom of main electrode at 37338 mm. (122.5 ft) from GL & length of electrode 36576 mm. (120 ft).	Each	3		


Md. Asraful Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh


Md. Asraful Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh

Sl. No.	Short Description of Items	Unit	Qty.	Rate (Tk)	Amount (Tk)
6.2	Construction of earthing inspection pit inside measurement 600 mm x 600 mm with 250 mm thick brick in cement mortar (1:4) with 100mm thick RCC top slab (1:2:4) with 1% re-enforcement 450 mm dia water sealed CI man-hole cover with locking arrangement including necessary earth works, site filling and one brick flat soling 75 mm thick (1:3:6) base concrete for making inlet channel & 12mm thick (1:2) cement plaster with neat finishing etc. all complete up to a depth of .75 meter.	Each	3		
6.3	Providing & laying of following sizes cable from Eastern Cable/ Paradise/ BRB/ BBS/ Poly cable or its equivalent manufacturers having ISO9001 certificate for grounding the neutral of transformers & generators, equipments to required sizes Equip-potential bars including G.I pipe & termination of connection with termination kits at both ends as per direction of the Engineer-in-charge.				
6.3.1	1C-150mm2 NYG for Equip-potential bar to various equipments	M	40		
6.3.2	Equip-potential earth bar (50mm X 5mm X 450mm) with all other facilities for cable connection.	Sets	2		
				TOTAL in Taka	
				Total Amount (PART-E) Including Govt VAT & AIT	


Md. Asrafur Hoque
 Site Engineer, Infra. Development
 Social Enterprise Development
 UCEP Bangladesh


 Md. Asrafur Hoque
 Social Enterprise Development
 UCEP Bangladesh

