

Electrical

SI No.	Description of Item	Unit	Qty	Supply in (BDT)	Installation in (BDT)	Total Amount in (BDT)
1	WIRING CABLE (BYM/ NYY-XLPE) (Supply only): Cable with following PVC insulated and sheathed stranded cable (BYM/ NYY) & PVC insulated Green / Yellow bi- coloured ECC wire (BYA). Cables shall be manufactured and tested according to IEC / BS / VDE standards along with relevant BDS standard as per detailed specification . 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.					
1.1	1C-2x1.5sqmm (BYA) FRLS cable.	Meter	1000		N/A	-
1.2	1C-2x2.5sqmm (BYA) FRLS cable.	Meter	710		N/A	-
1.3	1C-2x4 sqmm (BYA) FRLS cable.	Meter	50		N/A	-
1.4	3C-1x6.0 sqmm (BYM) FRLS cable.	Meter	350		N/A	-
1.5	1X-4Cx25sqmm (NYY/XLPE) with 16 sqmm (BYA) ECC wire	Meter	120		N/A	
2	PVC PIPE (Supply only): Supply of approved quality heavy-duty PVC conduit/pipe of specified size complete with all associated conduit fittings and accessories, including junction boxes, circular boxes, outlet boxes, pull boxes, covers, couplers, bends, adaptors, saddles, and other necessary materials, delivered to site complete in all respects. Installation and cable works are excluded.					
2.1	Minimum inner Dia. 25 mm & minimum wall thickness 1.5 mm. for above Cable Items (Cable Items No- 1.1-1.4)	Meter	2,000		N/A	-
2.2	Minimum inner dia 50 mm & minimum wall thickness 2.2 mm. for above Cable Items (Cable Items No- 1.1-1.4)	Meter	120		N/A	-
2.3	Minimum inner dia 50 mm & minimum wall thickness 2.2 mm. for above Cable Items-1.5	Meter	120		N/A	
3	Installation of Heavy-Duty PVC Conduit with Cable and Accessories (Installation Only): Installation of approved quality heavy-duty PVC conduit of specified size complete with all fittings, junction/pull boxes, supports, fixing accessories, chasing, cutting, embedding, and testing for clear cable passage, as per drawings and Engineer's instructions. The conduits shall be securely tied to reinforcement steel bars at 900 mm intervals using 20/24 SWG GI wire to prevent displacement during concreting. The rate shall include all accessories, fixing materials, tracing and cutting out outlet locations after removal of shuttering, cleaning of outlets, and making good all damages to civil and architectural finishes resulting from the installation work, as directed by the Engineer. Scope includes conduit installation only.					
3.1	Minimum inner Dia. 25 mm & minimum wall thickness 1.5 mm. for above Cable Items for (Cable Items No- 1.1-1.4)	Meter	2,000	N/A		N/A
3.2	Minimum inner dia 50 mm & minimum wall thickness 2.2 mm. for above Cable Items for (Cable Items No- 1.1-1.4)	Meter	120	N/A		N/A
3.3	Minimum inner dia 50 mm & minimum wall thickness 2.2 mm. for above Cable Items-1.5 (1X-4Cx25sqmm (NYY/XLPE) with 16 sqmm (BYA) ECC wire)	Meter	120	N/A		N/A
4	CEILING FAN: 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 230V 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.					
4.1	1400mm.(56") sweep (Input power: Maximum 65 watt.)	each	37			-
5	EXHAUST FAN: Providing and fixing of following propeller fan AC 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.					
5.1	10" Exhaust fan plastic body (foreign made accepted / approved by the Engineer).	each	5			-

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6	HEAVY DUTY INDUSTRIAL EXHAUST FAN: Supply and installation of Wall mounted heavy duty industrial exhaust fan: Type 230V, 50 Hz, complete with stainless steel blade, steel frame, standard wall louver shutter with necessary accessories (specially used for kitchen of hospital, student hostel / hall, prison cell, barrack, large auditorium etc).					
6.1	24"	each	2			-
7	TUBE LIGHT FITTINGS (LED): Supply & fixing LED tube light fittings of following specifications: Luminous efficacy: 100 lm/W(minimum) 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 : As per IEC,UL, CE, ISO standard, LED chips :As per IEC,UL, CE, ISO standard, Colour temperature : 3500K-6500K (Warm-White) Model & sample to be accepted / approved by the Engineer-in-charge (with 1 years warranty).					
7.1	Watt-36 x 4'	each	65			-
8	WALL LIGHT FITTINGS (LED): Supply & fixing LED tube light fittings of following specifications: Luminous efficacy: 100 lm/W(minimum) 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 : As per IEC,UL, CE, ISO standard, LED chips :As per IEC,UL, CE, ISO standard, Colour temperature : 3500K-6500K (Warm-White) Model & sample to be accepted / approved by the Engineer-in-charge (with 1 years warranty).					
8.1	Watt-25	each	12			
9	EMERGENCY STAIR EXIT LIGHT(LED): Supply and installation of ceiling mount emergency "Exit light" complete with rechargeable battery and charge light and other necessary accessories suitable for AC / DC power supply (230V single phase) as per NFPA 101	each	8			-
10	LED SIGN : Supply & fixing of LED sign of the following features and model with all necessary elements such as drivers, chips etc. complete model and sample shall be approved by the Engineer.					
10.1	3W Exit Light	each	14			-
11	FLOOD LIGHT FITTINGS (LED NARROW BEAM) (FOR OUTER ILLUMINATION): Supply & fixing LED narrow beam flood light fittings of following specifications: Luminous efficacy: 100lm/w(minimum), Power Factor: minimum 0.95 Colour Rendering Index(Ra) : 70≤Ra<85 Driver: As per IEC,UL, CE, ISO standard, Ingress Protection:IP 67 LED chips As per IEC,UL, CE, ISO standard, Colour temperature : 3500K-6500K (Warm-White) Model & sample to be accepted / approved by the Engineer-in-charge (with 1 years warranty).					
11.1	Narrow Beam Long Distance Throw , 100W LED Spotlights (IP-67)	each	2			-
12	FOUNTAIN LIGHT JUNCTION BOX: Supply & Fixing of fountain light junction box of the following sizes as per sample accepted / approved by the Engineer-in-charge (with 1 years warranty)					
12.1	4 way	each	150			-
13	GALVANIZED CABLE TRAY WITH COVER : 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, top cover 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.					
13.1	100x50 mm with cover	Meter	192			-

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14	DISTRIBUTION BOARD: 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.					
14.1	SDB	each	5			-
	<u>Incoming:</u>					
	1 Set - 230V, 32 amps. DP&NE hard drawn electrolytic copper busbar					
	1 No- 32A, 10KA, 230V, DP MCB					
	<u>Outgoing:</u>					
	10 Nos- 10A, 10 kA, SP Miniature Circuit Breaker(MCB).					
14.2	SDB PUMP	each	1			-
	<u>Incoming:</u>					
	1 Set - 230V, 32 amps. DP&NE hard drawn electrolytic copper busbar					
	1 No- 32A, 10KA, 230V, DP MCB					
	<u>Outgoing:</u>					
	5 Nos- 20A, 10 kA, DP Miniature Circuit Breaker(MCB).					
15	MDB-	Each	1			-
	INCOMING : 2 Set- 420V, 50A (20KA), adjustable type TP MCCB . & NE hard drawn electrolytic copper bus bar. With Mechanical interlock 1 Nos. - 420V, 50 / 5 ratio current transformer with suitable accuracy & burden. OUTGOING : 9 Nos.- 230V, 32A (10 KA) DP MCB 1 Nos.- 420V, 32A (10 KA) TP MCB					-
	<u>Rming System:</u>					
	3 Nos 500/5A CT					
	1 Set - Control Fuse					
	1 Set- Indicating Lamp (RYB)					
	1 No- Digital MultiRm					

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16	ATS	Each	3			
	INCOMING : 2 No.- 420V, 50A (20KA), TP MC 1 Nos. - 230V, 50 / 5 ratio current transformer with suitable accuracy & burden. OUTGOING : 1 Set- 420V, 4P 50A Connector					
	Rming System:					
	2 Set - Control Fuse					
	1 Set- Indicating Lamp (RYB)					
	1 Set-Timer Relay					
17	UNIVERSAL COMBINED SWITCH SOCKET OUTLETS: Providing & fixing 230 volt single phase universal 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. Sample to be approved by the Engineer-incharge. Manufacturer shall have certificate of standard which they follow.					
17.1	13/15/16 / 20 Amps	each	67			-
18	GANG SWITCH: Providing & fixing 230 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.					
18.1	Four gang switch	each	30			-
18.2	Three gang switch	each	3			-
18.3	Two gang switch	each	5			-
18.4	One gang switch	each	2			-
18.5	Gang Type Fan Regulator	each	37			-
19	LIGHTNING PROTECTION SYSTEM					
19.1	AIRTERMINAL	each	30			
	Materials: Copper					
	Height: 2'-0"					
	Diameter: 15mm					
19.2	BASE PLATE	each	30			
	Materials: Copper					
	Thickness: 4mm					
	Diameter:6"x6"					
19.3	LOOP CONDUCTOR	Meter	120			
	Materials: Copper					
	Diameter: 7mm					
19.4	DOWN CONDUCTOR	Meter	120			
	Materials: Copper					
	Diameter: 7mm					
19.5	BONDING CONDUCTOR	Meter	20			
	Materials: Copper					
	Diameter: 7mm					
19.6	EARTH ELECTRODE	Feet	480			
	Materials: Copper					
	Diameter: 12.7mm					
19.7	TEXT BOX	each	12			
	Size: 200x200mm					

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19.8	EARTH PIT	each	12			
	Boring depth: 40 ft					
	Ground Rod dia: 12.7 mm CU					
20	EARTHING SYSTEM FOR MDB, SDB					
20.1	Supply & Fixing of fan hook as p/ direction of Engineer in Charge. Supply & Installation of Earthing the Electrical Installation with 38.10mm (1.5") dia Rm G.I. pipe/Pole (upto 80ft) along with 12.7mm dia Solid Copper Rod, securely bonded with # 1x0 SWG standard copper wire (ECC) as earth lead required for the earth connection of all the Sub-station Equipment with the earthing block including necessary washer, cable, lug, nuts, bolts etc. The earth electrode will be sunk up to 80'-0" by tube well sinking method including necessary connections, all complete as required to maintain an earth resistance with in 1 (one) Ohm. If individual earthing resistance does not come greater 1 ohm then client have to install extra earthing or have to bear the cost for additional earthing.	Job	1			-
20.2	Earth Bar 25x4mm	Pcs	1			
21	ACCESSORIES					
i	PVC tape	Pcs	1000			
ii	PIB tape	Pcs	1000			
iii	7/8 No. Rawl plug(PVC)	Pcs	500			
iv	Rawl Bolt	Pcs	500			
v	1", 1 1/4", 1 1/2" Wood Screw	Pcs	500			
vi	1", 1 1/4", 1 1/2" M.K. Screw	Pcs	500			
vii	14/16 SWG G.I. Wire	Kg	10			
viii	Ebonite Sheet (4'x8')	Each	20			
ix	Ebonite Sheet round(6")	Each	20			
x	Ebonite Sheet round(5")	Each	20			
xi	Ebonite Sheet round(4")	Each	20			
xvi	Cable tie(6",8",10",12" 100pcs bag)	Bag	20			
xvii	Washer	Pcs	500			
xviii	3/4" Single cir. Box(3-way)	Pcs	200			
xix	3/4" Single cir. Box(2-way)	Pcs	200			
xx	3/4" Single cir. Box(1-way)	Pcs	200			
xxi	3/4" Double cir. Box(3-way)	Pcs	200			
22	TAGGING AND IDENTIFICATION FOR ELECTRICAL SYSTEM	Job	1			
	Tagging and identification of all equipment like ACB, MCCB, MCB, MDB, DB, SDB, light, cabling, etc. as per IEC guidelines.					
23	TESTING & COMMISSIONING FOR ELECTRICAL SYSTEM	Job	1	N/A	N/A	
	After proper installation and certification the system shall be tested, commissioning and balancing as per direction and recommendation by the Manufacturer as well as per NBC, International Electric Code and Electrical Codes under NFPA. Submit Testing and Commissioning protocols at least 15 days before commissioning for formal approval. All Testing and Commissioning must be done in presence of Electrical Consultant's representative at site.					
	Total for Electrical System			Total Electrical=		-
	Total Amount in words					