

## CONSTRUCTION OF MCH BLOCK AT TALUK HOSPITAL, KODUNGALLUR

PART II - ELECTRICAL WORKS					
Sl.No	DESCRIPTION	UNIT	QTY	RATE ( In figures & words)	AMOUNT in Rs
1	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in recessed medium class PVC conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable etc as required.	Point	335		
2	Wiring for twin control light point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, 2 way modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable etc as required.	Point	5		
3	Wiring for circuit/submain wiring along with earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in recessed medium class PVC conduit as required.				
a	2x1.5 sq.mm + 1x1.5 sq.mm earth wire	Rm	700		
b	2x2.5 sq.mm + 1x2.5 sq mm earth wire	Rm	1040		

c	2x4 sq.mm + 1x4 sq mm earth wire	Rm	550		
d	2x6 sq. mm + 1x6 sq. mm earth wire	Rm	140		
4	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in recess including cutting the wall and making good the same in case of recessed conduit as required.				
a	20 mm	Rm	350		
b	25 mm	Rm	250		
5	Supply and fixing metal box of following sizes (nominal size) on surface or in recess with suitable size of phenolic laminated sheet cover in front including painting etc as required.				
	200 mm x 250 mm x 100 mm deep	Each	5		
	250 mm x 300 mm x 100 mm deep	Each	5		

6	Supplying and fixing following size / modules, PVC box alongwith modular base & cover for modular telephone/ data sockets in recess etc as required.				
a	1 or 2 module	Each	30		
7	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.				
a	Telephone socket outlet	Each	20		
b	TV antenna socket outlet	Each	2		
8	Supplying and drawing following pair 0.5 sq mm FRLS PVC insulated annealed copper conductor, unarmored telephone cable in the existing surface/ recessed steel/ PVC conduit as required.				
a	2 Pair	Rm	360		
b	4 pair	Rm	80		

9	Supplying and drawing co-axial TV cable RG-6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/ recessed steel/ PVC conduit as required.	Rm	70		
10	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 amps modular socket outlet and 5/6 amps modular switch, connection etc. as required.	Each	130		
11	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 amps modular socket outlet and 15/16 amps modular switch, connection etc. as required.	Each	40		
12	Supplying and fixing of call bell or buzzer suitable for single phase 230 volts, complete as required	Each	10		
13	Supplying and fixing stepped type electronic fan regulator-modular on the existing modular plate switch box including connections but excluding modular plate etc. as required.	Each	50		
14	Supplying and fixing 3 pin, 5 amp ceiling rose on the existing junction box/ wooden block including connection etc as required.	Each	130		

15	Supplying and fixing modular blanking plate on the existing modular plate and switch box excluding modular plate as required.	Each	110		
16	Installation, testing and commissioning of pre-wired, fluorescent fitting / LED compact fluorescent fitting of all types, complete with all accessories and tube etc. directly on ceiling/ wall, false ceiling with chain and hook including connection with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable and earthing etc. as required.	Each	165		
17	Installation, testing and commissioning of ceiling fan, including wiring the down rods of standard length (upto 30 cm) with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable etc. as required.	Each	50		
18	Supplying and fixing extra down rod of 20 cm length GI pipe, 15 mm dia, heavy gauge including painting etc, as required.( Note More than 5 cm length shall be rounded to the nearest 10cm and 5cm or less shall be ignored).	Each	30		
19	Supply laying and termination of 4 pair CAT 6 UTP cable in the existing surface / recessed steel / PVC conduit as required.	Rm	300		
20	Installation of exhaust fan in the existing opening, including making good the damage, connection, testing, commissioning etc. as required.				
a	Upto 450 mm sweep	Each	20		

21	Providing and fixing 100 Amps, 16kA, TP rating and breaking capacity MCCB in the existing cubicle panel board / DBs including drilling holes in cubicle panel, making connections etc as required.	Each	2		
22	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 volts, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)				
a	2 + 12 way/14 way, Double door	Each	2		
23	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 volts, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)				
a	4 way, Double door	Each	2		
b	6 way, Double door	Each	4		
c	8 way, Double door	Each	2		

24	Supplying and fixing following way, surface / recess mounting, vertical type, 415 volts, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 amps tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCB's (but without MCB's and incomer) as required. (Note: Vertical type MCB TPDB is normally used where 3 phase outlets are required)				
a	4 way, Double door	Each	4		
b	6 way, Double door	Each	1		
25	Supplying and fixing following rating, double pole, 240 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
a	40 amps	Each	1		
b	63 amps	Each	1		
26	Supplying and fixing following rating, double pole, (single phase and neutral), 240 volts, residual current circuit breaker (RCCB), having a sensitivity current of 30 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
a	40 amps	Each	1		

b	63 amps	Each	1		
27	Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
a	Single pole	Each	140		
b	Double pole	Each	2		
c	Triple pole	Each	18		
d	Triple pole and neutral	Each	10		
28	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc as required.	Each	35		
29	Supplying and fixing following rating, four pole, 415 volts,isolator in the existing MCB DB complete with connections,testing and commissioning etc. as required.				
a	40 amps	Each	10		



b	63 amps	Each	3		
c	100 amps	Each	1		
30	Supplying and fixing following rating, four pole, (three phase and neutral), 415 volts, residual current circuit breaker (RCCB), having a sensitivity current of 30 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
a	25 amps	Each	5		
b	40 amps	Each	3		
c	63 amps	Each	2		
31	Supply and fixing FP sheet steel enclosure on surface / recess along with 16/25/32 amps 415 volt "C" curve FP MCB complete with connection, testing and commissioning etc as required.	Each	8		

32	Supplying and fixing 20 amps, 240 volts, SPN industrial type, socket outlet, with 2 pole and earth, metal enclosed plug top along with 20 amps, C curve SP MCB in sheet steel enclosure on surface or in recess, with chained metal cover for the socket outlet and complete with connection, testing and commissioning etc as required.	Each	30		
33	Supply and installing following size of perforated GI cable tray with perforations not more than 17.5% in convenient sections, joined with connectors, fixed to surface / suspended from the ceiling with GI suspenders including bolt & nuts, including required bends, tees, reducers etc as required.				
a	200 mm width x 50 mm depth x 1.6 mm thickness	Rm	100		
b	300 mm width x 50 mm depth x 1.6 mm thickness	Rm	70		
34	Earthing with G.I. earth plate 600 mm x 600 mm x 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 m long etc. with charcoal/ coke as required.	Each	4		
35	Supplying and laying 6 SWG G.I. wire at 0.50 metre below ground level for conductor earth electrode, including connection/ termination with GI thimble etc. as required.	Rm	70		

36	Supplying and laying 25 mm x 5 mm GI strip at 0.50 metre below ground as strip earth electrode, including connection/ termination with GI nut, bolt, spring, washer etc. as required (Jointing shall be done by overlapping and with 2 sets of GI nut, bolt & spring washer spaced at 50mm).	Rm	120		
37	Providing and fixing 25 x 5 mm GI strip on surface or in recess for connection etc as required.	Rm	150		
38	Providing and fixing 8 SWG dia G.I. wire on surface or in recess for loop earthing as required.	Rm	360		
39	Providing and fixing 4 mm dia copper wire on surface or in recess for loop earthing along with existing surface / recessed conduit / submain wiring/cable as required.	Rm	220		
40	Laying of one no. PVC insulated and PVC sheathed / XLPE power cable of 1.1kV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required.				
a	Upto 35 sqmm	Rm	10		
b	Above 35 sqmm and upto 95sqmm	Rm	30		

c	Above 185 sqmm and upto 400sqmm	Rm	180		
41	Laying of one no. PVC insulated and PVC sheathed / XLPE power cable of 1.1kV grade of following size in the existing RCC / Hume / Metal pipe as required.				
a	Upto 35 sqmm	Rm	10		
b	Above 35 sqmm and upto 95sqmm	Rm	10		
c	Above 185 sqmm and upto 400sqmm	Rm	30		
42	Laying of one no. PVC insulated and PVC sheathed / XLPE power cable of 1.1kV grade of following size on wall surface as required.				
a	Upto 35 sqmm (clamped with 1mm thick saddle)	Rm	535		
b	Above 35 sqmm and upto 95 sqmm (clamped with 25 x 3 mm MS flat clamp)	Rm	50		
c	Above 185 sqmm and upto 400 sqmm (clamped with 40 x 3 mm MS flat clamp)	Rm	20		

43	Laying of one no. PVC insulated and PVC sheathed / XLPE power cable of 1.1kV grade of following size on cable tray as required.				
a	Upto 35 sqmm (clamped with 1mm thick saddle)	Rm	210		
b	Above 35 sqmm and upto 95 sqmm (clamped with 25 x 3 mm MS flat clamp)	Rm	20		
c	Above 185 sqmm and upto 400 sqmm (clamped with 40 x 3 mm MS flat clamp)	Rm	20		
44	Supplying and making cable route marker with cement concrete 1:2:4 (1 cement:2 coarse sand: 4 graded stone aggregate 20mm nominal size) of size 60 cm x 60 cm at the bottom and 50 cm x 50 cm at the top with a thickness of 10cm including inscription duly engraved as required.	Each	10		
45	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1kV grade as required.				
a	3.5 C x 25 sqmm	Each	4		
b	3.5 C x 50 sqmm	Each	6		

c	3.5 C x 240 sqmm	Each	2		
d	4 C x 6 sqmm	Each	10		
e	4 C x 10 sqmm	Each	12		
f	4 C x 16 sqmm	Each	18		
46	Providing, laying and fixing following dia GI pipe (medium class) in ground complete with GI fittings including trenching (75cm deep) and refilling etc as required.				
a	50 mm dia	Rm	20		
b	100 mm dia	Rm	10		
47	Providing, laying and fixing 150 mm dia RCC pipe NP2 class (light duty) in ground complete with RCC collars, jointing with cement mortar 1:2 (1 cement : 2 fine sand) including trenching (75cm deep) and refilling etc as required.	Rm	30		
48	Supply of the following size 1.1kV grade XLPE insulated PVC sheathed, armoured Aluminium conductor power cable confirming to IS 7098 (part 1) ammended upto date.				

a	3.5 C x 25 sqmm	Rm	80		
b	3.5 C x 50 sqmm	Rm	70		
b	3.5 C x 240 sqmm	Rm	200		
d	4 C x 6 sqmm	Rm	140		
e	4 C x 10 sqmm	Rm	220		
f	4 C x 16 sqmm	Rm	300		
49	Supply, Installation, Testing & Commissioning of LT panel, cubicle type, made out of 2mm thick CRCA sheet, totally enclosed, IP42, free standing, floor mounting, dust and vermin proof, powder coated, indoor, compartmentalised, suitable for operation on 3 phase and neutral, 415 V, 50Hz AC system, including internal wiring with suitable size wires, rotary handle, spreaders, 3mm thick gland plate, hinged type door with neoprene gasket etc. The panel shall include supply & installation of following switchgears, metering instruments and accessories as per specification.				

	Incomer				
	250A, TPN, 35kA, MCCB with thermal magnetic based adjustable OL, SC protection - 1 no.				
	Busbar				
	1 Set of 250 A TPN busbars of high conductivity electrolytic quality Aluminium alloy and suitable size earthing conductor through out the panel for its earthing.				
	Instruments				
	2A, C curve SP MCB - 3 nos.				
	RYB indication lamp, LED type - 3 nos.				
	1 No 3 phase Digital Multi function meter to read V, A, F, kWh Acc class 1.				
	250/5A 10VA class 1 resin cast CT - 1 set				
	Required Danger boards, signages, lettering etc.				
	Outgoing.				
	100A, TPN, 16kA, MCCB with thermal magnetic based adjustable OL protection - 2 no.				
	63A TPN MCB, C curve - 3 nos.				
	40A TPN MCB, C curve - 5 nos.	Each	1		
50	<b>KSEB Meter Board -</b> Supply, Installation, Testing & Commissioning of Three phase meter box, cubicle type, made out of 2mm thick CRCA sheet, totally enclosed, IP54, wall / floor mounting, dust and vermin proof, powder coated, outdoor, compartmentalised, suitable for operation on 3 phase and neutral, 415 V, 50Hz AC system including internal wiring with suitable size wires, rotary handle, spreaders, 3mm thick gland plate, hinged type door with neoprene gasket etc. The panel shall include supply & installation of following switchgears, metering instruments and accessories as per specification.				
	Switchgear & other Accessories				



	Space provision for accomodating 3 phase CT operated energy meter from KSEB with all connections, glass view panel, control MCB, lockable compartment etc.				
	3 nos. Suitable ratio CT (as per KSEB) with Acc. Class 0.5, 10VA in locakable compartment.				
	3 nos 250A cutout fuse unit with fuse and 1 no. Neutral link.				
	1 no. 250A, FP, AC23A, 415V, 50Hz switch disconnecter fuse unit with Din type HRC fuse of suitable rating (as per KSEB) in separate cubical.				
	1 Set of phase indicating lamps, LED type, RYB.				
	1 Set of 2A 10kA C curve SP control MCB				
	1 no of digital voltmeter, Acc. Class 1 with selector switch.				
	The meter board shall have 250 Amp TPN busbars of high conductivity electrolytic quality Aluminium alloy, earth bus of required size, 4P terminal connectors, control wiring with all required accessories complete.	Job	1		
51	Supply, installation, testing & commissioning of 15 kVA, 3 phase, input, 3 phase output, true on-line UPS system ( specifically for Medical application) with 30 minutes back up (full load), including all accessories, Tubular batteries VRLA type with powder coated MS cabinet, battery cabling including all accessories as required complete having following specification.				
	Fully digital controlled based on DSP				
	Power factor corrected from end > 0.9				
	Pure sine wave output.				
	Full time output voltage & frequency regulation				
	Auto regulation of battery end voltage				
	Intelligent interface with LED/LCD display				
	Static bypass switch & manual by pass switch				
	Auto temperature compensation				
	Make: Hykon / Power one / Su-kam	Each	1		

52	Supply of 1x28W, indoor surface mounted channel type decorative luminaire with end cap, electronic ballast, 28W T5 lamp, prewired complete with all necessary accessories suitable for operation on 230V, 50Hz AC supply as required (Crompton T5GP28EBS9 /Bajaj BTIR 128/Havells LHFYBY10N1W028).	Each	75		
53	Supply & installation of 2x36W, indoor recess mounted front opening clean room luminaire with intergral control gear, lamps, prewired complete with all necessary accessories suitable for operation on 230V, 50Hz AC supply as required (Bajaj BPRF 236 C LHD /Crompton CRFW12236EB(595)/Havells LHHCO2236127).	Each	10		
54	Supply & installation of 18W,LED indoor recess mounted down light fixture with die-cast aluminium luminaire in powder coated white finish in round profile with optimized heat sink for efficient heat dissipation and separate replacable electronic driver. complete with all necessary accessories suitable for operation on 230V, 50Hz AC supply as required (Havells ENDURA DL 18W LHEBGOP7UZIW018,Bajaj BZSLO 18WH,Crompton-LCDD-18-WW)	Each	25		
55	Supply of 1x11/14 W compact and decorative luminaire with anti glare diffuser & decorative end caps , lamp, prewired complete with all necessary accessories suitable for operation 230V 50Hz AC supply complete with all mounting accessories as required. (Havells LHFOECF1OZ1W011 /Bajaj BSMLA 01 236 CFL WEB2/HavellsLHCC01236425)	Each	30		

56	Supply of 2x18W, indoor surface mounted mirror optic luminaire with low glare P5 paralite louver assembly, lamps, prewired complete with all necessary accessories suitable for operation on 230V, 50Hz AC supply as required (Havells LHCC01218425 /Bajaj BMLA 01 218 WEBS/Havells LHCC01218425).	Each	10		
57	Supply & installation of 4X14W, indoor recess mounted indirect luminaire with perforated sheet & electronic ballast,with central opal diffuser , lamps, prewired complete with all necessary accessories suitable for operation on 230V, 50Hz AC supply as required (Havells LHFCDEL4IL1W014/Crompton-CRTFL414EBB/MLF,Bajaj-BTTI414LHD).	Each	15		
58	Supply & installation of 2x36W, outdoor type street light fixture, with aluminium housing, clear acrylic cover, intergral control gear, lamps, prewired complete with all necessary accessories suitable for operation on 230V, 50Hz AC supply as required. The light fitting shall be mounted on suitable dia GI pipe bended to required size and fixed to wall as required heigh as per the direction of Engineer-in-charge. (Crompton SCE 13236EB / Bajaj BJSLF236CFLWEB2/Havells-LHRC02236025).	Each	5		
59	Supplying and fixing ISI marked PVC angle batten holder with 11W CFL lamp including all connection etc as required.	Each	35		
60	Supply of 18W LED, indoor surface mounted Down lighter, powder coated white finish in round profile with integrated electronic driver , complete with all necessary accessories suitable for operation on 230V, 50Hz AC supply as required (Havells LHEAAGP71A1W018 / Crompton greaves LCDSPL-R-18-CDL / Bajaj BGCML 18 095 WH).	Each	50		

61	Supply of ceiling fan 1200 mm sweep, double ball bearing, approved colour and quality with original down rod,suspension shackle,canopy etc with out regulator complete with all accessories as required. (Usha Technix Decorative (5 star rating) / Crompton High Breeze plus (5 star) / Orient Energy star)	Each	50		
62	Supply of ventilating fan 250 mm sweep of approved colour, for single phase 230 volt, 50Hz AC supply complete with motor, capacitor, auto close and open grill cover and all accessories as required complete.	Each	25		
63	Supply & installation of 400mm sweep,Wall fan powder coated guard suitable for single phase 230 volt, 50Hz AC supply complete with motor, capacitor and all accessories as required complete. (Make : Usha Max Air white or equivalent)	Each	5		
64	Supply and Installation of 10 pair Telephone Terminal box with 1 no. 10 pair krone IDC module and SS BMF with all accessories.	Each	2		
65	Supply and Installation of 20 pair Telephone Terminal box with 1 no. 20 pair krone IDC module and SS BMF with all accessories.	Each	1		

66	Supplying and fixing following surface / recess mounting vertical type, 415 volts, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 amps tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs with provision of 100A TP 16kA MCCB as incomer, interconnection between incomer MCCB and bus bars (but without MCBs / MCCB) as required.				
a	6 way	Each	1		
b	4 way	Each	1		
67	Supplying and fixing FP sheet steel enclosure (outdoor type) on surface/ recess along with 16/25/32amps 415 volts "C" curve TPN MCB complete with connections, testing and commissioning etc. as required.	Each	5		
68	Providing and fixing 10 SWG dia Copper wire on surface or in recess for loop earthing as required.	Rm	410		
69	Supplying and fixing 63 Amps TP MCB rating, 415 volts, "C" curve, miniature circuit breaker in the existing MCB VDB complete with connections, testing and commissioning etc. as required.	Each	4		

70	Supplying and fixing UTP CAT -6 socket on the existing modular plate & switch box including connections but excluding modular plate etc as required.	Each	10		
71	Supply & laying ISI marked electrical grade chequered type rubber mat of size 2m x 1m x 6 mm suitable for 415V power supply.	Each	5		
72	Laisoning, preparation of necessary electrical drawing & documents for submission in statutory body (electrical inspectorate, KSEB, PWD, PCB etc) and obtaining all approvals for the energisation of the building. Including all incidental expenses except the fees payable to the statutory bodies with valid receipts from the authorities.	Job	1		
	<b>PART II - TOTAL</b>				