

20.03.2014								
26.03.2014								
Bill of quantities / Schedule of works for Electrical installation work with Estimation to be carried out for Proposed Bio-incubator at IITM Reserch Park and IITM, Chennai.								
Item No:	Description	Qty			Supply		Erection	
		IITRD	IITM	Total	Rate Rs.	Amount Rs.	Rate Rs.	Amount Rs.
01.01.00	<b>MCB DBs</b>							
	Supplying, fixing, connecting & commissioning the following Compartmentalised MCB DISTRIBUTION BOARDS fixed flush with the wall. All MCB DBs shall be double door only.							
	<b>MAIN VERTICAL DB FOR Raw Power &amp; UPS</b>							
01.01.00	<b>6 way TPN Main Vertical DB for R&amp;D</b>							
	<b>Incomer :</b> 100 AMPS 4P MCCB ... 1 No. <b>Outgoing :</b> 63 AMPS TP MCB ... 6 Nos.	1		1 Set				
01.02.00	<b>Lighting Distribution Board RD/ LDB Cum PDB IIT</b>							
	<b>12 WAY TPN 3 TIER MCB</b>							
	<b>INCOMER :</b> 32 AMPS 4P MCB ... 1 No. <b>OUTGOINGS :</b> 25 AMPS DP 30 mA RCBO ... 3 Nos. 6-10 AMPS SP MCB ... 36 Nos.	1	1	2 SET				
01.03.00	<b>Power Distribution Board</b>							
	<b>8 WAY TPN 3 TIER MCB</b>							
	<b>INCOMER :</b> 63 AMPS 4P MCB ... 1 No. <b>OUTGOINGS :</b> 40 AMPS DP 30 mA RCBO ... 3 Nos. 16-20 AMPS SP MCB ... 24 Nos.	1		1 SET				
01.04.00	<b>6 WAY TPN 3 TIER MCB</b>							
	<b>INCOMER :</b> 32 AMPS 4P MCB ... 1 No. <b>OUTGOINGS :</b> 25 AMPS DP 30 mA RCBO ... 3 Nos. 6-10 AMPS SP MCB ... 18 Nos.	RO		SET				
02.00.00	<b>UPS DB FOR WORK STATIONS</b>							
02.01.00	<b>12 WAY TP2N 3 TIER MCB DB - RD</b>							
	<b>INCOMER :</b> 63 AMPS 4P MCB with 125A Removable neutral link..1 No. <b>OUTGOINGS :</b> 63 AMPS DP MCB ... 3 Nos. 10-16 AMPS SP MCB ... 36 Nos.	1		1 SET				
03.00.00	<b>FSU/MCCB CONTROL</b>							
03.01.00	Supplying, erecting, connecting & commissioning 63 AMPS 4P MCB in an angle iron frame with necessary interconnections, cable box brackets, screws, bolts, nuts Control for AHU control	1		1 SET				
03.02.00	Supplying, erecting, connecting & commissioning 32 AMPS 4P MCB in an angle iron frame with necessary interconnections, cable box brackets, screws, bolts, nuts Control for UPS control	1		1 SET				
04.00.00	<b>CABLES/TERMINATIONS</b>							
	Supplying, laying, connecting & commissioning the following 1.1 KV Grade AYFY/AYWY (or) YWY / YFY Under ground cables with necessary clamps, screws, etc. in the following methods: -							
04.01.00	<b>CLAMPED ALONG WALL /COLUMN/ LAID IN TRAY ( Inclusive of clamps, but exclusive of Cable Tray)</b>							
	i) 3 1/2 x 35 Sq.mm Al (For Vertical DB)	100		100 MTS.				
	ii) 4 x 10 Sq.mm Cu (For AHU)	50		50 MTS.				
	iii) 4 x 16 Sq.mm Al (For LDB / IITM Incoming cable)	100	50	150 MTS.				

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04.02.00	Supplying, terminating, connecting & commissioning the above Underground cables with compression type SIBG Cable glands. The cost of earthing gland with copper strips/wires shall also be included. The cables shall be terminated with Aluminium / copper lugs after crimping. The cost of lugs/ sockets shall be included.								
	i) 3 1/2 x 35 Sq.mm Al (For Vertical DB)	2			2	Nos.			
	ii) 4 x 10 Sq.mm Cu (For AHU)	2	2		4	Nos.			
	iii) 4 x 16 Sq.mm Al (For LDB / IITM Incoming cable)	2	2		4	Nos.			
05.00.00	<b>Mains Wiring</b>								
	<b>ALL CONDUITS ABOVE FALSE CEILING SHALL BE PROPERLY FIXED ON RCC CEILING ON 1.5 mm THICK BRACKETS</b>								
05.01.00	Supplying, laying, connecting & commissioning 4 Runs of 16 Sq.mm. with 2 Run of 6 Sqmm. PVC Insulated multistranded FRLS copper conductor wires for continuous earthing in MS conduits concealed in wall/ partitions or laid in open fashion above false ceiling with necessary clamps,screws etc for 15KVA UPS	20			20	MTS			
05.02.00	Supplying, laying, connecting & commissioning 5 Runs of 10 Sq.mm with 2 Run of 6 Sqmm. PVC Insulated multistranded FRLS copper conductor wires for continuous earthing in MS conduits concealed in wall/ partitions or laid in open fashion above false ceiling with necessary clamps,screws etc.from 15KVA UPS to UPS DB	20			20	MTS			
05.03.00	Supplying, laying, connecting & commissioning 4 Runs of 6 Sq.mm. with 2 Run of 2.5 Sqmm. PVC Insulated multistranded FRLS copper conductor wires for continuous earthing in MS conduits concealed in wall/partitions or laid in open fashion above false ceiling with necessary clamps,screws etc from VDR to DBs	20			20	MTS			
06.00.00	<b>Power Wiring</b>								
	<b>NOTE :-</b>								
	<b>a) ALL CONDUITS ABOVE FALSE CEILING SHALL BE PROPERLY FIXED ON RCC CEILING ON 1.5 mm THICK BRACKETS.</b>								
06.01.00	Supplying, laying, connecting & commissioning 2 Runs of 4 Sq.mm PVC Insulated multistranded copper conductor FRLS wires (One each for Phase, Neutral) with 1 Run of 2.5 Sqmm. PVC Insulated multistranded FRLS copper conductor wires for continuous earthing <b>in already laid MS Conduits</b> concealed in wall / partitions / floor with necessary clamps,screws etc - <b>6/16 Amps Sockets</b>	500	25		525	MTS			
06.02.00	Supplying, laying, connecting & commissioning 3 Runs of 1.5 Sq.mm PVC Insulated multistranded copper conductor FRLS wires (One each for Phase, Neutral and earth) <b>in already laid MS Conduits</b> concealed in wall / partitions / floor with necessary clamps,screws etc - <b>6 Amps Sockets</b>	350	50		400	MTS			
06.03.00	Supplying, laying, connecting & commissioning 6/16 AMPS Switched Socket combined in Manufacturer's mounting box fixed flush with the wall / Partitions.	15	2		17	Nos.			
	<b>NOTE: In one Circuit there shall be 2 Sets of 6/16A Socket shall be wired</b>								
06.04.00	Supplying, laying, connecting & commissioning 6 AMPS Switched Socket combined in Manufacturer's mounting box fixed flush with the wall / Partitions.	100	25		125	Nos.			
	<b>NOTE:</b>								
	In one Circuit there shall be 8 Sets of 1 x 6A Socket shall be wired								
	In one Circuit there shall be 3 Sets of 2 x 6A Socket shall be wired								
	In one Circuit there shall be 2 Sets of 3 x 6A Socket shall be wired								
	In one Circuit there shall be 2 Sets of 4 x 6A Socket shall be wired								
06.05.00	Supplying, laying, connecting & commissioning 32AMPS SPN Metal clad Plug & Socket combined with 32 AMPS DP MCB in Manufacturer's mounting box fixed flush with the wall/ Partitions with necessary accessories	RO				Nos			
06.06.00	Supplying, laying, connecting & commissioning 20 AMPS SPN Metal clad Plug & Socket combined with 20 AMPS DP MCB in Manufacturer's mounting box fixed flush with the wall/ Partitions with necessary accessories	14	2		16	Nos			
06.07.00	Supplying, laying 32 mm. dia MS Conduits laid in floor /concealed in wall / partitions with necessary clamps,screws etc. for UPS Wiring	100	25		125	MTS			

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06.08.00	Supplying, laying 25 mm. dia MS Conduits laid in floor /concealed in wall / partitions with necessary clamps.screws etc. for UPS Wiring	100	25	125	MTS				
07.00.00	<b>Light Point Wiring</b>								
	<b>NOTE :-</b>								
	<b>ALL CONDUITS ABOVE FALSE CEILING SHALL BE PROPERLY FIXED ON RCC CEILING ON 1.5 mm THICK BRACKETS.</b>								
07.01.00	Supplying,wiring,connecting & commissioning the light points with 3 Runs of 1.5Sq.mm. PVC insulated multistranded Copper Conductor wires (One each for Phase, Neutral and Earth) in MS Conduits concealed in wall / ceiling or open above false ceiling with necessary clamps screws etc including supplying and fixing 5AMPS Switch in manufacturers mounting box fixed flush with the wall / Partitions. Average length is 10 Meters (From LDB to Switch Baord and Switch Baord to First								
07.01.01	One Light Controlled by one Switch	10	5	15	Pts				
07.02.00	Supplying,wiring,connecting & commissioning the light points with 3 Runs of 1.5 Sq.mm. PVC insulated multistranded copper Conductor FRLS wires (One each for Phase, Neutral and Earth) in MS Conduits concealed in wall/ ceiling with necessary clamps, screws etc for additional points. The additional points will have to be wired from the first point mentioned under Item under Item No.07.01.01. The maximum length will be 5.0Mts.	40	7	47	Pts				
07.03.00	Same as the Item No.07.01.00 but for 6AMPS Independant switched socket combined including supplying and fixing 6 AMP Switched Socket with MS box	5		5	Pts				
07.04.00	Same as the Item No.07.01.00 but in switched board itself	RO	5	5	Pts				
	<b>NOTE:</b>								
	THE COST OF SUPPLYING, LAYING & PULLING CIRCUIT MAINS WIRING WITH 3 RUNS OF 1.5 SQMM. PVC INSULATED MULTISTRANDED COPPER CONDUCTOR WIRES IN MS CONDUITS SHALL BE INCLUDED IN THE POINT RATE FOR LIGHT, FAN, EXHAUST FAN, 5 AMPS SOCKETS ETC.AVERAGE LENGTH 10 MTS(LDB TO SWITCH BOARD AND SWITCH BOARD TO FIRST POINT)								
08.00.00	<b>UPS WIRING</b>								
08.01.00	Supplying, laying, connecting & commissioning 3 Runs of 2.5 Sq.mm PVC Insulated multistranded copper conductor FRLSwires (One each for Phase,Neutral) with continuous earthing <u>in already laid MS Conduits</u> ,concealed in wall / partitions or laid in openfashion above false ceiling with necessary clamps, screws etc.from DB to Power Points	400	150	550	MTS				
08.02.00	Supplying,fixing, connecting & commisioning 2 x 6 Amps UPS Universal Sockets with 1No 16A switches housed in Manufacturer's mounting box fixed flush with the wall (or) on partition switch necessary accessories such as screws bolts & nuts etc	60	21	81	SETS				
	<b>NOTE:</b>								
	In one Circuit there shall be 3 Sets of 2 x 6 A Socket shall be wired								
08.03.00	Supplying,fixing, connecting & commisioning 1x6 Amps UPS Universal Sockets with 1No 6A switches housed in Manufacturer's mounting box fixed flush with the wall (or) on partition switch necessary accessories such as screws bolts & nuts etc	RO			SETS				
08.04.00	Supplying, laying, connecting & commissioning 2 Runs of 4 Sq.mm PVC Insulated multistranded copper conductor FRLS wires (One each for Phase, Neutral) with 1 Run of 2.5 Sqmm. PVC Insulated multistranded FRLS copper conductor wires for continuous earthing <u>in already laid MS Conduits</u> concealed in wall / partitions or laid in open fashion above false ceiling (or)laid in floor with necessary clamps screws etc	RO			MTS				
08.05.00	Supplying,fixing, connecting & commisioning 6/16 Amps UPS Universal Sockets with 1No 16A switches housed in Manufacturer's mounting box fixed flush with the wall (or) on partition switch necessary accessories such as screws bolts & nuts etc	RO			SETS				
	<b>NOTE:</b>								
	In one Circuit there shall be 2 Sets of 1 x 6 /16 A Socket shall be wired								





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16.00.00	<b>Cable Tray</b>														
16.01.00	Supplying, fabricating, erecting, connecting & commissioning of the Powder coated (ALUMINIUM COLOUR) Ladder Type Cable Trays with necessary Angle irons for cable supports and other allied fabrication works. Fixing to concrete surfaces shall be done with the help of expandable type anchor fastners capable of bearing a weight of 500 Kgs. Fixing to brick walls shall be done with grouting. The distance between two supports shall be 600mm. The materials and labour for grouting, cable supports and other allied fabrication work shall be supplied by the Contractor at no extra cost.	100	20	120	Kgs										
17.00.00	<b>PVC FLEXIBLE HOSE</b>														
17.01.00	Supplying, laying, connecting & commissioning PVC flexible hose of the following sizes with necessary accessories and glands etc.														
17.01.01	25 mm. Dia	50	10	60	Mts										
17.01.02	32 mm. Dia	50	10	60	Mts										
18.00.00	<b>METALLIC HOSE</b>														
18.01.00	Supplying, laying, connecting & commissioning MS flexible hose of the following sizes with necessary accessories and glands etc.														
18.01.01	25 mm. Dia	RO			Mts										
18.01.02	32 mm. Dia	RO			Mts										
19.00.00	<b>Light Fittings</b>														
19.01.00	Supplying, fixing, connecting and commissioning of Direct or indirect suspended Type (Space saving design) luminaries suitable for 2 x 28 W CFL Lamps (Wipro Curve WVF 86228 OR equivalent) with anodized matt Aluminum in fill pieces and double parabolic reflector compliance with all accessories including lamps.	25		25	Nos										
19.02.00	Supplying, fixing, connecting and commissioning of Direct or indirect luminaries suitable for 2x28W CFL Lamps recessed mounted fitting		10	10	Nos										
19.03.00	Supplying, fixing, connecting & commissioning Spot light fitting with Electronic Ballast complete with all accessories including Suspension system, supplying and fixing of 2 nos 18watts (WIPRO WCP 32113/118 OR equivalent) Fluorecent Lamps with fixing materials for suspension type in the false ceiling.	15	5	20	Nos										
19.04.00	Supplying, fixing, connecting and commissioning of RECESSED DOWN LIGHTER FOR 12V, 50 W HALOGEN DICHROIC LAMP OF PHILIPS MAKE CAT # DN 652 (OR) Equivalent with separate Transformer and electronic regulator and all accessories for fixing flush with the false ceiling.	5	5	10	Nos										
19.05.00	Supplying, fixing, connecting and commissioning of 1x36 W T5 Fitting with necessary clamps, screws etc.				Nos										
19.06.00	Supplying, fixing, connecting & commissioning exhaust fan for with necessary foundation brackets, interconnection etc.	Ro			No										
20.00.00	<b>SAFETY EQUIPMENTS</b>														
20.01.00	Supplying, erecting and connecting a 2KG CO2 FIRE EXTINGUISHER properly fixed on the wall with necessary clamps, screws, bolts and nuts etc. The extinguisher shall be suitable for all types of fires (A, B & C)	1		1	No										
20.02.00	Supplying, erecting and connecting Treatment Chart in English and Tamil directly fixed on to the wall with necessary screws etc.	1		1	No										
20.03.00	Supplying, and laying 1800 mm. x 1200 mm x 6 mm. thick ISI Marked Rubber mats to be laid in Front of the Distribution Boards.	2		2	Nos										
21.00.00	<b>MISCELLANEOUS</b>														
21.01.00	Liasion with The Chief Electrical Authority to Govt. obtaining Safety Certificate for Energisation of Tamilnadu, preparation of Working drawings etc., obtaining approval for drawing.	1		1	LS										
21.02.00	Preparation of " AS BUILT DRAWINGS"	1		1	LS										
<b>Total</b>															
<b>Grand Total</b>															