SECTION - III
ELECTRICAL WORK

S U M M A R Y O F C O S T

SECTION NO.	D E S C R I P T I O N	FOLIO NO.	AMOUNT Rs.
A	DBs, CABLING, AND WIRING	SCH-E/5	
B	INSTALLATION OF LIGHT FITTINGS & FAN	SCH-E/6	
	TOTAL CARRIED TO GENERAL SUMMARY :		

A. DBs,CABLING & WIRING WORK

SL. NO.	ITEM DESCRIPTION	UNIT	QTY.	RATE (Rs.)	AMOUNT (Rs.)
1.1	MAIN SWITCH Supply and fixing of make Switch Fuse Unt(SFU) with HRC fuse in sheet steel enclosure on M.S. angle frame / M.S. legs on wall complete with interconnection, mending good damages to original finish, painting, etc. as required.				
1.1.1	63A TPN SFU with HRC fuse	Each	1		
1.1.2	32A TPN SFU with HRC fuse	Each	1		
1.2	MCB DISTRIBUTION BOARD Supply, installation, testing and commissioning of following Havell's/Standard make MCB Distribution Board in sheet steel enclosure with double door and suitable for mounting on wall by chase cutting and flushed with finished level to the position shown in the Electrical Layout complete in all respect, mending good all damages to the original finish, painting, interconnection, etc. as required. Short circuit I.C. of all MCBs should be 10 KA (minimum) and RCBOs should have earth leakage, overload and short circuit protection. Name plate of DB's to be fixed / written on front door alongwith switch board numbers / DB's at the outgoing.				
1.2.1	MAIN LIGHTING DISTRIBUTION BOARD. 6 way VTPN MCB DB complete with busbar and the following MCB. Incoming : 1 no:415V, 63A,4P, MCB Iso. Outgoing 1Nos. : 415V, 40A, TPMCB 8No. : 240V,20/25A, SP MCB 3 Nos. : 240V 16A SP MCBs Complete board as above	Each	1		
1.2.2	Lighting Distribution Board (LDB) 6 way VTPN MCB DB complete with busbar and the following MCBs : Incoming 1 no. : 40A ,TP MCB. Outgoing : 2Nos. : 415V, 25A, TPMCB 2Nos. : 240V, 20A, SPMCB 11 Nos. 240V,10/6 A, SP MCB.	Each.	1		
1.2.3	Supply and fixing of 20A DP MCB in 2 pole 1 way enclosure complete. For Glow Sign Board.	Each	1		

CARRIED OVER :

SL. NO.	ITEM DESCRIPTION	UNIT	QTY.	RATE (Rs.)	AMOUNT (Rs.)
	BROUGHT FORWARD :				
1.3	CHANGE OVER SWITCH (COS)				
	Supply, installation, testing and commissioning of 40A, FP off load change over switch in sheet steel enclousure on M.S legs on wall complete with interconnection, mending good damages to original finish, painting etc. as required.	Each	1		
1.4	DISTRIBUTION CABLE :				
1.4.1	SUPPLYING OF CABLE : Supplying of following 1.1 KV grade XLPE insulated and PVC sheathed armoured aluminium conductor cables of following sizes conforming of IS:7098 (Part-I) :				
1.4.1.1	3.5 core 35 sq.mm cable (from SFU to Main DB).	Mtr.	30.00		
1.4.1.2	4 core 16 sq.mm cable (from DG to COS)	Mtr.	50.00		
1.4.2	LAYING OF CABLE				
	Laying of above cable on wall/column/above false ceiling including supply and fixing of M.S. clamps/galvanised bar saddles @ 300 mm apart, making holes and mending good damages.				
	3.5 core 35 sq.mm cable	Mtr	30.00		
	4 core 16 sq.mm cable	Mtr	50.00		
1.5	CABLE GLAND AND FINISHING THE END				
	Supplying and fixing of compression type brass cable gland alongwith rubber rings for dust and moisture proof entry of following 1.1 KV grade XLPE insulated and PVC sheathed armoured aluminium conductor cable and finishing the end by crimping method including supply and fixing of “Dowel” make solderless socket, tapes and jointing materials as required to be completed in all respect.				
	3.5core35 sq.mm aluminium cable.	Set	2		
	4core16 sq.mm aluminium cable.	Set	6		
1.6	SUBMAIN WIRING				
	Submain wiring with following sizes 1100 V grade, single core, PVC insulated flexible copper conductor cable (IS:694) through suitable size (as per table -1) PVC. conduit (ISI marked embossed on conduit surface) complete with junction box, circular box, elbows, bends and other accessories on surface above false ceiling or concealed by chase cutting on wall, as per site condition, mending good all damages to original finish, interconnection, painting etc. as required to be completed in all respect. All connections of wires to be done by means of “Wago” type connectors:				
1.6.1	With 2 Nos.4 Sq.mm. + 1 No. 1.5 Sq.mm. (green colour for earth) PVC insulated copper wire in 25 mm dia PVC. conduit (From LDB to Glow Sign Board).	Mtr.	30.00		
1.6.2	With 2 Nos. 2.5 Sq.mm. + 1 No. 1.5 Sq.mm. (green colour for earth) PVC insulated copper wire in 25 mm dia PVC. conduit.(From LDB to Switch Boards)	Mtr.	125.00		
	CARRIED OVER :				

SL. NO.	ITEM DESCRIPTION	UNIT	QTY.	RATE (Rs.)	AMOUNT (Rs.)
	BROUGHT FORWARD :				
1.7	A.C. POWER POINT WIRING : A.C. power point wiring from Main DB to A.C. Power points with 1100 volt grade following rating (Green colour for earthing) PVC insulated flexible FR copper conductor cable through suitable size PVC conduit (ISI marked embossed on conduit surface) complete with junction box, circular box, elbows, bends, couplers and other accessories surfaced on wall above false ceiling or concealed by chase cutting on brick / wooden wall. The work includes supply & fixing by chase cutting on wall, 'North-West' make A.C. power unit having suitable rating socket with plug,plug-top & starter in sheet steel enclosure complete with interconnection, mending good all damages to original finish, painting etc. as required. All connections of wires to be done by means of 'Wago' type connectors.	Each	7		
1.7.1	2 nos. 4.0 sq.mm. + 1 no. 2.5 sq.mm. single core wires for A.C. machine upto 2.0 TR.	Mtr.	75.00		
1.8	16/6A SOCKET OUTLET POINT WIRING Wiring for 16/6A 6 pin socket outlet with controlling switch from DB with 1100 volt grade 2 Nos. single core 2.5 sq.mm. + 1 No. 1.5 sq.mm. (Green colour for earthing) PVC insulated flexible copper conductor cable (IS:694) through suitable size (as per table -1) PVC. conduit (ISI marked embossed on conduit surface) complete with junction box, circular box, elbows, bends, couplers and other accessories on surface above false ceiling or concealed by chase cutting on wall. The work includes supply & fixing of modular type 16/6A 6 pin shuttered socket outlet with controlling switch, indicator, suitable size mounting box and screwless front plate for socket outlet flushed with finished wall, mending good all damages to original finish, interconnection, painting, etc. as required to be completed in all respect. All connections of wires to be done by means of 'Wago' type connectors.	Each	3		
1.9	POINT WIRING Point wiring with 1100 V grade 3 nos. single core 1.5 sq.mm. (1 for phase, 1 (black colour) for common neutral by looping method and 1 (green colour) for common earth by looping method) PVC insulated flexible copper conductor cable (IS:694) through suitable size (as per table -1) PVC. conduit (ISI marked embossed on conduit surface) complete with junction box, circular box, elbows, bends, couplers and other accessories (from switch board to point) on surface above false ceiling or concealed by chase cutting on wall from light & fan switch board to light, fan & 6A socket outlet on the same switch board or separately mounted switch board. The work includes supply and fixing of modular type 6A switch for each light and fan point, 6A 2/3 pin shuttered socket outlet with switch, 3 plate ceiling rose / angle or batten holder etc. as required. The point wiring also includes circuit wiring with 1100 V grade 2 nos. single core 2.5 sq.mm. (1 for phase and 1 (Black colour) for neutral) + 1 no. single core 1.5 sq.mm. (Green colour for earth) PVC insulated flexible copper conductor cable (IS:694) through suitable size (as per table -1) PVC. conduit as described above from DB to switch board, interconnection, mending good all damages to original finish, painting etc. as required to be completed in all respect. All connections of wires to be done by means of "Wago" type connectors. (All wiring in strong room, locker room, records & stores will be of surface conduit type.)				
	CARRIED OVER :				

SL. NO.	ITEM DESCRIPTION	UNIT	QTY.	RATE (Rs.)	AMOUNT (Rs.)
	BROUGHT FORWARD :				
1.9.1	Light points (all types)				
1.9.1.1	1 Light control by 1 switch	Each	6		
1.9.1.2	2 Light control by 1 switch	Each	6		
1.9.1.3	Red/CFL light point	Each	2		
1.9.2	Wall bracket fan point with supply and fixing of 6 A socket near the fan and contolling switch at light / fan switch board.	Each	12		
1.9.3	Call bell point with bell push	Each	2		
1.9.4	1x6A 2/3 pin shuttered socket with switch on separate switch board other than light / fan switch board / on work stations .	Each	16		
1.9.5	1 X 6A 2/3 pin shuttered socket outlet with switch on light and fan switch board.	Each	6		
1.9.6	Sipplying and laying of 10 SWG G.I wire along the cable including interconnection etc. as required.	Mtr.	50.00		
1.9.7	Exhaust fan point	Each	2		
1.10	EARTHING GENERAL				
1.10.1	Earthing the installation as per I.E Rules conforming to I.S : 3043 - 1987 or its latest ammendment by making earth sation with 3 meter long 50 mm dia G.I earth Pipe (Partly Perforated) to be installed such that its top end shall be at 300 mm below ground level after preparation of ground with charcoal & Salt and connecting with 25 mm x 6 mm G.I earth lead-in-strip upto 10 metre length by bolting and then brazing, complete with nut, bolt, washer etc. as required. The earthing station shall be provided with 300 mm x 300 mm x 300 mm inside dimension masonry inspection Pit with C.I. hinged cover.	Each	2		
1.10.2	Extra for earth lead-in-strip exceeding 10 meter as mentioned in above Item with supply and fixing of 25mm x 6mm G.I Strip to be fixed on wall or directly buried in ground including connection complete.	Mtr	25.00		

TOTAL CARRIED TO ELECTRICAL SUMMARY :

B. INSTALLATION OF LIGHT FITTINGS &FAN

SL. NO.	ITEM DESCRIPTION	UNIT	QTY.	RATE (Rs.)	AMOUNT (Rs.)
2.1	INSTALLATION OF LIGHTING FITTINGS & FAN ETC.				
2.1.1	Installation, testing and commissioning of 1x36 W fluorescent light fitting including 1 Nos. 36w FTL lamps(Philips) with fluorescenet lamps directly on wall / ceiling including supplying and fixing of 2 nos. M.S. clamps or hard wood round block properly shelac polished suitable for wall / ceiling mounting including interconnection between light points and fittings with 3 nos. single core / 3 core 1.5sq.mm. PVC insulated flexible copper conductor cable, painting etc. as required	Each	2		
2.1.2	Installation, testing and commissioning of 2x36 watt CFL light fittings with 2 x 36W true light recessed in false ceiling with interconnection between light points and fittings with2 nos. single core / 1.5sq.mm. PVC insulated flexible FR copper conductor cable, painting etc. as required.	Each	16		
2.1.3	Installation, testing and commissioning of 1x18 watt CFL down light /wall bracket light fittings with 1 x18W true light on wall / ceiling including supplying and fixing of 2 nos. M.S. clamps or hard wood round block properly shelac polished with 2 x 20 mm dia MS pipe suitable for wall / ceiling mounting including interconnection between light points and fittings with 3 nos. single core / 3 core 1.5sq.mm. PVC insulated flexible FRLS copper conductor cable, painting etc. as required.	Each	4		
2.1.4	Installation of 400 mm dia wall bracket fan on wall complete with all accessories.	Each	12		
2.1.5	Installation, testing and commissioning of heavy duty type ISI marked 300mm dia. Exhaust fan suitable for 240V single phase 50 Hz. A.C. supply complete with louvre, interconnection between fan points and fan with 3 nos. single core / 3 core 1.5sq.mm PVC insulated flexible FR copper conductor cable, making suitable size holes on wall to accommodate the fan, mending good to the original finish, painting etc. as required.	Each.	2		

TOTAL CARRIED TO ELECTRICAL SUMMARY :

ELECTRICAL LOAD CALCULATI0N, INDIAN BANK ASANSOL BRANCH

Sl. No. A	Description of Items. B	Unit C	Symbole	Wattage D	Quantity E	Load in Watt F = D X E
1	2 x 36 Watt CFL Fittings	No.		100	16	1600
2	1 x 36 Watt 36w FTL Fittings.	No.		50	2	100
3	1 x 18 Down lighter	No.		25	4	100
5	16A Raw Power point.	No.		500	3	1500
6	6A Raw Power point.	No.		50	16	800
7	UPS Power point.	No.		250	16	4000
7	1200 mm dia Ceiling fan.	No.		80	0	0
8	A.C. Power Point	1Ton.		1300	2	2600
8	A.C. Power Point	1.5Ton.		2000	1	2000
8	A.C. Power Point	2Ton.		2600	3	7800
9	Wall bracket fan.	No.		90	12	1080
10	Exhaust fan.	No.		90	2	180
10	Glow Sign Power	No.		2000	1	2000
11	ATM	No.			0	0
	Total Connected Load.				**:**	**23760**

#REF!