

OFFICE OF THE SUPERINTENDING ENGINEER, PWD, BUILDING CONSTRUCTION & MAINTENANCE CIRCLE, TIRUNELVELL.

Name of work: “Providing Internal and External Electrification, Inverter arrangements to the Newly Constructed Prefabricated Workshop and Laboratory in Government **ITI Sattur at Virudhunagar District.”**

Sl No	Qty	Description of work	Rate	Per	Amount
1	61 Pts (Sixty One Points Only)	Wiring with 2 x 1.5 sq.mm PVC insulated SC unsheathed copper conductor of 1100V grade in suitable heavy gauge conduit pipe on wall and ceiling with MS accessories and with GI modular box with 6A one way module switch covered with module front plate inflush with wall with suitable colour with continuous earth wire connection of 1 Sqmm unsheathed cu wire for MS open light point / Fan point (modular switches and plates are made of crabtree/ legrand) (4pts/coil))		Pts	
2	38 Pts (Thirty Eight Points only)	Wiring with 2x1.5 sqmm (22/0.3) PVC insulated SC Cu. conductor of 1100V grade in suitable PVC rigid pipe concealed in wall and ceiling with PVC accessories in flush with wall with GI Flush mounting box ,Plastic combined cover plate and 6A one way modular type (one module) switch with light / Fan marking and making good of the concealed portion with suitable colour for PVC Light/fan point. (The GI flush mounting box,cover plate and switch should be of Legrand/ Hager/ Crabtree/ Equilvalent) (5pt/coil)		Pts	

3	10 Pts (Ten Points only)	Wiring with 2x1.5 sqmm (22/0.3) PVC insulated SC Cu. conductor of 1100V grade in suitable PVC rigid pipe concealed in wall and ceiling with PVC accessories in flush with wall with GI flush mounting Box, Plastic combined cover plate and 6A one way modular type (one module) switch and making good of the concealed portion with suitable colour for PVC Light/fan point. (The GI flush mounting box, cover plate and switch should be of Legrand/ Hager/ crabtree/ Equivalent) (6pt/coil)		Pts	
4	24 Pts (Twenty Four Points only)	Wiring with 2 x 1.5 sq.mm PVC insulated SC unsheathed copper conductor of 1100V grade in suitable PVC rigid pipe concealed in wall and ceiling with PVC accessories and with MS modular box with 6A one way module switch and 6A 3 pin module socket covered with module front plate in flush with wall with continuous earth wire connection of 14 SWG TC wire and making good of the concealed portion with suitable colour for concealed PVC plug point (modular switches and plates are crabtree/ Legrand)		Pts	
5	2 Nos (Two Numbers only)	Supply and fixing of single box type 4'20W LED fitting (Wipro / Crompton / Phillips / Havells or equivalent) complete with TW round blocks on wall or ceiling with flu tube with PVC unsheathed Copper leads from terminals to the fitting.		Ea	

6	18 Nos (Eighteen Numbers only)	Supply and fixing of 42w LED 2 x 2 Square Type Surface/Recess Fitting suitable with PVC unsheathed Copper leads from terminals to the fitting .		Ea	
7	8 Nos (Eight Numbers only)	Supply and fixing of 18w LED 1 x 1 Square Type Recess Fitting suitable with PVC unsheathed Copper leads from terminals to the fitting .		Ea	
8	6 Nos (Six Numbers Only)	Supply and fixing of 9 W LED (Philips/ Equ.) for existing BH point.		Ea	
9	12 Nos (Twelve Numbers Only)	Supply and fixing of 30W LED street light fitting with 1 metre 25mm dia GI pipe (class B) with 1 no 25mm dia GI bend complete on the existing post/wall with PVC unsheathed copper leads MS clamps with 16A fuse unit on the MS plate and aluminium painting with connecting leads from terminals to the fitting.		Ea	
10	34 Nos (Thirty Four Numbers Only)	Supply and fixing of 80W LED Highbay fitting with suitable special type clamp set with PVC Unsheathed copper leads from the taerminals to the fittings.		Ea	
11	20 Nos (Twenty Numbers Only)	Supply and fixing of 1400 mm (56") AC ceiling fan (Crompton/havells/orient/Eq) complete with Fan step regulator 1 Module 100W of Crabtree/ Legrand /Eq. with 3.0Mtr down rod with suitable fan clamp.		Ea	
12	32 Nos (Thirty Two Numbers Only)	Supply and fixing of 400mm (16") wall Air storm fan High speed fan (Almonard make) in the existing point on wall with connection complete.		Ea	

13	7 Nos (Seven Numbers Only)	Supply and fixing of 375 mm (15") sweep (heavy duty) AC exhaust fan complete without provision of hole in the wall.		Ea	
14	7 Nos (Seven Numbers Only)	Supply and fixing of louvers shutters arrangements for 375 mm (15") sweep AC exhaust fan.		Ea	
15	2 Nos (Two Numbers Only)	Supply and fixing of 300 mm (12") sweep (light duty) AC exhaust fan complete without provision of hole in the wall.		Ea	
16	2 Nos (Two Numbers Only)	Supply and fixing of louvers shutters arrangements for 300 mm (12") sweep (light duty) AC exhaust fan.		Ea	
17	32 Nos (Thirty Two Numbers Only)	Supply and fixing of 6A/16A 3 pin socket (3 module) and with 16A SP modular switch(one module) on suitable GI flush mounting box and plastic combined cover plate with connection complete. (AC Plug)		Ea	
18	84 Nos (Eighty Four Numbers only)	Supply and fixing of Modular type 1No 6A and 1 No 16A on Existing Trunking Box in work table with earth connection (for Work table)		Ea	
19	37 Nos (Thirty Seven Numbers only)	Supply and fixing of 1 No Modular type 6A combined flush type wall socket with control switches with 2 Nos16A modular type socket and 2Nos 16A Moduler type Switch on suitable GI flush mounting box and plastic combined cover plate with connection complete. (for combined plug)		Ea	

20	12 Nos (Twelve Numbers only)	Supply and fixing of 32A, FP (3P+N+E) P 17 Tempera Plug and Socket DB with 32A FP MCB with suitable cable entry box and internal connections on suitable angle iron frame work with earth connection only. (The FP Tempera Plug and Socket DB and FP MCB should be (Legrand (MDS) / Hager(L & T) make.		Ea	
21	2 Nos (Two Numbers only)	Supply and fixing of 63A, FP (3P+N+E) P 17 Tempera Plug and Socket DB with 63A FP MCB with suitable cable entry box and internal connections on suitable angle iron frame work with earth connection only. (The FP Tempera Plug and Socket DB and FP MCB should be (Legrand (MDS) / Hager(L & T) make.		Ea	
22	10 Nos (Ten Numbers Only)	Supply and fixing of 32 A DP MCB switch in sheet steel enclosure in flush with wall and making good of the concealed portion with earth connection (DP MCB & METAL Enclosure should be of Legrand / Hager make). (for street light & Machine)		Ea	
23	160 Mtr (One Hundred Sixty Meters Only)	Supply and run of 2 of 2.5 sq.mm (33/0.3) PVC insulated SC unsheathed Cu. Conductor of 1100V Grade in suitable PVC rigid pipe concealed in wall and ceiling with continuous earth wire connection of 14SWG TC wire and making good of the concealed ortion with suitable colour.		Mtr	

24	70 Mtr (Seventy Meters Only)	Supply and run of 2 of 2.5 sqmm (36/0.3) PVC insulated SC unsheathed Cu.Conductor of 1100V Grade on Existing 3 compartment GI/Metal race ways flush with ground surface floor with continuous earth wire connection of 14SWG TC wire.		Mtr	
25	1400 Mtr (One Thousand Four Hundred Meters Only)	Supply and run of 2 of 4sqmm (56/0.3) PVC insulated SC unsheathed Cu.Conductor of 1100V Grade in suitable PVC rigid pipe concealed in wall and ceiling with continuous earth wire connection of 14SWG TC wire and making good of the concealed portion with suitable colour.		Mtr	
26	400 Mtr (Four Hundred Meters Only)	Supply and run of 2 of 4sqmm (56/0.3) PVC insulated SC unsheathed Cu.Conductor of 1100V Grade on Existing 3 compartment GI/Metal race ways flush with ground surface floor with continuous earth wire connection of 14SWG TC wire.		Mtr	
27	50 Mtr (Fifty Meters Only)	Supply and run of 2 of 6sqmm (84/0.3) PVC insulated SC unsheathed Cu.Conductor of 1100V Grade on Existing 3 compartment GI/Metal race ways flush with ground surface floor with continuous earth wire connection of 14SWG TC wire for DP		Mtr	
28	150 Mtr (One Hundred Fifty Meters Only)	Supply and run of 2 of 6 sq.mm (84/0.3) PVC insulated SC unsheathed Cu Conductor of 1100 V grade in suitable PVC rigid pipe concealed in wall and ceiling with continuous earth wire connection by 14 SWG TC wire and making good of the concealed portion with suitable colour. (For DP)		Mtr	

29	250 Mtr (Two Hundred Fifty Meters Only)	Supply and run of 4 of 6 sq.mm (84/0.3) PVC insulated SC unsheathed Cu Conductor of 1100 V grade in suitable PVC rigid pipe concealed in wall and ceiling with continuous earth wire connection by 14 SWG TC wire and making good of the concealed portion with suitable colour. (for 32A TP MCB & 7segment DB)		Mtr	
30	50 Mtrs (Fifty Meters Only)	Supply and run of 4 of 6sqmm (84/0.3) PVC insulated SC unsheathed Cu.Conductor of 1100V Grade on Existing 3 compartment GI/Metal race ways flush with ground surface floor with continuous earth wire connection of 14SWG TC wire.		Mtr	
31	160 Mtrs (One Hundred Sixty Meters Only)	Supply and run of 4 of 10 sq.mm (140/0.3) PVC insulated SC unsheathed Cu Conductor of 1100 V grade in suitable PVC rigid pipe concealed in wall and ceiling with continuous earth wire connection by 14 SWG TC wire and making good of the concealed portion with suitable colour. (For 63A TP MCBs)		Mtr	
32	70 Mtrs (Seventy Meters Only)	Supply and run of 4 of 10sqmm (140/0.3) PVC insulated SC unsheathed Cu.Conductor of 1100V Grade on Existing 3 compartment GI/Metal race ways flush with ground surface floor with continuous earth wire connection of 14SWG TC wire.		Mtr	
33	400 Mtrs (Four Hundred Meters Only)	Supply and clamping of 3 1/2 x25 sq.mm PVC LTUG armoured LTUG cable on post or on wall MS Clamps. (for 63A VTPN DB)		Mtr	

34	300 Mtrs (Three Hundred Meters Only)	Supply and clarnping of 3 1/2 x50 sq.mm PVC LTUG armoured LTUG cable on post or on wall MS Clamps. (for 100A MCCB)		Mtr	
35	100 Mtrs (One Hundred Metres Only)	Supply and clarnping of 3 1/2 x70 sq.mm PVC LTUG armoured LTUG cable on post or on wall MS Clamps. (for 125 MCCB)		Mtr	
36	4 Nos (Four Numbers Only)	Supply and fixing of brass cable gland for 3 1/2 x 50sqmm PVC armoured LTUG cable with earth connection.		Ea	
37	4 Nos (Four Numbers Only)	Supply and Termination of 31/2 x 50 sq.mm PVC LTUG armoured LTUG cable on post or on wall with MS Clamps.		Ea	
38	4 Nos (Four Numbers Only)	Supply and fixing of brass cable gland for 3 1/2 x 70sqmm PVC armoured LTUG cable with earth connection.		Ea	
39	4 Nos (Four Numbers Only)	Supply and Termination of 31/2 x 70 sq.mm PVC LTUG armoured LTUG cable on post or on wall with MS Clamps.		Ea	
40	3 Nos (Three Numbers Only)	Supply and fixing of 4 Way 7 segment TPN MCB distribution board with metal double door cover with IP 42 protection in sheet steel enclosure with 63A 4 pole MCB isolator as incoming and 3Nos32A DP MCB and 25A 30mA DP RCCB/ELCB,and 12 Nos.6A to 32 A SP MCB as outgoing in flush with wall and making good of the concealed portion with earth connection. The MCBDB and MCB's should be Legrand /Hager make) Lighting		Ea	

41	5 Nos (Five Numbers Only)	Supply and fixing of Vertical type 4 way triple pole neutral MCB sheet steel enclosure double door type distribution board with metal door with IP42 protection with 1No 63A Four pole MCB isolator as incoming and 4 Nos 32A TP MCB as outgoing in flush with wall and making good of the concealed portion with earth connection. The MCB DB and MCB's should be of Legrand / Hager make only.		Ea	
42	1 No (One Number Only)	Supply and fixing of 6way vertical triple pole neutral MCCB Distribution Board 125A MCCB DB with Double Door in sheet steel enclosure metal door with IP43 prtection with 125A 4P MCCB as incoming and 4 numbers of 63A Triple pole MCB, and 6Nos 6A to 32A Single pole MCB outgoing in flush with wall and making good of the concealed portion with earth connection. The MCBDB and MCB's should be Legrand /Hager make)		Ea	
43	3 Nos (Three Numbers Only)	Supply and fixing of 6way vertical triple pole neutral MCCB Distribution Board 100A MCCB DB with Double Door in sheet steel enclosure metal door with IP43 prtection with 100A 4P MCCB as incoming and 1 No 63A Triple pole MCB, 4 Nos 32A Triple pole MCB and 3Nos 6A to 32A Single pole MCB outgoing in flush with wall and making good of the concealed portion with earth connection. The MCBDB and MCB's should be Legrand /Hager make)		Ea	

44	1 No (One Number Only)	Supply and fixing of 6way vertical triple pole neutral MCCB Distribution Board 125A MCCB DB with Double Door in sheet steel enclosure metal door with IP43 prtction with 125A 4P MCCB as incoming and 18Nos 6A to 32A Single pole MCB outgoing in flush with wall and making good of the concealed portion with earth connection. The MCBDB and MCB's should be Legrand /Hager make)		Ea	
45	2 Nos (Two Numbers only)	Supply and fixing of 63A TPN MC switch with suitable angle iron frame work with MS cable entry boxes with earth connection only.		Ea	
46	2 Nos (Two Numbers only)	Supply and fixing of 32A TPNMC switch on suitable angle iron frame work with MS cable entry box with earth connection only .		Ea	
47	1 No (One Number only)	Supply and erection of 315A capacity dust and vermin proof cubical panel board size of 5.5 'X5' X 1.5' made up of 16 SWG CRCA sheet steel for outer body, with doors, switch supports and seperations etc., and with supply and fixing of the following interior switch with bus bar chamber complete with 38 X 6 mm tinned cu. Flat for 3 phase , neutral and 2 Nos 25 x 3 mm tinned cu flat for earth connections with bus bar insulators complete with the following tinned Cu flat should be used between busbar and switches 38 X6 tinned cu. Flat for interconnection of 315A		Ea	

		<p>25 X 6 mm tinned cu. Flat for inter connection 2 Nos 250A TPN, 1 No 200A TPN and 25x3mm copper flat for 1No 125A TPN outgoing Switch and fixing of multifunction meter (VAF) with suitable CT –coil, selector switches & indication lamps with HRC fuses connections complete etc.The panel should be fabricated as per IE rules & CEIG specification.The housing accommodate 5 Nos 3 phase switches and supply and fixing of the following switches.</p> <ol style="list-style-type: none"> 1. 315A TPN switch disconnecter fuse units interior only with HRC fuses double break-1no 2. 250A TPN switch disconnecter fuse units interior only with HRC fuses double break-2nos 3. 200A TPN switch disconnecter fuse units interior only with HRC fuses double break-1no 4. 125A TPN switch disconnecter fuse units interior only with HRC fuses double break-1no <p>The panel board should be painted with two coats of high quality epoxy paint over one coat of red oxide primer with superscriptions. (lettering and numbering) The above cubical panel board rest on suitable angle iron base.</p>			
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48	1 No (One Number only)	<p>Supply and erection of 250A capacity dust and vermin proof cubical panel board of Suitable 7'x5.5'x1' size of 16 SWG CRCA sheet steel for outer body, with doors, switch supports and separations etc., and with supply and fixing of the following interior switch with bus bar chamber complete with 25 X 6 mm tinned cu. Flat for 3 phase , neutral and 2 Nos 25 x 3 mm tinned cu flat for earth connections with bus bar insulators complete with the following tinned Cu flat should be used between busbar and switches 25 X6 tinned cu. Flat for interconnection of 250A 25 X 3 mm tinned cu. Flat for inter connection 4 Nos 125A TPN, 3 Nos 100A TPN and No.8 SWG TC conductor for 6 Nos 63A TPN outgoing Switch and fixing of multifunction meter (VAF) with suitable CT –coil, selector switches & indication lamps with HRC fuses connections complete etc.The panel should be fabricated as per IE rules & CEIG specification.The housing accommodate 14 Nos 3 phase switches and supply and fixing of the following switches.</p>		Ea	
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		<p>1. 250 A TPN switch disconnecter fuse units interior only with HRC fuses double break-1no</p> <p>2. 125A TPN switch disconnecter fuse units interior only with HRC fuses double break-4nos</p> <p>3. 100A TPN switch disconnecter fuse units interior only with HRC fuses double break-3nos</p> <p>4. 63A TPN switch disconnecter fuse units interior only with HRC fuses double break-6nos</p> <p>The panel board should be painted with two coats of high quality epoxy paint over one coat of red oxide primer with superscriptions. (lettering and numbering) The above cubical panel board rest on suitable angle iron base.</p>			
49	1 No (One Number only)	Supply and fixing of 250A TPN switch with HRC Fuse and Neural with suitable angle iron frame work with MS cable entry boxes with earth connection only.		Ea	
50	7 Nos (Seven Numbers only)	Earthing as per P.W.D standard with an earth electrode of 2mtr class 'B' GI pipe of dia not less than 32mm complete with necessary masonry work.		Ea	
51	7 Nos (Seven Numbers only)	Earthing as per the ISI specification with an earth electrode of 2.1mt class 'B' GI pipe of dia not less than 40mm, with copper earth plate of size 125mm x 50mm x 6mm, with necessary funneling arrangements with necessary masonry work and with 38mm RCC cover slab for the brick masonry .		Ea	

52	60 Mtrs (Sixty Metres Only)	Supply and run of 25mm x 3mm copper flat with porcelain insulator with screws on wall/floor for earth connection.		Mtr	
53	50 Mtrs (Fifty Metres Only)	Supply and run of No-8 SWG Cu Conductor in suitable PVC rigid pipe on wall and ceiling with suitable colour		Mtr	
54	2 Nos (Two Numbers only)	Supply, Installation, Testing and commissioning of 15 KVA UPS system 3 phase input and Single phase output and as per the detailed specification enclosed, Sealed Maintenance free batteries to support 15 KVA for 2 hrs backup complete with intercell connectors & copper cables, battery stand made out of powder coated MS Angles with adequate support to carry the load of the batteries. The vendor shall submit dimensional GA drawing of complete UPS/ Inverter system battery rack with batteries, Service panel and battery bank calculation.		Ea	

55	10 Nos (Ten Numbers only)	<p>Renewal by supply erection testing and commissioning of 2TR (6000 K.cal/hr) plastic split type Air conditioner fitted with rotary high efficiency compressor operating on refrigerant R22 suitable for wall mounting for operation on 230v 50HZ single phase AC supply with star rating of 3 as per BEE specification and capable of performing the function.(1) Cooling (2)Dehumidifying (3) Air circulation (4) Filtering</p> <p>This installation works for the above split type AC units including the following</p> <p>(1) Mounting /Fitting Indoor and Outdoor units at their respective Locations.</p> <p>(2) Laying refrigerant pipe line of required length connecting both units after drilling hole/ holes in the wall if required. Thickness of the copper tubing shall not be less than 0.8 mm</p> <p>(3) Insulating the suction pipe with expanded polyethylene foam 5mm tubing.</p> <p>(4) Laying 1.5mm dia flexible PVC drain pipe to throw out the condensate water being formed within the indoor unit.</p> <p>5) Leak testing the entire system unit.</p> <p>(6) Charging refrigerant gas in the unit.</p> <p>(7) Suitable electric wiring to be provided with in 2.5sq.mm PVC insulated copper wire between indoor and outdoor units upto 6 mtrs length and upto switch within 3 mtrs of location of indoor unit. (carrier/Voltas /Blue star/equ)</p>		Ea	
56	10 Nos (Ten Numbers only)	Renewal by supply and Installation of 5KVA electronic automatic voltage stabilizer V-Guard make VGS 500 with high and voltage cut off and 3 minutes time delay relay with demonstration.		Ea	
57	10 Nos (Ten Numbers only)	SRenewal by supply and fixing of MS stand for fixing Split Airconditioner Outdoor Unit.		Ea	

58	70 Mtrs (Seventy Meters Only)	Supply, fixing and erection of GI perforated type cable rack sytem made out of Hot dipped Galvazined Cable tray 150x60x2mm with adequate number of support on wall/ceiling.		Mtr	
59	180 Mtrs (One Hundred Eighty Meters Only)	Supply and laying of 3 compartment GI raceways in flush with ground surface floor/Tile with necessary Coupler and fixing bracket for the laying the Electrical cables and LAN port CAT-6 cables.		Mtr	
60	30 Nos (Thirty Numbers Only)	Supply and fixing of 3 compartment GI Adjustable juction boxes suitable for the 3 compartment GI raceways with Cover with necessary Coupler, brackets and junction boxes for the laying the Electrical cables and LAN port CAT-6 cables.		Ea	
61	24 Nos (Twenty Four Numbers Only)	Supply and fixing of wire outlet boxes suitable for 3 compartment GI raceways for Tap off the Electrical cables and LAN port CAT-6 cables.		Ea	
62	70 Mtrs (Seventy Meters Only)	Supply and run of DLP-S PVC Cable Trunking box on work table with suitable accessories to run the Electrical cables and LAN port CAT-6 cables.		Mtr	
63	44 Nos (Forty Four Numbers Only)	Supply and fixing of DLP-S PVC variable internal / external angle suitable for DLP-S PVC Cable Trunking system for Electrical cables and LAN port CAT-6 cables.		Ea	
64	44 Nos (Forty Four Numbers Only)	Supply and fixing of DLP-S PVC End cap suitable for DLP-S PVC Cable Trunking system for Electrical cables and LAN port CAT-6 cables.		Ea	

65	84 Nos (Eighty Four Numbers Only)	Supply and fixing of DLP-S PVC Universal bracket suitable for DLP-S PVC Cable Trunking system for fixing the Moduler type 6A/16A socket and switches.		Ea	
66	270 Mtrs (Two Hundred Seventy Meters Only)	Supply and laying of 3 1/2 x 185sq.mm PVC armoured LTUG cable in a trench to be excavated at a depth of 0.75 metre putting 0.15metre layer of sand and covering the cable completely with bricks and sand and refilling the earth to make good. (for 315A Panel to New Proposed Technology Building)		Ea	
67	40 Mtrs (Forty Meters Only)	Supply and clamping of 3 1/2 x 185 sq.mm PVC LTUG armoured LTUG cable in a cable tray or on wall with MS Clamps.		Mtr	
68	2 Nos (Two Numbers Only)	Supply and fixing of brass cable gland for 3 1/2 x 185 sq.rnrn LTUG armoured cable with earth connection.		Mtr	
69	2 Nos (Two Numbers Only)	Supply and providing cable end termination of 3 1/2 x 185sqmm PVC LTUG Aluminium armoured cable withnecessary aluminium cable sockets by crimping etc. with electrical connection comple)		Ea	
70	10 Mtrs (Ten Meters Only)	Supply and laying of 3 1/2 x 240sq.mm PVC armoured LTUG cable in a trench to be excavated at a depth of 0.75 metre putting 0.15metre layer of sand and covering the cable completely with bricks and sand and refilling the earth to make good. (for Existing MV Panel to 315A Panel)		Ea	

71	5 Mtrs (Five Meters Only)	Supply and clamping of 3 ½ x 240 sq.mm PVC LTUG armoured LTUG cable in a cable tray or on wall with MS Clamps		Mtr	
72	2 Nos (Two Numbers Only)	Supply and fixing of brass cable gland for 3 1/2 x 240 sq.rnrn LTUG armoured cable with earth connection.		Mtr	
73	2 Nos (Two Numbers Only)	Supply and providing cable end termination of 3 1/2 x 185/240sqmm PVC LTUG Aluminium armoured cable withnecessary aluminium cable sockets by crimping etc. with electrical connection comple) .		Ea	
		SUB TOTAL		Rs	
		GST @ 12%		Rs	
		Total		Rs:	

Superintending Engineer, PWD, (I/C)
Building (Constn & Mtce) Circle,
Tirunelveli-2