



ADITYA COLLEGE OF ENGINEERING

Approved by AICTE, Permanently Affiliated to JNTUK & Accredited by NAAC
Recognized by UGC under Sections 2(f) and 12(B) of UGC Act, 1956

Aditya Nagar, ADB Road, Surampalem - 533 437, E.G.Dist., Ph: 99631 76662.

The Institution has facilities for alternate sources of energy and energy

Conservation measures

Renewable Energy Source: Solar Power Plant

Energy saving measures:

- Energy management features are activated on computers, laser printers, etc., turn off lights when not used/required, use daylight.
- Use of LEDs, CFLs.
- Use fans when they are needed
- Unplug appliances like printers, faxes, chargers and electronic appliances, when they are not in use.
- Awareness among students and staff on energy conservation through display boards at appropriate places.

The institute met **56% of its total requirement of power consumption by the Institute from renewable sources.**

- In the month of May 2018 Solar Plant was installed
- Solar plant capacity **300 kW**
- The installation cost of total plant is **90,00,000 /-**
- Energy produced from the plant per year : **839.1 MWh/year**

General Details	
Total Capacity of the Plant	300KWp
Roof used for the plant	20,000 Sq-Ft or 2,000 Sq-Mtr
Average Sun Irradiance	4.89 KWh/Sq-Mtr/Day
Expected Generation/Day	1000 to 1200 Kwh
Solar Panels Details	
Total no. of panels	612 No's
Capacity of each panel	325 Wp
Make	Vikram Solar
Technology & no. of cells	Polycrystalline, 72 cell
Type of Busbar system	4 Busbar series type
Working voltage	1000 VDC
Type of connection of panels	In Series
Panel Efficiency	18.5%
Working Temperature Range	-40 ⁰ c to 85 ⁰ c
Panel Dimensions	1956x992x35.2 mm
Weight of each panel	22 Kgs
Inverter Details	
Total no. of Inverters	4 No's
Capacity of each Inverter	50 KVA
Type of Inverter	Solar ON-GRID
Make	ABB
Technology used	Maximum Power Point Tracking (MPPT)
No. of MPPTs/Inverter	3 No's
Weight of Inverter	125 Kgs



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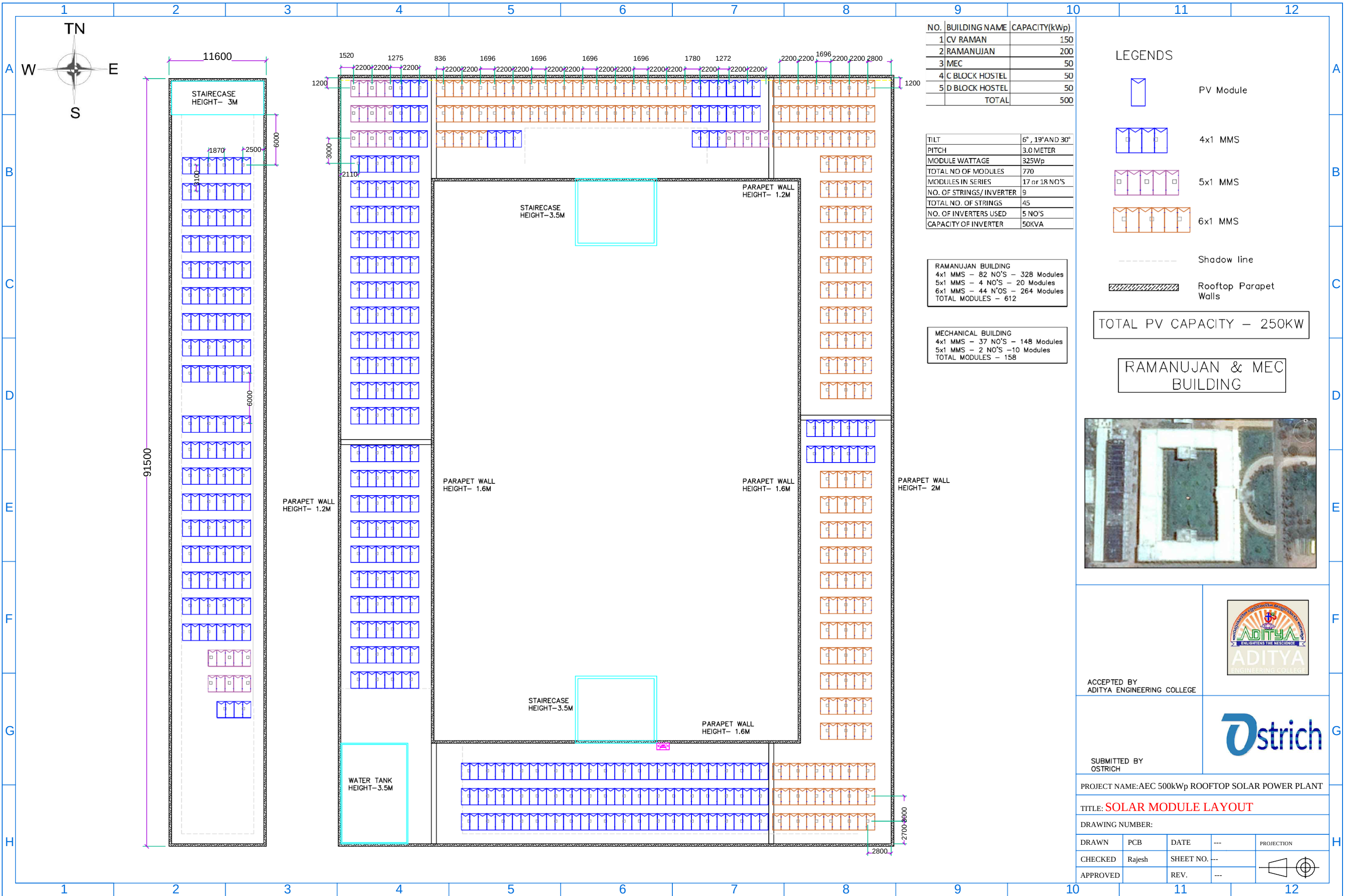
Geo tagged photos for Solar panels



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NO.	BUILDING NAME	CAPACITY(kWp)
1	CV RAMAN	150
2	RAMANUJAN	200
3	MEC	50
4	C BLOCK HOSTEL	50
5	D BLOCK HOSTEL	50
TOTAL		500

TILT	6° , 19° AND 30°
PITCH	3.0 METER
MODULE WATTAGE	325Wp
TOTAL NO OF MODULES	770
MODULES IN SERIES	17 or 18 NO'S
NO. OF STRINGS/ INVERTER	9
TOTAL NO. OF STRINGS	45
NO. OF INVERTERS USED	5 NO'S
CAPACITY OF INVERTER	50KVA

RAMANUJAN BUILDING
4x1 MMS - 82 NO'S - 328 Modules
5x1 MMS - 4 NO'S - 20 Modules
6x1 MMS - 44 NO'S - 264 Modules
TOTAL MODULES - 612

MECHANICAL BUILDING
4x1 MMS - 37 NO'S - 148 Modules
5x1 MMS - 2 NO'S - 10 Modules
TOTAL MODULES - 158

LEGENDS

- PV Module
- 4x1 MMS
- 5x1 MMS
- 6x1 MMS

Shadow line

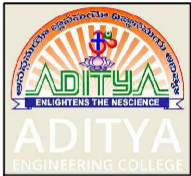
Rooftop Parapet Walls

TOTAL PV CAPACITY - 250KW

RAMANUJAN & MEC BUILDING



ACCEPTED BY
ADITYA ENGINEERING COLLEGE



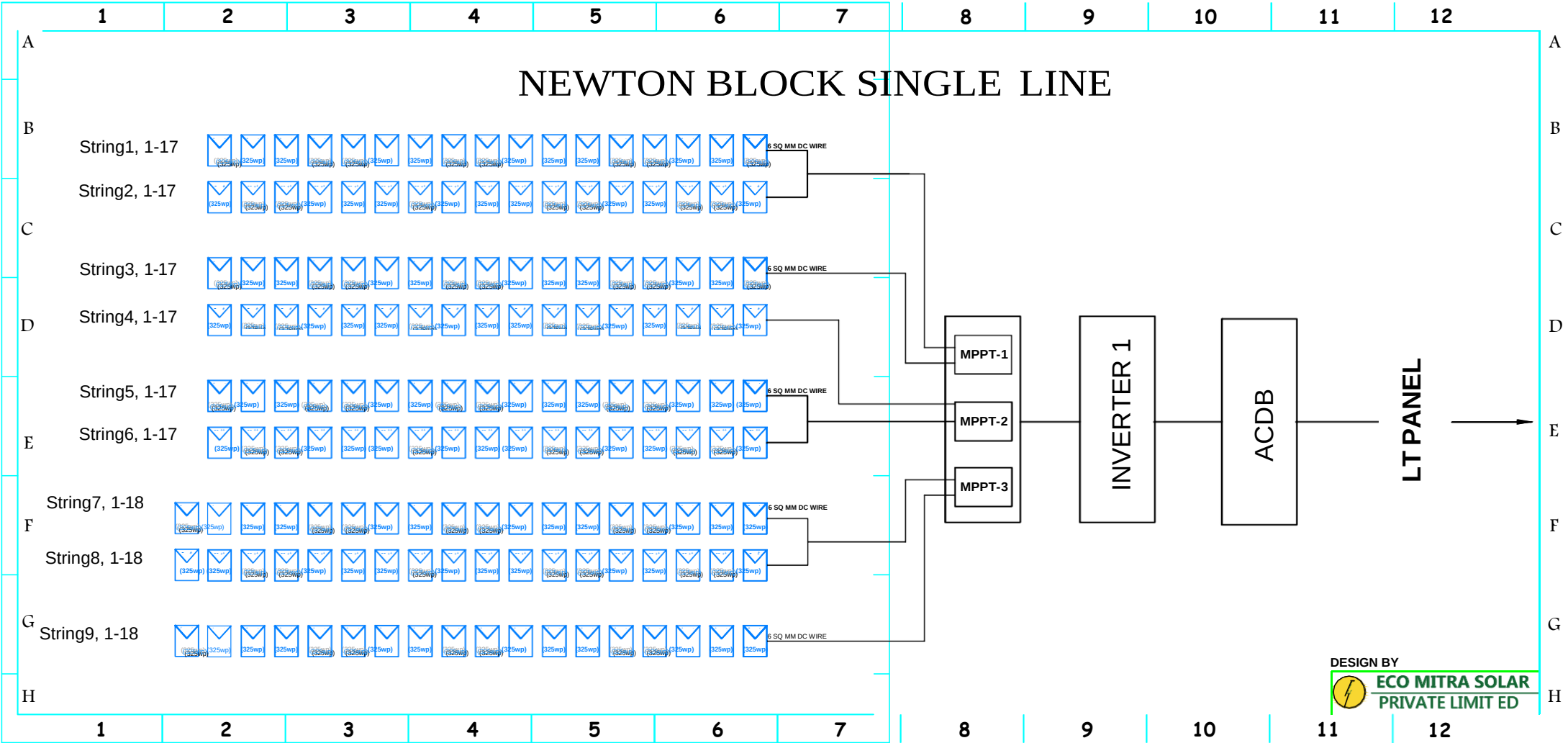
SUBMITTED BY
OSTRICH

PROJECT NAME: AEC 500kWp ROOFTOP SOLAR POWER PLANT

TITLE: **SOLAR MODULE LAYOUT**

DRAWING NUMBER:

DRAWN	PCB	DATE	---	PROJECTION
CHECKED	Rajesh	SHEET NO.	---	
APPROVED		REV.	---	





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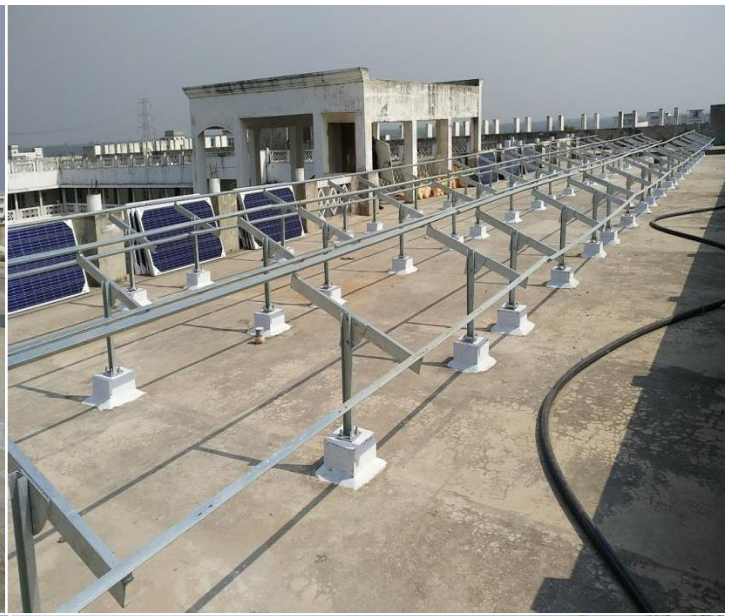
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Students Participated while installing the solar panels



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A handwritten signature in green ink, likely of the Principal, is written above the printed name.

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Power bill comparative statement after Installation of Solar panels

S.No	Month	Total Consumption in KWH	From Grid in KWH	From Solar in KWH	Power Bill in Rs
1	Jan-18	77708	77708	Without Solar	7,06,226/-
2	Feb-18	96262	96262		8,80,293/-
3	Mar-18	134634	134634		14,06,761/-
4	Apr-18	106914	106914		8,97,158/-
5	May-18	72501	72501		8,71,329/-
6	Jun-18	107287	23970	83317	3,30,494/-
7	Jul-18	128005	60567	67438	6,39,340/-
8	Aug-18	149321	97266	52055	9,27,438/-
9	Sep-18	138748	73629	65119	8,37,606/-
10	Oct-18	136761	65751	71010	8,04,625/-
11	Nov-18	116857	54797	62060	5,63,805/-
12	Dec-18	103990	51210	52780	5,08,654/-
13	Jan-19	99036	33341	65695	3,68,318/-
14	Feb-19	116389	49424	66965	5,24,668/-



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								Customer Support CALL US : 1912	
HT DIGITAL BILL FOR THE MONTH OF November 2019							GST NO : 37AAACE9876B1ZH		
Service Details			Consumer Details			BILL DATE 05-12-2019		DUE DATE FOR PAYMENT 19-12-2019	
Contracted MD(KVA/HP)	300 (KVA/HP)	SC. No. RJY856							
Specified Voltage(KVA)	11 KV	M/S SAROJINI EDUCATIONAL SOCIETY,							
Actual Voltage	11 KV	SURAMPALEM(V)							
Category	IIA	PEDDAPURAM TOWN							
Feeder Type	COMMON	E G DT							
Total Monthly Consumption Details									
Particulars	Date	KWH	KVAH	KVA	TOD PEAK	TOD OFF PEAK	COLONY	PF	LF
Reading as on	01/12/2019	436467	438214.5	80.600	-	-	-	-	-
Reading as on	01/11/2019	411359.5	413028	-	-	-	-	-	-
Difference	-	25107.5	25186.5	-	-	-	-	-	-
Multiplying Factor	-	3	3	3.000	-	-	-	-	-
Total Consumption	-	75322	75559	241.800	20505	0.00	-	1	26
Monthly Min Consumption	-	-	6045	240.000	-	-	-	-	-
Main Consumption	-	75559	-	-	-	-	-	-	-
L & F	-	-	-	-	-	-	-	-	0.00
Segregated Colony	-				-	-	-	-	-
Open Access Consumption Details									
Supplier Name			KWH Share		KVA Share		% Wheeling		
Solar Units			0		17508.000		0		
Billing Summary									
	Particulars	Bill Issue Date	KVAH	KVA	TOD PEAK	TOD OFF PEAK	COLONY		
	Billed Units	05-12-2019	58052	241.800	20505	0.00	0		
BILL DETAILS									
Particulars			Units		Rate Per Unit		Amount(Rs.)		
Demand Charges(Normal)			241		475		114855		
Demand Charges(Penal)(80.6%)			0		950		0		
Energy Charges(All Units)			58052		7.65		444097.8		
Energy Excess Charges							0		
Electricity Duty Charges			75560		0.06		4533.6		
Colony Charges			0		0.00		0		
L&F Charges							0.00		
Energy Charges Including Fuel Cost Adjustment							0.00		
Fuel Surcharge Adjustment							0.00		

ToD Charges			20505
ToD Incentive (-)			0
Sub Total			583991.4
Customer Charges			1406
Wheeling Charges			0
LPF Charges			0
RKVAH Surcharge Hydel			0
RKVAH Surcharge Wind			0
Open Access CSS			0
ACD Surcharge			0
Late Payment Charges			0
Interest on ED			0
Penal Interest			0
Transformer Hire Charges			0
Differential Voltage Surcharges			0
Load Factor incentive (-)			0
Short MD Shortfall			0
Total For The Month			585397.4
25% Rebate Application			0
Ferro Incentive(-)			0
Pooled Cost Adj(-)			0
Net ICD Amt(ICD-TDS)(0-0)(-)			0
Other Credit Adj			0
Loss (or) Gain			-0.4
NET BILL			585397
(Previous Years)Arrears before 31- Mar-2019			0.00
(Current Years)Arrears after 01-Apr-2019			-0.12
Net Payable Rs.			585397
This is a system generated bill only for information , please refer to the bill issued by SAO of the circle only.		(Rupees Five Lakhs Eighty Five Thousand Three Hundred and Ninety Seven Only)	

								Customer Support CALL US : 1912	
HT DIGITAL BILL FOR THE MONTH OF December 2019							GST NO : 37AAACE9876B1ZH		
Service Details			Consumer Details			BILL DATE 05-01-2020		DUE DATE FOR PAYMENT 19-01-2020	
Contracted MD(KVA/HP)	300 (KVA/HP)	SC. No. RJY856							
Specified Voltage(KVA)	11 KV	M/S SAROJINI EDUCATIONAL SOCIETY,							
Actual Voltage	11 KV	SURAMPALEM(V)							
Category	IIA	PEDDAPURAM TOWN							
Feeder Type	COMMON	E G DT							
Total Monthly Consumption Details									
Particulars	Date	KWH	KVAH	KVA	TOD PEAK	TOD OFF PEAK	COLONY	PF	LF
Reading as on	01/01/2020	462065	463959	77.260	-	-	-	-	-
Reading as on	01/12/2019	436467	438214.5	-	-	-	-	-	-
Difference	-	25598	25744.5	-	-	-	-	-	-
Multiplying Factor	-	3	3	3.000	-	-	-	-	-
Total Consumption	-	76794	77233	231.780	20185.47	0.00	-	0.99	26
Monthly Min Consumption	-	-	6000	240.000	-	-	-	-	-
Main Consumption	-	77233	-	-	-	-	-	-	-
L & F	-	-	-	-	-	-	-	-	0.00
Segregated Colony	-				-	-	-	-	-
Open Access Consumption Details									
Supplier Name			KWH Share		KVA Share		% Wheeling		
Solar Units			0		18086.000		0		
Billing Summary									
	Particulars	Bill Issue Date	KVAH	KVA	TOD PEAK	TOD OFF PEAK	COLONY		
	Billed Units	05-01-2020	59148	240.000	20185.47	0.00	0		
BILL DETAILS									
Particulars			Units		Rate Per Unit		Amount(Rs.)		
Demand Charges(Normal)			240		475		114000		
Demand Charges(Penal)(80%)			0		950		0		
Energy Charges(All Units)			59148		7.65		452482.2		
Energy Excess Charges							0		
Electricity Duty Charges			77234		0.06		4634.04		
Colony Charges			0		0.00		0		
L&F Charges							0.00		
Energy Charges Including Fuel Cost Adjustment							0.00		
Fuel Surcharge Adjustment							0.00		

ToD Charges			20185
ToD Incentive (-)			0
Sub Total			591301.24
Customer Charges			1406
Wheeling Charges			0
LPF Charges			0
RKVAH Surcharge Hydel			0
RKVAH Surcharge Wind			0
Open Access CSS			0
ACD Surcharge			0
Late Payment Charges			0
Interest on ED			0
Penal Interest			0
Transformer Hire Charges			0
Differential Voltage Surcharges			0
Load Factor incentive (-)			0
Short MD Shortfall			0
Total For The Month			592707.24
25% Rebate Application			0
Ferro Incentive(-)			0
Pooled Cost Adj(-)			0
Net ICD Amt(ICD-TDS)(0-0)(-)			0
Other Credit Adj			0
Loss (or) Gain			-0.24
NET BILL			592707
(Previous Years)Arrears before 31- Mar-2019			0.00
(Current Years)Arrears after 01-Apr-2019			-0.12
Net Payable Rs.			592707
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