

## **AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY**

(Approved by AICTE, Permanently Affiliated to JNT University Kakinada,  
ACCREDITED BY NAAC and Recognized under 2(f) & 12 (b) by UGC, New Delhi)  
Tamaram, Makavarapalem, Narsipatnam (RD), Visakhapatnam-531113



*Certificate Course  
on*

### **SOLAR PV SYSTEMS INSTALLATION, OPERATION AND MAINTENANCE**

*From 6<sup>TH</sup> NOV 2017 TO 10<sup>TH</sup> NOV 2017*



#### **ORGANIZED BY**

**DEPT. OF ELECTRICAL & ELECTRONICS ENGINEERING  
AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY,  
TAMARAM (V), MAKAVARAPALEM (M),  
VISAKHAPATNAM-531113**

## **AVANTHI EDUCATIONAL SOCIETY**

Avanthi Educational Society under the Leadership of Sri M.Srinivasa Rao garu as chairman was started in the Year 1991. Within a short span of its establishment, the group has made a remarkable stride in the field of education offering various courses at Under Graduate, Post Graduate, Pharmacy & Engineering levels. This milestone is achieved as the institution carved itself to impart quality and career oriented education, countering the challenges of the modern world through planning, dedication, determination, prompt execution and with the innovative ideas of our advisory board. Today, Avanthi Educational Society is proud to have a strength of over 16000 students with 15 institutions under its ambit. It is the path of glory towards the success during the last 18 years. The institution has been adjudged many times as the second best educational institutions in the twin cities and 16th best in all over India through the impartial survey made by the renowned magazine "India Today".

## **AVANTHI INSTITUTE OF ENGINEERING & TECHNOLOGY**

AIET started in the year 1999 and offers various courses at Engineering and PG level. The college is providing with rooms, computer centre, laboratories and seminar hall with audio-visual equipments. Industry Institute interaction is conducted regularly to emphasize on the latest trends in the present market.



It is very near to Narsipatnam. Frequent bus facilities are available both from Visakhapatnam and Narsipatnam. Very safe and secure hostel facility is available for

Girl students. These are the additional facilities besides excellent academic atmosphere in the college campus.

## **DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

The Department of Electrical & Electronics Engineering was established in the year 2001 along with the MECHANICAL, ECE and CSE departments. The department has an intake of 60 students. Commencing the academic year 2011, a post-graduate course in Power Electronics and 2014 in Power Systems was started. The department has full fledged laboratories, workshops and P.G. labs. The department is staffed with qualified, experienced and dedicated members who engage in research activities.. The department with active support from the management is aiming to expand its research activities and industrial consultancies.

### **ABOUT COURSE**

This is a skill oriented course in the study of solar photovoltaic (PV) cells, modules, and system components; electrical circuits; PV system design and sizing for use on homes, commercial building etc., understanding energy conversion from sunlight to electricity, and working with solar conversion equipment. This Course will give students the book knowledge and hands on experience needed to become entrepreneur / self employed.

#### **CHIEF PATRON**

Smt.M Gnaneswari  
President,Avanthi Educational Society

#### **PATRON**

Dr. C P V N J Mohan Rao  
Principal,  
Avanthi Institute Of Engineering And Technology

#### **CHAIRMAN**

Dr. T Srinivasa Rao  
Head of the Department  
Electrical & Electronics Engineering

#### **COORDINATORS**

P Varahala Dora  
Asst. Professor

S Sujatha Devi  
Asst. Professor

## **TOPICS TO BE COVERED**

**Day 1:** Overview of Renewable Energy and introduction to PV Systems

**Day 2:** Setup, Configuration and Sizing of PV Systems

**Day 3:** Wiring and Controls Selection for installation, Relevant Section of NEC

**Day 4:** Solar PV Module Arrays, Basics of Charge Controller, Inverter Basics, Solar Batteries Installation of Solar PV Power Plants, Plant Operation and Maintenance

**Day 5:** Site visit with detailed explanation of maintenance and troubleshooting

For any further information Contact Mr P VARAHALA DORA, Assistant Professor, EEE, and Mr.S SUJATHA DEVI Assistant Professor, EEE



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### DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

#### CIRCULAR

Dt. 04<sup>th</sup> Nov, 2017

A short term Course on ***"Solar PV Systems Installation, Operation and Maintenance"*** for all the IV Year II Semester & III Year II Semester students of Electrical & Electronics Engineering Department is scheduled from 06<sup>th</sup> Nov 2017 to 10<sup>th</sup> Nov 2017. All the students should attend the course without fail. For any further information Contact course coordinators Mr.P.Varahala Dora, Assistant Professor and Smt. S. Sujatha Devi , Assistant Professor, EEE Department.

#### Resource person Details:

1. Sri N.K. Sai Charan  
Technical Director-South and Central Asia  
JINKO Solar.
2. Sri Ch.Jaganath  
General Manger  
Surya Power Tree  
Visakhapatnam.

Dr T. Srinivasa Rao

Head of the Department, EEE

**Head of the Department**  
**Department of Electrical & Electronics Engg.**  
**Avanthi Institute of Engg & Tech,**  
**Makavarapalem, Visakhapatnam - 531113.**

Copy to: Principal, AIET



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### **SOLAR PV SYSTEMS INSTALLATION, OPERATION AND MAINTENANCE**

**Duration: 06-11-2017 to 10-11-2017**

#### **SYLLABUS**

**Day 1:** Overview of Renewable Energy and introduction to PV Systems


**Day 2:** Setup, Configuration and Sizing of PV Systems

**Day 3:** Wiring and Controls Selection for installation, Relevant Section of NEC

**Day 4:** Solar PV Module Arrays, Basics of Charge Controller, Inverter Basics, Solar Batteries. Installation of Solar PV Power Plants, Plant Operation and Maintenance

**Day 5:** Site visit with detailed explanation of maintenance and troubleshooting

  
COORDINATOR

  
HOD  
**Head of the Department**  
Department of Electrical & Electronics Engg.  
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### SOLAR PV SYSTEMS INSTALLATION, OPERATION AND MAINTENANCE

Duration: 06-11-2017 to 10-11-2017

#### SCHEDULE

DAY/DATE	Session - 1 09.00 AM to 12 Noon	Session - 2 1.00 PM to 4.00 PM
<b>Monday</b> 06/11/2018	Introduction to renewable energy and Overview of PV systems, characteristics of sun light.	How Solar PV Works and Components of a PV System.
<b>Tuesday</b> 07/11/2017	Opportunities in Solar Energy and Fundamentals of Solar Photovoltaics.	Setup, Configuration and Sizing of PV Systems
<b>Wednesday</b> 08/11/2017	Solar PV project life cycle management and Zoning laws and building codes pertaining to PV systems.	Wiring and Controls Selection for installation, Relevant Section of NEC.
<b>Thursday</b> 09/11/2017	Solar PV Modules, Solar PV Module Arrays and Basics of Charge Controller. Basics of Inverter and Solar Batteries.	Design of Grid and Off Grid Connected systems. Installation of Solar PV Power Plants, Plant Operation and Maintenance.
<b>Friday</b> 10/11/2017	Hands on Practice	Site visit with detailed explanation of maintenance and troubleshooting

  
COORDINATOR

  
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### SOLAR PV SYSTEMS INSTALLATION, OPERATION AND MAINTENANCE

From 6th Nov 2017 to 10th Nov 2017

#### 3<sup>rd</sup> & 4<sup>th</sup> Year Students Attendance

S.No	ROLL NUMBER	STUDENT NAME	6 Nov	7 Nov	8 Nov	9 Nov	10 Nov
1	14811A0201	ANGULURI PREM KUMAR	✓	✓	✓	✓	✓
2	14811A0202	ARIKATHOTA JITENDRA	✓	✓	X	✓	✓
3	14811A0203	BONDA PAVAN KUMAR	✓	✓	✓	✓	✓
4	14811A0204	CHAVVAKULA SWAROOPA	✓	✓	✓	✓	✓
5	14811A0205	DADI PAVAN KUMAR	✓	✓	✓	✓	✓
6	14811A0206	GANIREDDY VASU	✓	✓	✓	✓	✓
7	14811A0207	GATREDDI SHYAM KUMAR	✓	✓	✓	✓	✓
8	14811A0208	GUDE DILEEP KUMAR	✓	✓	✓	✓	✓
9	14811A0209	JANAPAREDDI SATEESH	✓	✓	✓	✓	✓
10	14811A0210	KARRI REVATHI RAMANA RAJESH	✓	✓	✓	✓	✓
11	14811A0211	KARRI TARUN KUMAR REDDY	✓	✓	✓	✓	✓
12	14811A0212	KORUPOLU POORNA KISHOR	✓	✓	✓	✓	✓
13	14811A0213	KORUPROLU RAJA SEKHAR	✓	✓	✓	✓	✓
14	14811A0214	LOCHARLA VENKATA RAO	✓	✓	✓	✓	✓
15	14811A0215	MAGAPU VENKATA SAI RAMA VAMSI	✓	✓	✓	✓	✓
16	14811A0216	MANDAPALLI SAI SUDHEER	✓	✓	✓	✓	✓
17	14811A0217	MANJETI PAVANI	✓	✓	✓	✓	✓
18	14811A0219	MOHAMMAD VAHID	✓	✓	✓	✓	✓
19	14811A0220	P LEELA KRISHNA CHAITANYA	✓	✓	X	✓	✓
20	14811A0221	PANCHADA MANIDESH	✓	✓	✓	✓	✓
21	14811A0222	PAPPALA NAGESWARA RAO	✓	✓	✓	✓	✓
22	14811A0223	PORIREDDI KAMESH	✓	✓	✓	✓	✓
23	14811A0225	RAVINOOTHALA JAGATH	✓	✓	✓	✓	✓
24	14811A0226	RUTTALA NARESH	✓	✓	✓	✓	✓
25	14811A0227	SAMBANGI PRABHAVATHI	✓	✓	✓	✓	✓
26	14811A0228	SEPANA RAM PRASAD	✓	✓	✓	✓	✓
27	14811A0229	SHAIK SHAHANAJ BEGUM	✓	✓	✓	✓	✓
28	14811A0230	SIMHADHRI SUNEEL KUMAR	✓	✓	✓	✓	✓
29	14811A0231	SIRIPURAPU AKKU NAIDU	✓	✓	✓	✓	✓
30	14811A0232	VABBALAREDDY NAIDU	✓	✓	✓	✓	✓
31	14811A0234	YARRAMSETTE MANIKUMAR	✓	✓	✓	✓	✓
32	14811A0235	YETHULA SAI KRISHNA	✓	✓	✓	✓	✓
33	14811A0236	GUNTREDDI SARATH KUMAR	X	✓	✓	✓	✓

34	14811A0237	KONA SUDHAKAR NAIDU	X	✓	✓	✓	✓
35	14811A0238	MULAGAPAKA KONDALA RAO	✓	✓	✓	✓	✓
36	15815A0202	CHINTAKAYALA SIVA BALAJI NAIDU	✓	✓	✓	✓	✓
37	15815A0203	DAMMU PAVAN KUMAR	✓	✓	✓	✓	✓
38	15815A0204	DODDI CHANDRASATYASAIKUMAR	✓	✓	✓	✓	✓
39	15815A0205	DUNGALA SYAMALA NAIDU	✓	✓	✓	✓	✓
40	15815A0206	GUNURU PRABUKUMAR	✓	✓	✓	✓	✓
41	15815A0207	KANNURU RAMAKRISHNA	✓	✓	✓	✓	✓
42	15815A0208	KARAGANA BHOOLOKA NAIDU	✓	✓	✓	✓	✓
43	15815A0209	KORIPELLA VEERA PRUDVIRAJ	✓	✓	✓	✓	✓
44	15815A0210	PALLI RAMANA	✓	✓	✓	✓	✓
45	15815A0211	PENTAKOTA MANIDEEP	✓	✓	✓	✓	✓
46	15815A0212	PUDI VASU	✓	✓	✓	✓	✓
47	15815A0213	RAJANA SREENU	✓	✓	✓	✓	X
48	15815A0214	ROWTHU RAJA	✓	✓	✓	✓	✓
49	15815A0215	SURLA SIVAJI	✓	✓	✓	✓	✓
50	15815A0216	TADI RAMAKRISHNA	✓	✓	✓	✓	✓
51	15815A0217	TALARI SRAVAN KUMAR	✓	✓	✓	✓	✓
52	15815A0218	THUMPALA KUMAR RAJA	✓	✓	✓	✓	✓
53	15811A0201	ANAPAREDDY PRAMOD	✓	✓	✓	✓	✓
54	15811A0202	BOLEM RAJA	✓	✓	✓	✓	✓
55	15811A0203	BORRA PRAVEEN KUMAR	✓	✓	✓	✓	✓
56	15811A0204	CHACHUPATLA LALITHADEVI	✓	✓	✓	✓	✓
57	15811A0205	CHINTAKAYALA ABHISHEK	✓	✓	✓	✓	✓
58	15811A0206	GAVVA VENKATA LAKSHMI	✓	✓	✓	✓	✓
59	15811A0207	GEDALA MAHESH	✓	✓	✓	✓	✓
60	15811A0208	GODABA DHANESH	✓	✓	✓	✓	✓
61	15811A0209	GUNTAMUKKALA MANI TARUN KUMAR	✓	✓	✓	✓	✓
62	15811A0211	KUNDRAPU GANGA BHAVANI	✓	✓	✓	✓	✓
63	15811A0212	KUSIREDDI VENKATA MOHAN	✓	✓	✓	✓	✓
64	15811A0214	MARRA HEMANTH RAJA SEKHAR	✓	✓	✓	✓	✓
65	15811A0215	MEESALA RAVI	✓	✓	✓	✓	✓
66	15811A0217	NUKALA UDHVIN VENKATA SITARAM GANESH	✓	✓	✓	✓	✓
67	15811A0219	PALLA SURYA SUREKHA	✓	✓	✓	✓	✓
68	15811A0220	PILLA RAMESH	✓	✓	✓	✓	✓
69	15811A0221	PONNAPU KISHOR	✓	✓	✓	✓	✓
70	15811A0222	RONGALA INDU	✓	✓	✓	✓	✓
71	15811A0224	RUTTTALA GANGADHAR RAO	✓	X	✓	✓	✓
72	15811A0225	RUTTALA TULASIRAJYALAKSHMI	✓	✓	✓	✓	✓
73	15811A0226	SEERAM RAJA DURGA PRASAD	✓	✓	✓	✓	✓
74	15811A0227	SREEHARI DHANESH KUMAR NAIR	✓	✓	✓	✓	✓
75	15811A0228	TETAKALA VENKATESH	✓	✓	✓	✓	✓
76	15811A0229	TUMULA CHAITANYA	✓	✓	✓	✓	✓
77	15811A0230	UNDRALLA MANIKANTA	✓	✓	✓	✓	✓

78	15811A0231	VANDE SAISIREESHA	✓	✓	✓	✓	✓
79	16815A0201	ADARI JOHN	✓	✓	✓	✓	✓
80	16815A0202	ANANTA PATNAIKUNI PRUDHVI	✓	✓	✓	✓	✓
81	16815A0203	AVUGODDU NOOKA RAJU	✓	✓	✓	✓	✓
82	16815A0204	CHINTAGADA AVINASH	✓	✓	✓	✓	✓
83	16815A0205	DAMULURI JAIRAJU	✓	✓	✓	✓	✓
84	16815A0206	DUVVADA SIVA KUMAR	✓	✓	✓	✓	✓
85	16815A0207	GENJI NOOKARAJU	✓	✓	✓	✓	✓
86	16815A0208	GURUGUBELLI AKHIL	✓	✓	✓	✓	✓
87	16815A0209	KILLADI SWAMY	✓	✓	✓	✓	✓
88	16815A0210	KONCHADA MURALI	✓	✓	✓	✓	✓
89	16815A0212	LAVETI SAILAKSHMI	✓	✓	✓	✓	✓
90	16815A0213	MANJETI PRAKASH	✓	✓	✓	✓	✓
91	16815A0214	NIMMADALA PAVAN	✓	✓	✓	✓	✓
92	16815A0215	PATCHAMATLA SUKANYA	✓	✓	✓	✓	✓
93	16815A0216	PATHYALA KIRAN SAIKUMAR	✓	✓	✗	✓	✓
94	16815A0217	PELURI JAGADEESWARA RAO	✓	✓	✓	✓	✓
95	16815A0218	RAYAPUREDDI ANI LKUMAR	✓	✓	✓	✓	✓
96	16815A0223	UGGINA SOMESWARA RAO	✓	✓	✓	✓	✓
97	15811A0201	ANAPAREDDY PRAMOD	✓	✓	✓	✓	✓

  
Coordinator

  
H O D

**Head of the Department**  
Department of Electrical & Electronics Engg.  
Avanthi Institute of Engg & Tech.  
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## AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

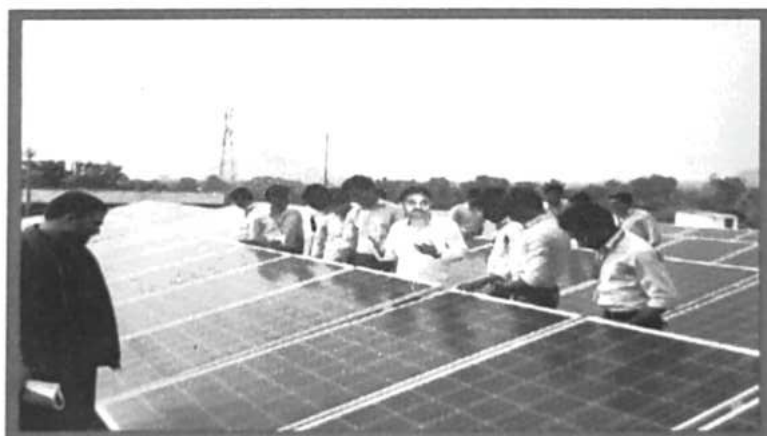
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### DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

A Course on

#### **SOLAR PV SYSTEMS DESIGN AND PERFORMANCE EVALUATION**

06th November 2017 to 10th November 2017



  
Coordinator

  
HOD EEE Department

**Head of the Department**

Department of Electrical & Electronics Engg.  
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## *Certificate of Participation*

This is to certify that Mr./Ms. \_\_\_\_\_ of \_\_\_\_\_  
has participated in the Certificate Course  
entitled on **SOLAR PV SYSTEMS INSTALLATION, OPERATION AND MAINTENANCE**  
during from 6<sup>TH</sup> NOV 2017 to 10<sup>TH</sup> NOV 2017 was organised by the Department of  
**ELECTRICAL AND ELECTRONICS ENGINEERING** at Avanathi Institute of Engineering  
and Technology

**Coordinator**

**HOD**

**Principal**



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## Department of Electrical and Electronics Engineering


Dt: 15-11-2017

### **BRIEF REPORT**

Department of Electrical and Electronics Engineering, Avanathi Institute of Engineering and Technology had organized a certificate course on "SOLAR PV INSTALLATION, OPERATION AND MAINTAINANCE" during 06-11-2017 to 10-11-2017

Dr K. Sai Charan (Technical Director) JINCO, Solar Ltd. explained the use of renewable energy sources and introduction to PV systems which is considered as an important alternative to fossil fuels. Speaker discussed about the implementation of clean and affordable renewable energy is becoming more sustainable and progressive. Speaker have addressed the basic concepts of Solar PV systems and the design of PV systems, including several real-world examples. Speaker also explained the wiring and control selection for installation, plant operation and maintenance. He also gave detailed explanation on maintenance and troubleshooting.

  
Coordinator

  
HOD  
Head of the Department  
Department of Electrical & Electronics Engg.  
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