



AVIT
AARUPADAI VEEDU INSTITUTE OF TECHNOLOGY



**VINAYAKA MISSION'S
RESEARCH FOUNDATION**
(Deemed to be University under section 3 of the UGC Act 1956)



APPROVED BY AICTE



ACCREDITED BY NAAC



RECOGNIZED BY DSIR



Research Lab for Renewable Energy Technology

Department Of Electrical And Electronics Engineering

(Technical Partner Ecosence Sustainable Solutions., New Delhi)

Aarupadai Veedu Institute of Technology

An ambit Institution of

Vinayaka Mission's Research Foundation

Vinayaga Nagar, Paiyanoor, Chennai - 603104 Tamil Nadu, INDIA

Objective of the research lab

The objective is to commercialize and transfer our developed technologies to market. The facilities in the laboratory is used to provide training to the industry in the filed of renewable energy and it also provide technical consultancy in various fronts.

Vision

To be innovative and emphasis on multi-disciplinary collaboration in the field of solar energy and renewable energy to meet the changing needs of society for a carbon free future.

Mission

Create and disseminate knowledge through research and development and to transfer intellectual sustainable products to the society.

SOLAR PV TRAINING & RESEARCH SYSTEM



An active measurement panel to measure different voltages, currents and temperature. User can vary Irradiation to simulate sunlight conditions during the day which further affects the temperature of Solar Panel to study I-V and P-V characteristics under varying irradiation and temperature. Series and Parallel Combination of Solar Panels possible.

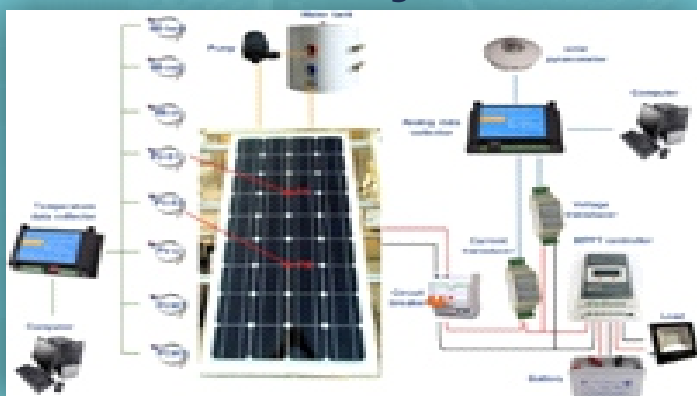
Consultancy Facilities



MPPT algorithm and Charge controller testing



Inverter control testing for different operating conditions



Performance Analysis and Modelling of Photovoltaic Panel



Micro-grid and smart grid control testing

SOLAR PV GRID TIED TRAINING SYSTEM



Active measurement panel to measure different voltage, current and power analysis. Can observe voltage & current waveforms for linear or non-linear loads and calculations. Impact of transmission line inductance on voltage quality at PCC.

Consultancy Facilities



Synchronization process for single phase solar
Grid tied PV system

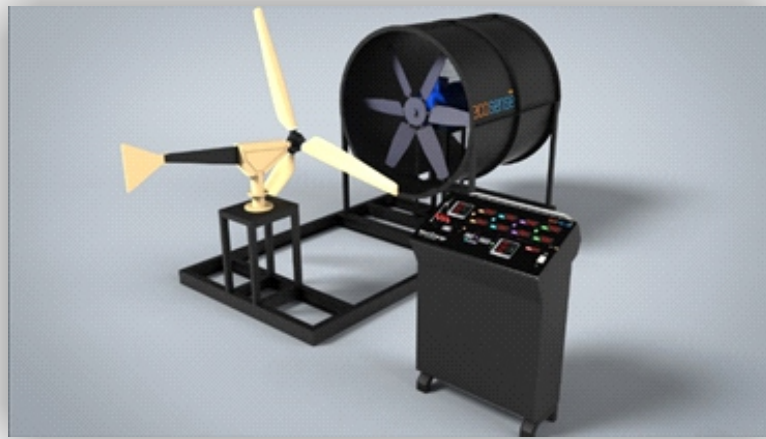


Development of Micro-grid and smart grid control



Study of power quality & impacts while using
capacitor for power factor improvement

WIND ENERGY TRAINING SYSTEM



Consultancy Facilities

Artificial Wind generator. Actual fixed pitch wind turbine in controlled environment. An active measurement panel to measure different voltages, currents, Wind speed and RPM.



- Analysis and characterization of wind energy system
- Analysis of Micro-grid and smart grid integration with wind energy system
- Transient analysis of turbine power by changing wind speed rapidly
- Analysis of MPP algorithm of wind turbine
- Control techniques for regulated AC power
- Power quality analysis
- Power factor correction

S.No	Products Developed
1.	Portable Solar Powered UPS for use at remote places
2.	Portable Solar Tree
3.	Remote controlled solar powered grass cutting machine
4.	Affordable E-Bicycle
5.	Battery Less UPS System Using a Mechanical Flywheel

For Consultancy Detail
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