

## **THE INSTITUTION HAS FACILITIES FOR ALTERNATE SOURCES OF ENERGY AND ENERGY CONSERVATION**

### **1. Solar energy**

The Vishnu Educational Society is met by the renewable energy sources (Solar Power). In view of the depletion of fossil fuels, the following alternate renewable sources of energy are under development in our College. Solar energy is one that is studied in depth both theoretically and practically through the establishment of a 502.4 KWp Roof Top Solar Power Plant. An Energy park was set up to create awareness among students, staff and the general public regarding the significance of renewable energy (RE) and renewable energy technologies (RETs) in the context of clean (environmentally benign), decentralized, modular, energy efficient and sustainable power. Every year around 220 Tons of CO<sub>2</sub> emission is being reduced with the use of renewable energy in our Campus. In the process of enhancing the maximum solar power utilization, the students and staff designed a smart solar Panel cleaning Machine by which the power generation has increased by an appreciable percentage.



**ROOF TOP SOLAR PLANT**



kovvada, Andhra Pradesh, India  
502.4 KWP ROOF TOP SOLAR PLANT Kovvada, Andhra  
Pradesh 534206, India  
Lat 16.565394° Long 81.521721°  
Vishnu Institute Of Technology

**THREE PHASE INVERTER WITH MPPT CONTROL FOR ROOF TOP SOLAR POWER PLANT**



kovvada, Andhra Pradesh, India  
SOLAR TRAFFIC LIGHT CONTROL VIT Kovvada,  
Andhra Pradesh 534206, India  
Lat 16.565394° Long 81.521721°  
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**SOLAR TRAFFIC SIGNAL CONTROL SYSTEM**

The college also implemented traffic light/signal control at critical places by using solar panels and battery as shown in the figure.

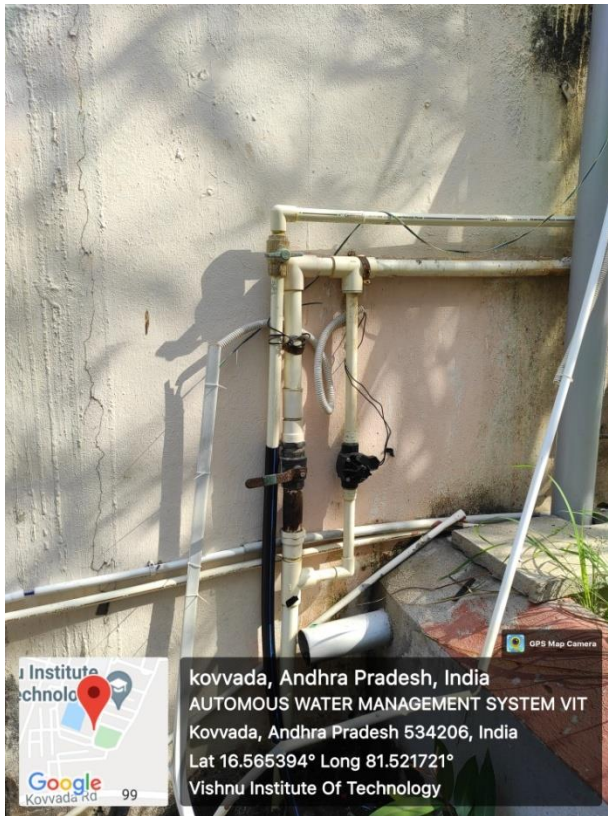
### 3. Wheeling to the Grid

The Electricity Act-2003 and the central Electricity Authority (measures relating to safety and electric supply) Regulations, 2010- Electrical installation of Voltage Exceeding 650V of M/s Sri Vishnu Educational Society, solar power plant, vishnupur, Bhimavaram (M), West Godavari dist – Statutory approval Under section 54 of the Electricity Act, 2003 and regulation 43(4) & 32 of CEA (Measures relating to safety and Electric Supply regulations,2010)-Approval Accorded.  
Inspection done dated on 23/12/2017.



#### GRID CONNECTION OF ROOF TOP SOLAR POWER PLANT

#### 4. Sensor-based energy conservation.



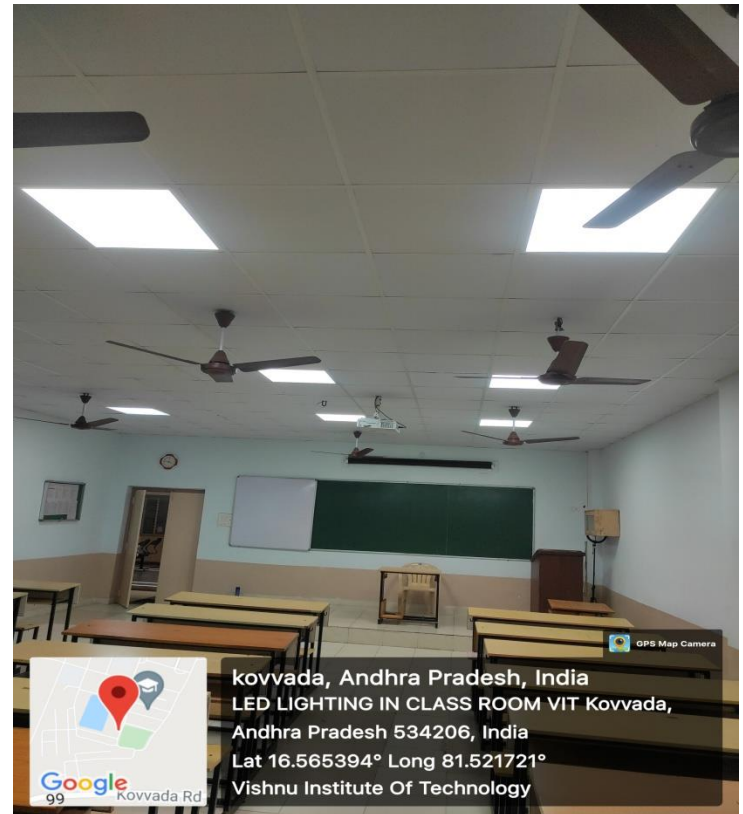
VIT students and faculty have developed a smart water management system including sensors. The system is developed through IoT principle which consist of couple of sensors like ultrasonic sensor for level indication and flow meter sensors for leakage detection, it also consist of a microcontroller which operates the entire operation. In place of hydraulic valves we have installed electric valves which makes task easy while transmitted the water to required area.

This entire system is integrated with a software website which helps in controlling and monitoring the data. This system can be used for

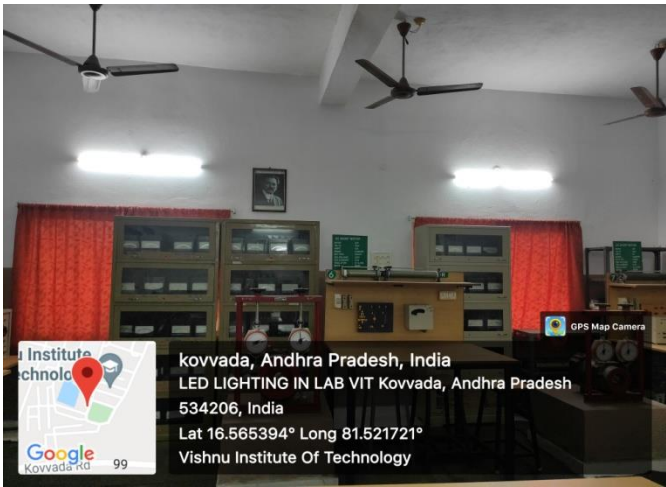
- Leakage detection in short span
- Parallel pumping of water to required area
- Completely stops the overflow of water from overhead tanks
- We can have future prediction of water requirement with the help of database management system
- Motor protection available

## 5. Use of LED bulbs/ power-efficient equipment

The light-emitting diode (LED) is today's most energy-efficient and rapidly-developing lighting technology. LED is a highly energy-efficient lighting technology, and has the potential to fundamentally change the future of lighting.



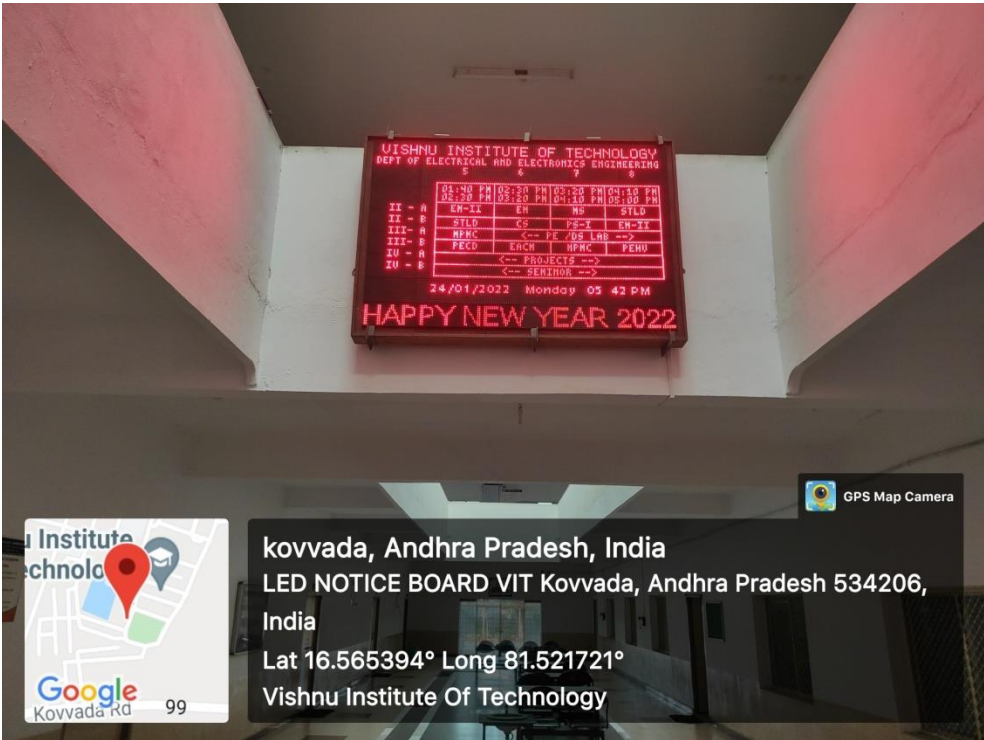
The entire campus is illuminated with LED street lighting, which gives more illumination and is more efficient. LED lights are also placed in some classrooms, labs and staff rooms. The students and faculty have done a project on LED Digital Notice board. The class timetables and important notifications and achievements are displayed daily.




  
 Institute of Technology  
 kovvada, Andhra Pradesh, India  
 LED LIGHTING IN LAB VIT Kovvada, Andhra Pradesh  
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 LED NOTICE BOARD VIT Kovvada, Andhra Pradesh 534206,  
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