

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

1. Solar energy

The Vishnu Educational Society has embraced renewable energy sources, specifically solar power. Recognizing the diminishing availability of fossil fuels, our College is actively involved in developing alternative renewable energy sources. Solar energy is a major focus of our studies, both in theory and practice, exemplified by the establishment of a 502.4 KWp Roof Top Solar Power Plant. Additionally, an Energy Park has been established to raise awareness among students, staff, and the general public about the importance of renewable energy (RE) and renewable energy technologies (RETs). Our aim is to promote clean, decentralized, modular, energy-efficient, and sustainable power solutions.

Through the implementation of renewable energy in our Campus, we have successfully reduced approximately 220 tons of CO₂ emissions annually. Furthermore, in our pursuit of maximizing solar power utilization, our students and staff have designed a smart solar panel cleaning machine. This innovation has significantly increased power generation by a noteworthy percentage.



ROOF TOP SOLAR PLANT



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



SOLAR TRAFFIC SIGNAL CONTROL SYSTEM

The college has also introduced solar-powered traffic light/signal control systems at critical locations, as illustrated in the accompanying figure. These systems utilize solar panels and batteries to ensure their efficient operation..

3. Wheeling to the Grid

The solar power plant of M/s Sri Vishnu Educational Society, located in Vishnupur, Bhimavaram (M), West Godavari district, complies with the regulations set forth in the Electricity Act-2003 and the Central Electricity Authority (Measures relating to safety and electric supply) Regulations, 2010. The installation, which involves voltage exceeding 650V, has obtained the necessary statutory approval under Section 54 of the Electricity Act, 2003, as well as Regulation 43(4) and 32 of CEA (Measures relating to safety and Electric Supply Regulations, 2010). An inspection was conducted on December 23, 2017.



GRID CONNECTION OF ROOF TOP SOLAR POWER PLANT

4. Sensor-based energy conservation.



The students and faculty of VIT have successfully created an intelligent water management system that incorporates sensors. This system is developed based on the principles of the Internet of Things (IoT) and employs various sensors such as ultrasonic sensors for level indication and flow meter sensors for leakage detection. Additionally, a microcontroller is utilized to oversee the entire operation.

To simplify the process of water distribution to the designated areas, we have replaced hydraulic valves with electric valves. This switch allows for easier control and transmission of water as required.

The entire system is seamlessly integrated with a software website, enabling efficient control and monitoring of the data. This comprehensive system offers a wide range of functionalities, including:

- Swift and accurate detection of water leakage within a short span of time.
- Parallel pumping of water to specific areas, ensuring optimal distribution.
- Prevention of water overflow from overhead tanks, eliminating wastage.
- Future prediction of water requirements facilitated by a robust database management system.
- Motor protection features to safeguard the system's components.

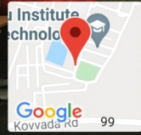
By utilizing this integrated solution, users can effectively manage and optimize water resources while ensuring the protection and longevity of the system's motor.

5. Use of LED bulbs/ power-efficient equipment

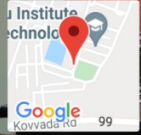
LED, or light-emitting diode, stands as one of the most advanced and energy-efficient lighting technologies available today. Its remarkable efficiency and rapid development make it a frontrunner in the field of lighting. LED technology has the potential to bring about a transformative shift in the way we illuminate our surroundings, promising a bright future for the world of lighting.



The campus is adorned with LED street lighting, offering enhanced illumination and improved energy efficiency. Additionally, LED lights have been installed in select classrooms, laboratories, and staff rooms. A project undertaken by the students and faculty involves an LED Digital Notice board, where daily class timetables, important notifications and notable achievements are prominently displayed. This integration of LED technology not only provides efficient lighting solutions but also facilitates effective communication within the campus community.



kovvada, Andhra Pradesh, India
 LED LIGHTING IN LAB VIT Kovvada, Andhra Pradesh
 534206, India
 Lat 16.565394° Long 81.521721°
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 DEPT OF ELECTRICAL AND ELECTRONICS ENGINEERING

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III - A	NRCC	PE / OS LAB -->			
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HAPPY NEW YEAR 2022



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 Vishnu Institute Of Technology