RNS Institute of Technology

(VTU Affiliated, AICTE Approved, NAAC 'A' Grade Accredited)
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Department of Electronics and Instrumentation Engineering

(NBA Accredited for the Academic Years 2018-19, 2019-20, 2020-21 and 2021-22)

Project: IoT based Solar energy management and control system

Title	IoT based Solar energy management and control system	
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Guide	Mr. Manohar P	
Year	2020-21	

In India the water is distributed in regions on time basis. This process is done manually where a person goes to that area and turns the valve ON/OFF manually. This is a very tedious and time-consuming process. Moreover, these valves are not locked and can be easily turned ON/OFF by a common man thereby wasting lot of water. Looking at this problem we decided to propose a system which can help in minimizing the water loss and fuel with better timing precision. Farmers are always exposed to various external risks like weather changes, crop damage by animals, etc

This project deals with controlling the Charge generated using solar energy and monitoring it remotely across the globe. The demand of renewable energy (alternative Energy sources) is increasing day by day as our non-renewable sources have started depleting. The other reason for increased demand is that it has a cleaner, easy setup and has a very low cost of maintenance during its operation. Due to which, solar powered equipment and appliances are making its way into various sectors of our day to day life. This project deals with the Scenario that a storage or battery is needed in order to harness the solar energy when the sunlight is available and supply it in vice-Versa conditions. For this, a cost-effective system is built which charges a battery with the help of solar panel and protection is given to the battery in case of overcharge, Deep discharge and under voltage condition. Students have used solar energy through system designed with power MOSFET and PWM chip.

The outcome of the project is to use solar batteries to drive various appliances. Energy losses of solar panel are monitored continuously both on LCD and from anywhere across the globe in order to have better durability. Solar irrigation with variable speed of motor helps farmer to use power efficiently. Solar panel can be monitored remotely to achieve better lifespan.