Department of Electrical and Electronics Engineering

PROJECT TITLE	**REAL TIME AUTOMATION OF INDIAN AGRICULTURAL SYSTEM**
STUDTENT NAMES	**P SANTOSH KUMAR,** **S VENKATESH**
SUPERVISOR	**MR. KONDRAGUNTA JAGADISH BABU ASSISTANT PROFESSOR**
OBJECTIVE	The main objective of this project was designing the microcontroller based system for measurement and control of the four essential parameters for plant growth, i.e. temperature, humidity, soil moisture, and light intensity, has been followed. The results obtained from the measurement have shown that the system performance is quite reliable and accurate. The system has successfully overcome quite a few shortcomings of the existing systems by reducing the power consumption, maintenance and complexity, at the same time providing a flexible and precise form of maintaining the environment.
ABSTRACT/IDEA	Appropriate environmental conditions are necessary for optimum plant growth, improved crop yields, and efficient use of water and other resources. Automating the data acquisition process of the soil conditions and various climatic parameters that govern plant growth allows information to be collected at high frequency with lesser labor requirements. The main objective of this paper is to design a simple, easy to install, microcontroller-based circuit to monitor and record the values of temperature, humidity, soil moisture and sunlight of the natural environment that are continuously modified and controlled in order optimize them to achieve maximum plant growth and yield. The controller used as a low power, cost efficient chip manufactured by ATMEL having 8K bytes of on-chip flash memory. It communicates with the various sensor modules in real- time in order to control the light, aeration and drainage process efficiently inside a greenhouse by actuating a cooler, fogger, dripper and lights respectively according to the necessary condition of the crops.

	An integrated Liquid crystal display (LCD) is also used for real time display of data acquired from the various sensors and the status of the various devices. Also, the use of easily available components reduces the manufacturing and maintenance costs. This makes the proposed system to be an economical, portable and a low maintenance solution for greenhouse applications especially in rural areas and for small scale agriculturists. Keywords: Greenhouse, Temperature, Humidity, Soil moisture, Sunlight.
TECHNOLOGY USED	Microcontroller (AT89C51)
BENIFITS	1. It can be measure and control of the four essential parameters for plant growth. 2. This system will reduce the power consumption, maintenance and complexity, at the same time providing a flexible and precise form of maintaining the environment.