VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Belgaum

"MICROCONTROLLER BASED FLOW CONTROL DEVICE"

KSCST Sponsored

A project report submitted to Visvesvaraya Technological University in partial fulfillment of the requirement for the award of degree of Bachelor of Engineering in Electronics & Communication Engineering.

Submitted By,

Aradhana Prakash (4JN06EC061)
Shameem Banu (4JN06EC041)
Nethravathi. S.J (4JN05EC037)

Under the guidance of

Dr. S. V. Sathyanarayana
Professor, Dept. of Electronics & Communication Engineering
and
Prof. S. Amarappa
Professor and Head, Dept. of Telecommunication Engineering

Department of Electronics & Communication Engineering
Jawaharlal Nehru National College of Engineering, Shimoga-577204

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ABSTRACT

Control units are used to control conditions such as flow, pressure, temperature, and liquid level by fully or partially opening or closing in response to signals received from controllers.

The opening or closing of control valves is done by means of electrical, hydraulic or pneumatic systems. Positioners are used to control the opening or closing of the actuator based on electric signals.

The project "Microcontroller based Flow control device" has been designed to ensure good performance and high efficiency in working conditions which involve the control of flow of water or any other fluid.

This project is aimed at solving the problems of manual control of fluid flow devices in many industrial, irrigational, chemical and hydraulic applications, by facilitating automatic control of the device using a microcontroller integrated circuit.

This project is highly reliable, secure and user friendly, and highly stable under vigorous working conditions. The implementation is made economical and flexible, and can handle fluids in variable quantities, ranging from a few milliliters in chemical industries, to bulk applications involving many hundreds of liters in irrigation fields.

The software is developed in high level embedded C language because of its flexible, fast and simple structure facilities. As the software is very user friendly and self explanatory, a little experience is enough to start the software, and the working is made easy with good interface.

This project is very useful in industries, and provides solution to some of its needs regarding fluid flow management, and facilitates large scope for improvement with the interface of additional amenities.