**SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA)**

**AIM:**

The main aim of this project is to design a SCADA system to monitor and control various environmental parameters.

**PURPOSE:**

The purpose of the project is to monitor the environmental parameters as well as control those corresponding appliances from PC.

**BLOCK DIAGRAM:**

**LDR**

**TEMPERATURE SENSOR**

**PC**

**BULB**

**DC FAN**

**ADC**

**0808**

**POWER SUPPLY**

**MAX 232**

**RELAY**

**LCD DISPLAY**

**MICRO CONTROLLER**

**(AT89S52)**

**SMOKE SENSOR**

**HUMIDITY SENSOR**

**WATER PUMP**

**BUZZER**

**DRIVER CIRCUIT**

**RELAY**

**Power Supply:**

**STEP DOWN**

**TRANSFORMER**

**BRIDGE**

**RECTIFIER**

**FILTER**

**CIRCUIT**

**REGULATOR SECTION**

**DESCRIPTION:**

The project is designed to implement a SCADA system, to monitor and control the various environment parameters. Here, the parameters are temperature, humidity, smoke and light. These parameters are sensed by using relevant sensors. Basically, the sensors are physical quantities, which are giving values in analog form. But microcontroller is a digital circuit, which understands the values in digital format only. So, by using ADC, which can convert the values from analog to digital will interface to microcontroller.

Now, the microcontroller has the values of parameters and this will be displayed on PC as well as LCD. The buzzer will buzz if the sensors values exceed the threshold limit. Based upon these values we can control the corresponding appliances like turn ON or OFF using commands from PC.

**HARDWARE USED:**

* Microcontroller(AT89S52)
* Power Supply
* Light intensity sensor
* Temperature sensor
* Smoke sensor
* Humidity sensor
* ADC 0808
* Bulb
* Relay
* Fan
* Water pump motor
* DC motor
* Buzzer
* MAX 232
* PC
* LCD display

**SOFTWARE TOOLS:**

* Keil
* Express PCB
* ISP

**RESULT:**

By using this project we can implement a SCADA system, to monitor and control the various environmental parameters.