**TEMPERATURE AND LIGHT CONTROL OF AN INCUBATOR**

An incubator is an infant stimulating system used for intensive care of the newborn, premature or sick baby. It provides a safe and clean environment, which has fresh air, clean and sterile ambient conditions for the babies. In addition to these, the incubator environment provides a homogeneous and stable temperature, oxygen gas concentration that is needed especially for intensive care of the premature baby.

Since the incubator is a medical device and has a lot of limitations as other medical equipment, the most suitable temperature measurement and light intensity measuring methods have to be used. For continuous recording and control of the temperature and intensity levels, the best suitable sensors are preferred in this project owing to the electrical characteristics for the measurement and control process.

**The main aim of this project is to control the basic parameters of the incubator. Different sensors are used in this project to measure various parameters. Light Dependent Resistor will be used to measure the light intensity, Temperature sensor will be used to measure the temperature continuously.  LCD will display the current temperature & light intensity. To display the temperature and intensity values, initially these values have to be converted into digital values. ADC is used to convert the analog parameters into digital values.**

**Whenever the temperature exceeds the set point, the cooling system will be turned on automatically and whenever the temperature falls below the rated value, the heaters will be switched on automatically. Whenever light intensity is low in the room, the lights will be switches on automatically according to the intensity of sunlight in the room and when the intensity if high, the lights will be switched off accordingly.**

**SOFTWARE AND HARDWARE TOOLS:**

**Software Tools:**

1. Keil compiler
2. Orcad.
3. Proload.

**Hardware tools:**

1. AT89S52
2. ADC 0808
3. TEMPERATURE AND HUMIDITY SENSORS
4. COOLER AND HEATER
5. LCD
6. BUZZER

**BLOCK DIAGRAM:**

