Abstract
This proposed “Smart Automated Water Distribution System” is used to distribute water equally. Automation provides optimized solution for all problems of distribution of water and maintenance of system. The proposed system can be used where the supply of water takes place by water tankers such as college hostels, big apartments and industrial areas. The paper highlights all aspects of this subject and it will give a reliable and efficient technique for water distribution. This system consists of PLC, GSM module and solenoid valve. PLC can control distribution of water by opening and closing solenoid valve according to output comes from level switch.

I. INTRODUCTION
In order to make water distribution more efficiently by reducing wastage of water and power this proposal made. With the continuous economic growth, the water demand of industries, enterprises is also increasing. The water wastage is due to many reasons such as leakage, mankind laziness and operator error. It improves the performance and also reduces human efforts hence we are going to implement PLC based water distribution system. The present system leads to wastage of water and due to improper handling water is not properly distributed to end user. Here we are working on the distribution of water in college hostels, industrial areas where water is supplied by tankers it monitors all the water equally to all the areas of college hostels depending upon the amounts of water in the main tank. All these tasks are monitored through system with the programmable logic controller (PLC).
of water diversity increases because of restriction imposed by the water availability, storage capability of tank, control and process parameters.

II. EXISTING SYSTEM
In previous method, person in charge will go to that place and open the valve for a particular time period. Once the time over again the in charge person will go to the same place and close the valve. It is wastage of time. The water wastages such as leakages, mankind laziness and operating error can be occurred. The water distribution with RTC using microcontroller has several disadvantages like water theft. Due to this many people will not receive sufficient water for their use. [3]

III. METHODOLOGY
The system which is shown in below gives the automatic implantation in water supply control for drinking water. Programmable logic controller is the heart of automated water supply system. The functional diagram of system gives the whole idea of system. In this system we are controlling valve by observing the level of water tank. PLC programming is done using ladder diagram language.

IV. PROPOSED SYSTEM

![Proposed Block Diagram](image)

Figure 1: Proposed Block Diagram
System Description
Pumping section is connected to PLC. If the water level below the set point the pump is automatically on with the help of PLC. Checking the level in storage tank is the first process. If the level attains the set point overall system is started. The water is flow through the pump when the main solenoid valve opens. When level of main tank becomes low then GSM will be activated and sends message to supplier. The respective areas can get water until the set point reaches.

- **PLC**
  PLC is a main controller which takes input from data logger and passes this information to the respective engineer. All the inputs from level sensor are given to PLC. The PLC is main controller used for storing these all information and controlling purpose. The output from PLC in the range of 24V DC. [2]

- **Level switch**
  Level switch can be used for sense the amount of water level present in the storage tank. 24V DC supply is given to the water. The buzzer indicator will connect to the level switch. It will then connect to the PLC.[4]

- **Solenoid valve**
  Solenoid valve is a two port valve. It will be used to turn on and off condition. In this project three solenoid valves will be used. 230V supply is given to the main solenoid valve. PLC output is connected to the solenoid valve with the help of RS232 cable.[1]

- **GSM**
  GSM (global system for mobile) is a TDMA based wireless network technology developed in Europe that is used throughout most of the world. GSM phones make use of a SIM card to identify the users account.[2]

- **Field Section**

![Field Section](image)

*Figure 2: Field Section required for implementation of this work.*
V. CONCLUSION
The automation for water distribution system eliminates water wastage. This system provides features such as, the quantity of water and time scheduling is achieved without interruption. Distributed system is intelligences it monitoring all time without man power. With the help of PLC we can cover larger area of distribution, because it handles thousands of inputs and outputs. The automated system is full-proof system where it will control water wastage as well as shortage. It immediate sends message to supplier. So this project will become an optimized solution for distribution at college and big apartments.

VI. REFERENCES

TO CITE THIS PAPER