# ABSTRACT

**PLCs are robust industrial electronic systems used for controlling a wide variety of mechanical systems and applications in glass bottle manufacturing industry around the universe. In Bangladesh, glass bottle spray coating system is not available; hence the purpose of this thesis is to implement this system by using programmable logic controller (PLC) along with WinCC programming system with the help of Proportional Integral Derivative (PID) control system. Proportional Integral Derivative (PID) controlling system is collaborated with temperature controller and water gradient control during heat increase or decrease, level increase or decrease and set point programmes. For glass bottle spray coating, it needs accurate temperature and density level, which is done in our proposed system. In this work temperature sensor is used to detect the temperature of water and level switch is used to detect the water level. WinCC RT advanced is used for getting the real time value and MATLAB is used for acquiring the simulation over the temperature changes.**

**CERTIFICATE**

I certify that I have supervised this thesis entitled as **‘PLC and SCADA based Temperature and Level Controlling System in Glass Bottle Manufacturing Industry’**. In my opinion, it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a thesis for the degree of Bachelor of Science in Mechatronics Engineering.

.............………………………

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**APPROVAL**

The thesis entitled as **‘PLC and SCADA based Temperature and Level Controlling System in Glass Bottle Manufacturing Industry’** prepared and submitted by Md. Mehbub Khan and Md. Hasan Imam partial fulfilment of the requirements for the award of the Degree of Bachelor of Science in Mechatronics Engineering is

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**DECLARATION**

We hereby declare that this thesis is the result of our own investigations except where otherwise stated. We also declare that it has not been previously or concurrently submitted as a whole for any other degrees at World University of Bangladesh or any other institutions.

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Signature…………………………… Date……………………………

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**To our respected and beloved parents**

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# LIST OF ABBREVIATIONS

|  |  |
| --- | --- |
| PID | Proportional, Integral and Derivative |
| PLC | Programmable Logic Controller |
| SCADA | Supervisory Control and Data Acquisition |
| PWM | Pulse Width Modulation |
| LED  HMI | Light Emitting Diode  Human Machine Interface |

# LIST OF SYMBOLS

|  |  |  |
| --- | --- | --- |
| mm | - | Millimetre |
| V | - | Voltage |
| s | - | Second |
| M | - | Meter |
| v | - | Voltage |
|  |  |  |