**GREEN HOUSE MONITORING AND CONTROL SYSTEM**

**OBJECTIVE :**

The main objective of this project is to reduce water and power usage and to reduce human work while growing plants and making it used only when required .

**HARDWARE AND SOFTWARE REQUIRED**

**Module 1(HARDWARE):**

1. ESP8266
2. Basic sheild
3. Servo motor
4. LED’s
5. Relay
6. DC Motor
7. 9V Battery
8. Soil moisture sensor
9. DTH11 sensor
10. LDR sensor

**Module 2(SOFTWARE) :**

1. Arduino
2. NODE RED
3. IBM cloud
4. MIT app inventor

**Methodology :**

●Create a code in arduino software to read the values from different sensors and publish their values to IBM cloud and to get the commands from cloud to

control the hardware devices connected to nodeMCU.

●Connect the sensors (DHT11,LDR and SOIL MOISTURE) and output devices (LED,SERVO MOTOR and DC MOTOR) to nodeMCU.

●Use node-red service to create an UI which collects values from IBM cloud.

<https://trinath.eu-gb.mybluemix.net/ui>

●Create an app using MIT app inventor which takes values from node-red UI and gives alert messages and commands (Manually).

***BLOCK DIAGRAM:-***

SOIL MOISTURE

LDR

***ESP8266***

**3**

IBM CLOUD

NODE-RED(UI) & MIT APP INVENTOR

EXHAUST FAN

WATER SUPPLY

LIGHT

DHT 11