The level of pollution is increasing rapidly due to factors like industries, urbanization, increasing in population, vehicle use which can affect human health. IOT Based Air Pollution Monitoring System is used to monitor the Air Quality over a web server using Internet. It will trigger an alarm when the air quality goes down beyond a certain level, means when there are sufficient amount of harmful gases present in the air like CO2, smoke, alcohol, benzene, NH3 and NOx. It will show the air quality in PPM on the LCD and as well as on webpage so that air pollution can be monitored very easily.

The system uses MQ135 and MQ6 sensor for monitoring Air Quality as it detects most harmful gases and can measure their amount accurately.

Problem statement:

The disadvantages of the orthodox monitoring tools are their bulky size, substantial weight and astonishing expensiveness. These lead to scant placement of the monitoring posts. In order to be effective, the locations of the monitoring stations need careful placement because the air pollution situation in urban areas is highly related to human activities (e.g. construction activities) and location-dependent (e.g., the traffic choke-points have much worse air quality than average).

IOT Based Air Pollution Monitoring System monitors the Air Quality over a webserver using internet and will trigger an alarm when the air quality goes down beyond a certain level, means when there are number of harmful gases present in the air like CO2, smoke, alcohol, benzene, NH3, NOx and LPG. The system will show the air quality in PPM on the LCD and as well as on webpage so that it can be monitored very easily.

System requirement:

Hardware Requirement: -

1) MQ135 Gas sensor

2) Arduino Uno

3) Wi-Fi module ESP8266

4) 16x2 LCD

5) Breadboard

6) 10K potentiometer

7) 1K ohm resistors

8) 220 ohm resistor

9) Buzzer

10) MQ 6 LPG gas sensor

11) Temperature sensor LM35

12) Humidity sensor SY-H5220

Software Requirement: -

1) Arduino 1.6.13 Software

2) Embedded C Language



*Fig 1: Block diagram ( IOT Based Air Pollution Monitoring System, Harsh N. Shah et al., 2018)*

**Applications:-**

1) Industrial perimeter monitoring

2) Indoor air quality monitoring.

3) Site selection for reference monitoring stations.

4) Making data available to users.

**Advantages: -**

1) Easy to Install

2) Updates On mobile phone directly

3) Accurate Pollution monitoring

4) Remote location monitoring

Conclusion:

The system to monitor the air of environment using Arduino microcontroller, IOT Technology is proposed to improve quality of air. With the use of IOT technology enhances the process of monitoring various aspects of environment such as air quality monitoring issue proposed in this paper. Here, using the MQ135 and MQ6 gas sensor gives the sense of different type of dangerous gas and arduino is the heart of this project.

Which control the entire process. Wi-Fi module connects the whole process to internet and LCD is used for the visual Output.

***References:***

***Harsh N. Shah, Zishan Khan* , *Abbas Ali Merchant* , *Moin Moghal* , *Aamir Shaikh*, *Priti Rane (2018),’ IOT Based Air Pollution Monitoring System’,*** International Journal of Scientific & Engineering Research Volume 9, Issue 2, Pg. no. 62-65