**MOBASSHIR MAHBUB, JULY 2019,**

**“TOXIC AND HAZARDOUS GAS DETECTION, MEASUREMENT AND MONITORING SYSTEM FOR SAFETY ASSURANCE IN HOME AND INDUSTRIAL APPLICATION OF WIRELESS SENSOR NODE”.**

In this paper they get the two outcomes. One is sending message to the authority using GSM module SIM900 is used to send SMS and other is displayed the measured in the LCD display. Used components are Arduino UNO R3, MQ2 gas sensor nRF24L01 plus wireless Transceiver module. nRF24L01 is a receiver chip which is configured and operated through Serial Peripheral Interface (SPI). MQ2 gas sensor is designed to detect or measure the following gases: LPG, Alcohol, Propane, Hydrogen, CO and Methane. Its operating voltage is from 0-5V, the analog signal from the MQ2 Gas sensor is further fed into LM393 High precision Comparator for to soldered on the bottom and then little potentiometer to increase sensitivity of the sensor. With the help of Formula find the %of gases in the environment. Implement this model in the Breadboard. Using SIM900 is used to send SMS finally display the measured output in LCD display.

**KATOLE K.R, TAMGADE S.N, MOREY P.R, 2019**

**“DESIGN AND IMPLEMENTATION OF HAZARDOUS GAS LEAKAGE DETECTION SYSTEM FOR INDUSTRIAL AREA”**.

Onsite toxic gas detection is one of the most dangerous issues in the industry. This paper shows how to detect the leakage of toxic gas and take preventive measures to prevent the leakage. The input is processed and the output is sent to the warning system, exhaust fan, and solenoid valve. The input sensor used to detect gas leaks is the MQ7 gas sensor. The analog input from the sensor is provided to the system as a digital input via DAQ. It is then compared to the state of the LabVIEW environment to get the appropriate output. This control signal is sent via DAQ to the output device that controls the gas leak. The people who are all surrounding the industry are saved.

**MOHAMMAD MONIRUJJAMAN KHAN, NOVEMBER 2020,**

**“SENSOR-BASED GAS LEAKAGE DETECTOR SYSTEM”.**

This paper aims to measure and analyse the real time levels of toxic gases. In order to ensure safety of the workers working under such severe conditions. This project attempts to device an IOT technology that shall detect the humidity, temperature levels and mixture of gases, sensing each type of gas to measure its level while keeping track of the real-time dynamic changes in the above factors. The gas sensors MQ2 and MQ6 are interfaced Arduino UNO to detect toxic gas values present in the sewage system. If levels exceed beyond threshold, it shall send an alert on the connected mobile devices of the authorized people who are remotely located in the job. If any blockage is encountered, it can be monitored with the help of live video streaming. By using the ESP8266 Wi-Fi module to send the measured values to the authority. Through the ESP8266 the measured data are stored in the Thing speak.

**CHALASANI SRINIVAS AND MOHAN KUMAR, 2018**

**“TOXIC GAS DETECTION AND MONITORING UTILIZING IOT”**.

Harmful gas leakage accidents are the main reason for workers death in industries which work mainly using chemicals. Gas leakage can be easily detected and controlled by using latest trends in information technology by applying internet of things. This project intended to avoid industrial accidents and to monitor harmful gases and to intimate alert message to safety control board of industry using Arduino Uno R3 and internet of things. Ardunio Uno R3 board is used as central microcontroller which is connected with sensor. Such as temperature, gas sensor, alcohol sensor which can continuously monitor respective environmental parameters. Hence this device may be used as multi gases detection apparatus more over the rate of response is high.

An alarm is produced instantly if the level of the gases goes above the normal level means indication through the internet specific receiver section. Data received by sensor is stored in internet which can be used for further processing and it can be analyzed for improving safety regulations. This model can be future extended for providing better living environment for people in and around industries with a pollution controlled environment.

**BICHINAPALLY SRUTHI, SREENIVASULU E, 2018**

**“ALERTING AND DETECTION OF TOXIC GASES IN INDUSTRIES USING THE INTERNET OF THINGS”**.

The project aims to provide an intelligent solution for monitoring toxic sewage gas, working on a real-time sewage level detection and monitoring system. When a certain threshold is exceeded, an alert 5 is sent to the observer who is examining the condition from a remote location. The information is then passed along with various gas ppm values that indicate whether it is safe for the worker to clean or work in the environment. Integrate remotely located IoT monitoring devices with IoT platforms to create the proposed system. This requires calibration of gas sensors for industrial purposes and determination of the correct thresholds for sewage treatment plants and facilities. The hardware is designed to be safe by sending pre-alerts to workers as the concentration of harmful gaseous components increases over time. Various types of sensors are used to monitor parameters that exist in the industry such as gas and temperature. When the threshold falls below the detection value, the system sends an SMS, analyses the concentration of various toxic gases and raises an alarm by displaying the results graphically, alerting workers for real-time monitoring. I warn you. This helps protect against dangerous illnesses and has a social purpose. In the proposed system, an example of the sensor value was recorded and displayed in the analysis tool Thing Speak.

‘The carbon monoxide sensor and the methane sensor showed high measurements of 2.3 and 2.3, respectively. At 60ppm, this is above the threshold and the GSM module was used to send an alert to the mobile number entered in the code.