

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

**KG REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY**

(Accredited by NAAC, Approved by AICTE, New Delhi, Affiliated to JNTUH, Hyderabad)  
Chilkur (Village), Moinabad (Mandal), R. R Dist, TS-501504



**CERTIFICATE**

This is to certify that the Project report on “**MOBILE AIR POLLUTION MONITORING AND BUS TRACKING SYSTEM FOR METROPOLITAN AREAS**” is a bonafide record work carried out by **K. MANOHAR REDDY (19QM1A0431), N.V.V. RAMANA REDDY (19QM1A0446), P. SAI KARTHIKA (19QM1A0455), R. DEEPAK REDDY (19QM1A0456)**, in partial fulfillment for the requirement for the award of degree of **BACHELOR OF TECHNOLOGY** in “**ELECTRONICS AND COMMUNICATION ENGINEERING**”, JNTUH, Hyderabad during the year 2022-2023.

**Internal Guide**

Mr. Vijaya Bhaskar Reddy M.Tech (Ph.D)

Assistant Professor

**Head of the department**

Dr. M N Narsaiah Ph.D

Associate Professor

**External Examiner**

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<b>K. Manohar Reddy</b>	<b>19QM1A0431</b>
<b>N.V.V. Ramana Reddy</b>	<b>19QM1A0446</b>
<b>P. Sai Karthika</b>	<b>19QM1A0455</b>
<b>R. Deepak Reddy</b>	<b>19QM1A0456</b>

## ABSTRACT

We need a smart and portable management system which provides us with an efficient method to track the current location of a bus and help the stakeholders with efficient time management. And also, air pollution levels are constantly on rise. Even rural areas are affected by the overall increase in vehicle emissions, which is one of the major causes of the increase in pollution. So, a system is needed where we can constantly monitor the surrounding pollution levels. Instead of an inert system, we are proposing a more flexible one.

Combining present technology with the requirement of information transmission, we planned for a creative approach to track a bus and monitor the pollution levels at the same time using GPS and PM sensors. This system can also be used for *Accident Detection Alert System*, *Soldier Tracking System* and many more, by just making few changes in hardware and software, widely in tracking school/colleges buses Cabs/Taxis, stolen vehicles, Etc.

Keywords- *Tracking, GPS, Pollution, PM Sensor, Monitoring*

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## **ABBREVIATIONS**

<b>S.NO</b>	<b>Abbreviation</b>	<b>Acronyms</b>
1.	Global System for Mobile Communication	GSM
2.	Global Positioning System	GPS
3.	Application Specific Integrated Circuit	ASIC
4.	Internet of Things	IOT
5.	Electronic Stability Program	ESP
6.	Particulate Matter Sensor	PM Sensor
7.	Digital humidity and temperature sensor	DHT-11 Sensor
8.	Electrically Erasable Programmable Read-only Memory	EEPROM
9.	Global Navigation Satellite System	GLONASS
10.	Air Pollution Monitoring Device	APMD
11.	Wireless Fidelity	Wi-Fi
12.	Artificial neural networks	ANN
13.	Universal asynchronous receiver-transmitter	UART
14.	Transmission Control Protocol/Internet Protocol	TCP/IP
15.	Static random access memory	SRAM