



**VELAMMAL**  
INSTITUTE OF TECHNOLOGY

Approved by AICTE - New Delhi  
Affiliated to Anna University - Chennai  
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## **DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**Project name : ENVIRONMENT MONITORING**

**Team name :Proj\_224786\_Team\_2**

**Team members :**

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# Problem Statement:

In today's rapidly changing world, there is a growing concern about the state of environment. Climate change, pollution and natural disasters are posing significant threats to our planet and the well-being of its inhabitants. To address these challenges, there is a pressing need for an advanced Environment Monitoring System (EMS) that can provide real-time data on key environmental parameters. This system should be capable of monitoring and reporting on factors such as air quality, temperature, humidity, water quality and more in various locations and ecosystems.

# Objectives:

- **Assessment Of Environmental Quality:**

To evaluate the overall health and quality of natural ecosystems including air,water,soil and biodiversity.

- **Detection Of Pollution:**

To identify and quantify the presence of pollutants,contaminants and hazardous subsatnces in the environment.

- **Early Warning Of Environmental Risks:**

To provide timely warnings of potential environmental disasters,such as floods,wildfires,or chemical spills.

- **Compliance Monitoring:**

To ensure that industrial and human activities are in compliance with environmental laws and regulations.

- **Protection Of Biodiversity:**

To monitor and conserve biodiversity by assessing the health and populations of various species and ecosystems.

- **Resource Management:**

To support sustainable management of natural resources such as fisheries, forests and water sources through data-driven decision-making.

- **Public Health Protection:**

To safeguard public health by monitoring air and water quality to detect potential health hazards.

# IOT SENSOR DESIGN:



(a)



(b)



# IOT Sensors Design:

There are several IOT sensors and components that are used in Environment Monitoring.some of them are as follows:

- Temperature Sensor
- Humidity Sensor
- Air Quality Sensor
- Gas Sensor
- Sound Sensor
- Soil Moisture Sensor
- Light Sensor
- Water Level Sensor
- Pressure Sensor

# Real-Time Transit Information Platform:

Creating a real time transit information platform as part of an environmental monitoring project can be valuable for various applications, especially in urban environments. Here's how it can be implemented:

- Data Source
- Data Processing
- User Interface
- Environmental Insights
- Communication
- Integration
- Accessibility
- Data Security and Privacy
- Continuous Improvement

## **INTEGRATION APPROACH:**

List all the components, systems, or elements that need to be integrated. This can include hardware, software, processes, data sources, and external systems.

- Assess Compatibility
- Select Integration Technologies
- Design Integration Architecture
- Data Mapping and Transformation
- Develop Integration Code or Configurations
- Testing and Validation
- Security and Logging
- User Training and Documentation
- Change Management



**THANK YOU**