**NOISE POLLUTION MANEGEMENT**

**PROJECT OBJECTIVES:**

1) Knowing the meaning of environment and pollution

2) To know meaning of Noise pollution

3) To know how to measure noise.

4) To find the sources of noise pollution.

5) Review the problems that arise due to Noise Pollution

6) To review the harmful effects of noise on health.

7) Review the impact and steps should be do reduce noise pollution

**IOT DEVICES DESIGN:**

**SOUND LEVEL METER:**

A sound level meter it is also called sound pressure level meter and it is used for [acoustic](https://en.wikipedia.org/wiki/Acoustics) measurements. It is commonly a hand-held instrument with a [microphone](https://en.wikipedia.org/wiki/Microphone). The best type of microphone for sound level meters is the condenser microphone, which combines precision with stability and reliability. The [diaphragm](https://en.wikipedia.org/wiki/Diaphragm_(acoustics)) of the microphone responds to changes in air pressure caused by sound waves.

**NOISE DOSOMETER:**

A noise dosimeter or noise dosemeter is a specialized [sound level meter](https://en.wikipedia.org/wiki/Sound_level_meter) intended specifically to measure the [noise exposure](https://en.wikipedia.org/wiki/Noise_exposure) of a person integrated over a period of time usually to comply with Health and Safety regulations such as the Occupational Safety and Health (OSHA).

**WALL MOUNTED NOISE SENSOR:**

It is used as an insulating medium with the electret, and the back electrode and the metal layer on the electret are used as two electrodes to form a flat capacitor. There is an output electrode between the two poles of the capacitor.

**NOISE SENSOR MODULE:**

The noise sensor module on the principle of capacitance measure noise by sensing the variation in the sound pressure. The sound pressure change is detected by the capacitor plate of the sensor module. The change in the capacitance of the sensor generates an output signal that is proportional to the sound pressure.

**PIEZOELECTRIC MICROPHONE:**

Piezoelectric microphones are devices that convert sound waves into electrical signals using the piezoelectric effect. They are widely used in applications such as hearing aids, smartphones, and acoustic sensors.

**INTEGRATION APPROACH:**

**Noise Standards and Zoning**: Establish and enforce noise standards for different areas (residential, commercial, industrial) and times (day, night).

**Land Use Planning**: Implement zoning regulations to separate noisy activities from residential areas.

**Vehicle Noise Regulations**: Set and enforce limits on noise emissions from vehicles