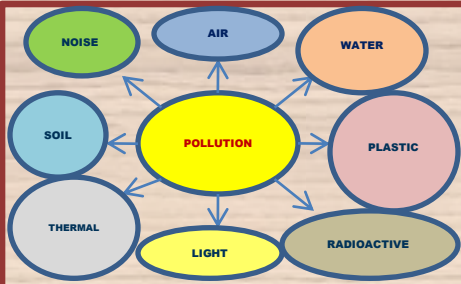




ENVIRONMENTAL POLLUTION AND REMEDIATION

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INTRODUCTION

Pollution is nothing but the introduction of unwanted contaminants into the environment that leads to discomfort or harm humans and other living organisms and damage our environment. Environmental pollution is the burning problem of this century. The unstoppable and unavoidable increasing industrialisation, urbanisation are the catalyst of this situation.

TYPES OF ENVIRONMENTAL POLLUTION

AIR POLLUTION

- ❖ Factory chimneys and thermal plants are the main reasons
- ❖ CO formation by the combustion of gasoline.
- ❖ Perfume and deodorant also pollutes the air.
- ❖ Deforestation also affects the air.
- ❖ The other reasons of air pollution are agricultural side affect, volcano eruptions , forest fires, tobacco smoking, etc.
- ❖ Chlorofluorocarbon and other halogenated ozone depleting substances are mainly responsible



WATER POLLUTION

- ❖ It has a disastrous effects on the environment.
- ❖ Biomagnifications, pollutants in food chain.
- ❖ Water is mainly polluted by the dumping of industrial waste
- ❖ Oil pollution and marine dumping is also responsible for this.



NOISE POLLUTION

- ❖ Industrialization
- ❖ Poor urban planning
- ❖ Social events
- ❖ Transportation
- ❖ Using of microphones at high pitch (more than 65 dB).



SOIL POLLUTION

- ❖ One of the biggest factors causing soil pollution is wastewater.
- ❖ Many of the nutrients we consume are grown in the soil and with the pollution of the soil, this pollution penetrates the nutrients.



OTHER POLLUTIONS

- ❖ THERMAL POLLUTION
- ❖ RADIOACTIVE POLLUTION
- ❖ LIGHT POLLUTION
- ❖ PLASTIC POLLUTION
- ❖ IMAGE POLLUTION
- ❖ LITTERING

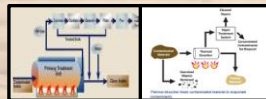
REMEDIALTION OF ENVIRONMENTAL POLLUTION

STEPS OF REMEDIALTION

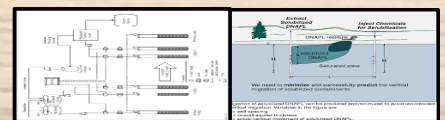
1. Planning
2. Physical and radiological characterization
3. Decontamination
4. Dismantling and demolition
5. Preparation for reuse
6. Final survey and release form regulatory control

THERMAL DESORPTION

It is a technology for soil remediation



SURFACTANT ENHANCED AQUIFER REMEDIATION (SEAR)



INSITU OXIDATION

- ❖ New *in situ oxidation* technologies have become popular for remediation of a wide range of soil and groundwater contaminants.
- ❖ Remediation by chemical oxidation involves the injection of strong oxidants such as hydrogen peroxide, ozone gas, potassium permanganate or per sulfates.



PUMP AND TREAT

It is a common method for cleaning up ground water



OTHER REMEDIATION

- ❖ SOLIDIFICATION AND STABILIZATION
- ❖ SOIL VAPOUR EXTRACTION
- ❖ NANOREMEDIATION

BIOREMEDIATION

- ❖ Bioremediation include biostimulation , bioaugmentation and natural recovery.
- ❖ Some examples of related technologies are phytoremediation, mycoremediation, bioventing, bioleaching, landfarming, bioreactor, compost, rhizofiltration.
- ❖ Two types of bioremediation are in situ and ex situ.



IMPORTANT THINGS TO DO

- Reforestation, plant trees as much as possible
- Say NO to single plastic.
- Use solar and other alternative energies
- Go green, go organic



References

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