

Q
A) What are the factors responsible for environmental pollution?

Ans:

Environmental pollution:-

Addition of unwanted material in the environment due to human activities that leads to undesirable changes in the environment and ecology.

for example:-

Sewage water being released in clean water sources like tank, river, etc. is an example of environmental pollution.

Factors responsible for environmental pollution:-

i= Burning fossil fuels:-

The burning of fossil fuel such as coal, oil, gas release heat & harmful pollutants into air, such as smog, greenhouse gases. These pollutants contribute respiratory problems, acid rain, and climate change.

ii=> Industrial processes:-

• factories & other industrial sites release a variety of

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Pollutants into the air, water & soil. These pollutants include harmful chemical heavy metals, and organic matter which variety of health problems as well as damage of ecosystem.

Agricultural pollutants:

in Agricultural process there are use of variety of chemical such as pesticides, herbicides and variety of fertilizer which contaminates soil and water. Runoff from agricultural land can also carry pollutants into rivers and stream. live stock production also contribute to air and water pollution.

Deforestation:

The cutting down of trees can lead to soil erosion water pollution even the source which consume CO₂ reduce hence deforestation contribute to climate change.

Waste disposal:

improper disposal, such as landfills and incineration, can pollute the air water and soil. Landfills can leach harmful chemicals into the ground, which incineration release pollutants into the air.

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Conclusion:

Environmental pollution is serious problem that threatens the health of our planet and all living things. It is important to take steps to reduce pollution by changing our habits and developing new technologies.

B) Briefly explain the main reason of water logging in Pakistan.

Water logging in Pakistan:

Water logging are the problem mainly caused by seepage of water due to problem in the canal system of Pakistan. There is no scientific method for irrigation due to which rough surface runoff and gravitational drainage.

Water logging:

The soil whose upper surface runoff is saturated with water are known as waterlogged soils and this phenomenon is termed as water-logging.

Reason of water logging:

inefficient irrigation:

over-irrigation
and poorly managed irrigation system

leads to excessive water seeping into the soil. This raises the groundwater level, causing water-logging.

Poor Drainage Systems:

Inadequate and poorly maintained drainage infrastructure prevents excess water from being channeled away, contributing to water-logging.

Monsoon Rains:

Heavy and prolonged monsoon rains can overwhelm the drainage capacity leading to water accumulation in agricultural fields and urban areas.

Topography:

Low-lying areas with poor natural drainage and soils with low permeability are more prone to water logging as they retain water longer.

Canal Seepage:

Water seepage from unlined or poorly maintained canals contributes significantly to the rising water table causing water logging.

Deforestation:

The removal of forests and increased urbanisation reduce

natural absorption capacity of the land
Increasing surface runoff and water
logging risk.

Conclusion:-

water logging in Pakistan is
a multifaceted issue primarily driven
by inefficient irrigation poor drainage
drainage poor monsoon, Topography. To
solve this problem enhancing drainage
systems, and new techniques use by
doing so negative impact on Agriculture and
livestock can be mitigated.

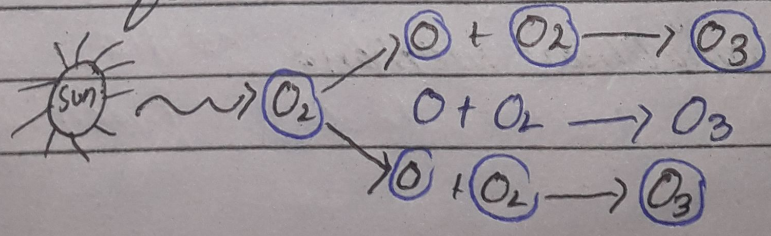
(C) What do you mean by O₃
depletion & how we can prevent its
depletion:

Ans

Ozone depletion:

Ozone is a gas
made up of three oxygen atoms. it occurs
naturally in small amounts in the upper
atmosphere (stratosphere) Ozone protect life
on earth from the UV radiation of
Sun.

Ozone formation:

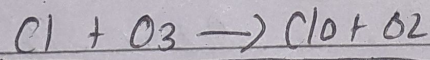
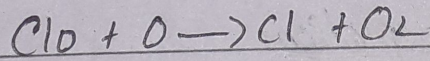
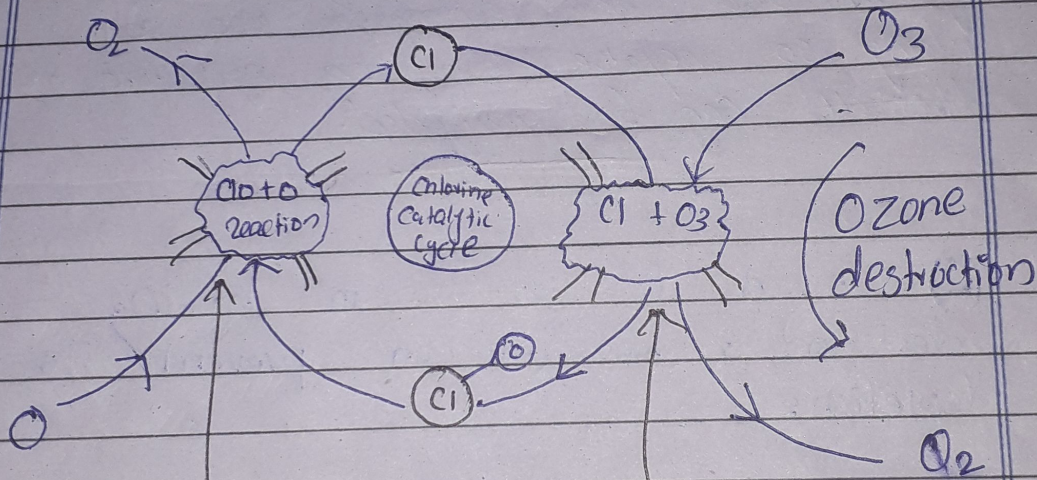


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Ozone depletions

When Cl & Br atoms come to contact with O_3 in the stratosphere, they destroy O_3 . One Cl atom can destroy over 10,000 ozone molecules. Ozone can be destroyed more quickly than its natural formation.

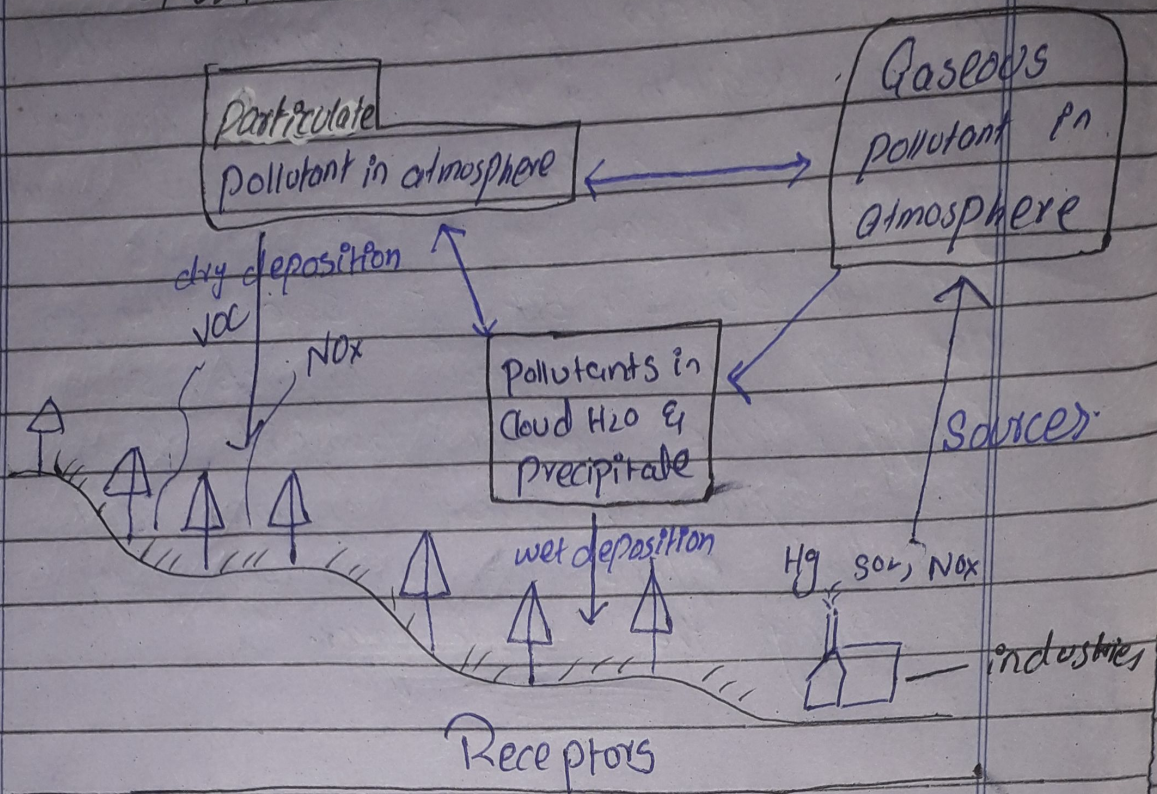
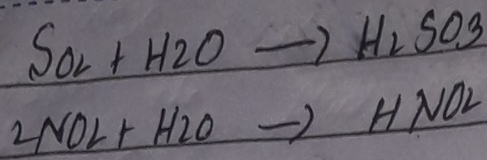
Cycle of depletion



Ozone Depleting Substance

- i) CFCs & HCFCs
- ii) Carbon tetrachloride
- iii) Methyl bromide
- iv) Bromochloro methane.

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Acid rain is measured using a scale called pH scale. The lower a substance's pH, the more acidic it is. Pure H₂O has a pH of 7.0. However, normal rain is slightly acidic because of CO₂. The rain having pH below 5.6 is considered acid rain.

Deposition of pollutant in atmosphere.

i) Wet deposition:- The acids formed in the atmosphere can be incorporated into clouds & fall to the ground as acid rain, snow.

ii) Dry deposition:- acid particle & gases can also settle on the earth surface without precipitation.

which can later be washed into water bodies by rain and shows acidic effect.

Effect of acid rain:

i) water bodies:- acid rain can acidify the lakes & stream, harming the aquatic life.

ii) Soil:- it can deplete essential nutrients in the soil, affecting plant growth and forest health.

iii) effect building:- Acid rain can corrode building monument, and infrastructure particularly those made of limestone and marble e.g. taj mahal.

iv) Human health:- The pollutants that causes acid rain can have serious health effects, including respiratory problem.

v) production of smog:- in air, acids join with other chemical to produce urban smog which can irritate the lungs and make breathing difficult especially for people who already have asthma.

vi) pollute water:- it can dissolve toxic substance, such as aluminium and mercury.