ASSIGNMENT (3rd)

05/23

1. What is air pollution? What are its causes & effects. Discuss the major use of controlling air pollution?

AIR POLLUTION :-

Air pollution refers to the contamination of the air, irrespective of indoor or outside. "A physical, biological or chemical alteration to the air in the atmosphere can be termed as air pollution.

Causes :-

1. Burning of fossil fuels.
2. Carbon monoxide produced by improper or incomplete combustion is another major pollutant.
3. Use of insecticides, pesticides and fertilizer in agricultural activities emit harmful chemicals into the air and causes water pollution also.
4. Exhaust from factories and industries Mining operations.
5. Indoor air pollution.
6. Suspended particulate matter (SPMT) is the cause of pollution.

EFFECTS:-

1. Excessive amount of lead can cause lead poisoning.
2. CO can be deadly in a poor ventilised space.
3. Oxides, ozone and particulates can cause lung cancer, asthma, heart disease, and other.
4. Particulates can reduce visibility and create smog.

CONTROL MEASURES:-

1. Using unleaded petrol.
2. Using fuels with low sulphur and ash content.
3. Encouraging people to use public transport, walk or use a cycle.
4. Plant trees along busy streets as they remove particulates, CO_2.
5. Waste disposal sites should be ~~used to~~ situated outside the city.
6. Catalytic converters should be used to help control emission of CO and hydrocarbons.

Q2. What do you understand by term 'pollution' and 'pollutant'? What are the different types of pollution? How will you define them?

Ans. Pollution-

Pollution is the introduction of harmful materials into the environments.

"The physical, biological or chemical alteration to the environment can be termed as "Pollution".

Pollution can be natural or man-made

Pollutants-

A pollutant is a chemical or biological substance which harms water, air, or land quality.

Ex:- CO, lead, NO_2, etc.

TYPES OF POLLUTION -

1. Air Pollution- It refers to the release of harmful contaminants (chemicals, toxic gases, particulates, etc) into the earth's atmosphere.

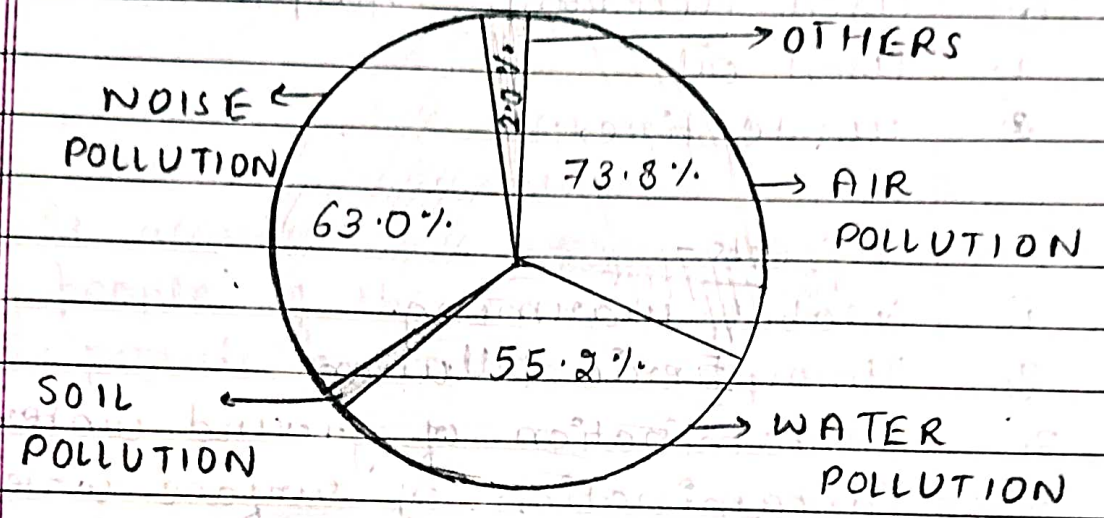
These contaminants are quite detrimental and in some case, pos

serious health issues.

2. Water pollution - It is said to occur when toxic pollutants and particulate matter are introduced into water bodies. such as lakes, rivers and seas.
These contaminants are generally introduced by human activities like improper sewage treatment.

3. Soil pollution - It refers to the degradation of land due to the presence of chemicals or other man-made substances in the soil.

1. Noise pollution - It refers to the excessive amount of noise in the surrounding that disrupts the natural balance.
Usually, it is man-made, though certain natural calamities like volcanoes can contribute to noise pollution.



Q3. What are solid waste? Discuss the types, effect and name the various methods used to dispose solid waste.

Ans Solid waste -

Solid wastes are commonly called trash, or garbage and include items such as food, paper, plastics, textiles, leather, wood, glass, metals, sanitary wastes in septic tanks and other wastes.

Types of solid waste -

1. Household hazardous waste (HHW)
2. Construction and demolition debris.
3. Industrial / commercial waste.
4. Hazardous waste lamps.
5. Regulated medical waste.

6. Used electronic equipment.
7. Used oil.
8. Waste tires.

Effects -
1. Global warming.
2. Atmospheric pollution.
3. Contamination of ground water.
4. Contamination of surface water.
5. Land degradation.
6. Global warming [Climate change].

Methods of Disposal -
1. Solid waste open burning.
2. Sea dumping process.
3. Solid wastes sanitary landfills.
4. Incineration method.
5. composting process.
6. Disposal by ploughing into the fields.
7. Disposal by hog feeding.
8. Salvaging procedure.
9. Fermentation / biological digestion.

Qy. Discuss population explosion in Indian context. What should be the objective of sound population policy.

Ans population explosion is a sudden

increase in number of individuals in specific area at a given time.
India is the second most popular country in the world after china. It accounts for more than 1.20 billion people of the over 7 billion population of the world.

Objective of sound population policy:-

- To achieve an acceptable standard of good health amongst the general population of the country.
- To ensuring a more equitable access to health services across the social & geographical expanse of the country.
- To increase access to the decentralizing public health system by establishing new infrastructure in deficient area & , by upgrading the infrastructure in existing institutions.

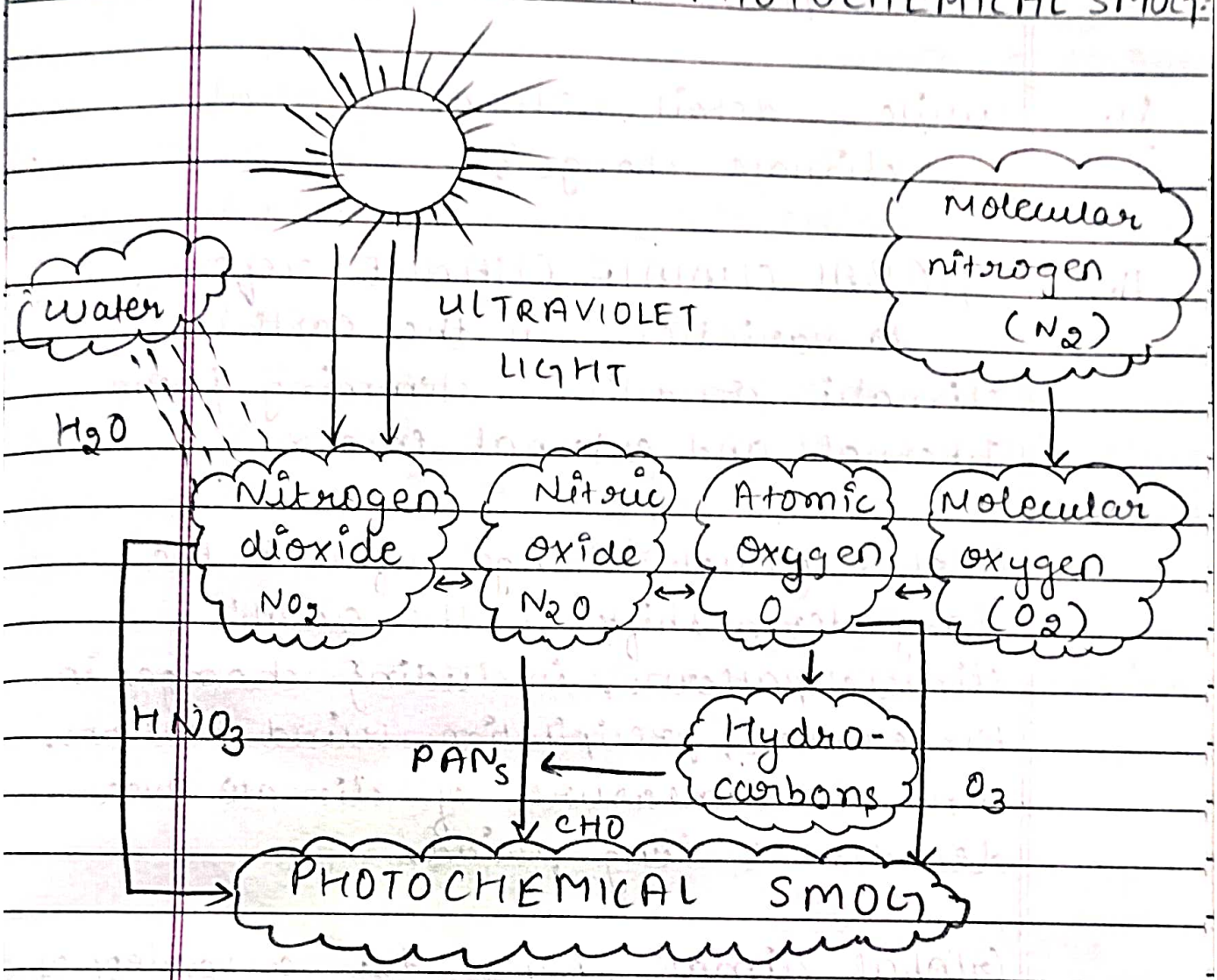
Q5. what is photochemical smog? How does it different from london smog? what are its effects.

Ans. Photochemical smog is a mixture of pollutants that are formed when nitrogen oxides and volatile organic

compounds (VOCs) react to sunlight, creating a brown haze above cities. It tends to occur more often in summer, because that is when we have the most sunlight.

London Smog	Photochemical Smog
It is formed due to the presence of SO_2 and humidity in the air which combines to form H_2SO_4 fog which gets deposited on the particulates.	It is formed due to photochemical reacn taking place when air contains NO_2 and hydrocarbons.
It involves smoke and fog.	It doesn't involve smoke and fog.
It causes problems in lungs.	It causes irritation in the eyes.
It is formed in the months of winter particularly in the morning hours, when the temp. is low.	It is formed in the months of summer during afternoon when there is bright light.

FORMATION OF PHOTOCHEMICAL SMOG:



Effects :-

- components of this smog, affects our health and causes damage to industrial material.
- Both ozone and PAN cause eye irritations.
- Photochemical smog leads to cracking of rubber & extensive damage to plant life.

30/05/23

ASSIGNMENT- 04

Q1. Write a detail note on global climate change?

Ans GLOBAL CLIMATE CHANGE refers to variations in the earth's climatic conditions stemming from internal and external forces.

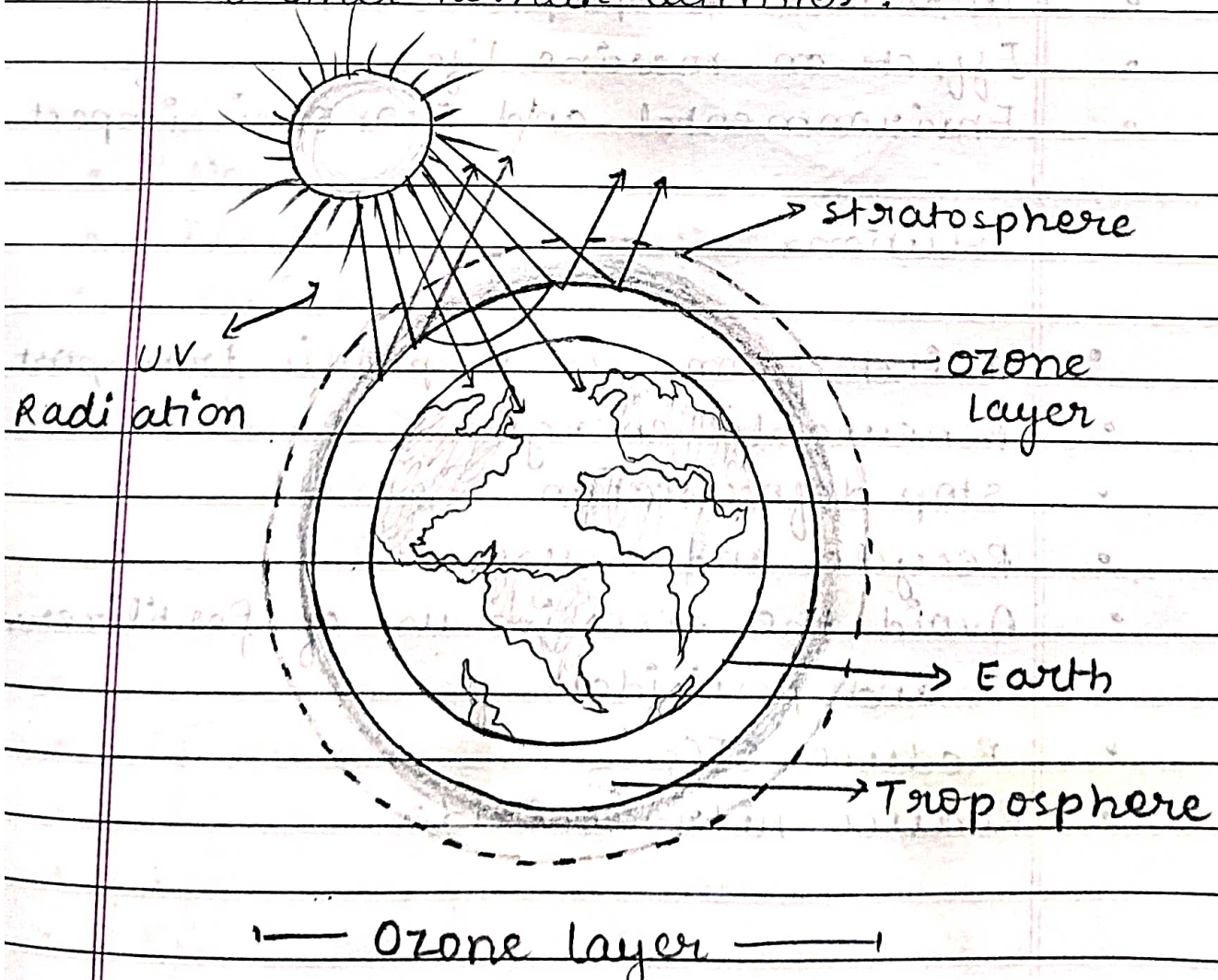
Global climate change refers to the long-term shifts in the earth's climate patterns, including changes in temperature, precipitation, wind patterns, and other measures of climate over decades or long periods.

Global climate change has a variety of causes, often called forcings. These include internal and external forcings. External forcings can be natural or anthropogenic. climate forcings will 'force' climatic conditions in one way or the other, depending on whether the Earth's system is warming (positive forcing) or getting colder (negative forcing).

Q2. What is ozone hole or ozone layer depletion? what are causes of ozone hole formation?
Discuss the effects of ozone layer depletion & its remedial measures.

Ans OZONE LAYER DEPLETION :-

"Ozone layer depletion is the gradual thinning of the earth's ozone layer in the upper atmosphere caused due to the release of chemical compounds containing gaseous bromine or chlorine from industries or other human activities".



Causes :-

- sunspots
- Stratospheric winds, HCFCs.
- Volcanic eruptions, Human behaviour.
- CFCs, Methyl chloroform.
- Halons, Methyl bromide.
- Carbon Tetrachloride

Effects :-

- Increased level of UV radiation
- Carcinoma, Melanoma
- Effects on human health
- Increased tropospheric ozone.
- Effects on marine life.
- Environmental and Economic impact.

Solutions :-

- switch from car to public transport.
- Renewable energies
- stop deforestation
- Recycle and reuse
- Avoid the excessive use of fertilizers and pesticides.
- Reduce CFCs.
- Reduce nitrous Oxide

Q3. What is acid rain? what are causes and effect of acid rain? How can be problem will overcome?

Ans ACID RAIN :-

Acid rain is made up of highly acidic water droplets due to air emissions, most specifically the disproportionate level of sulphur and nitrogen emitted by vehicles and manufacturing processes.

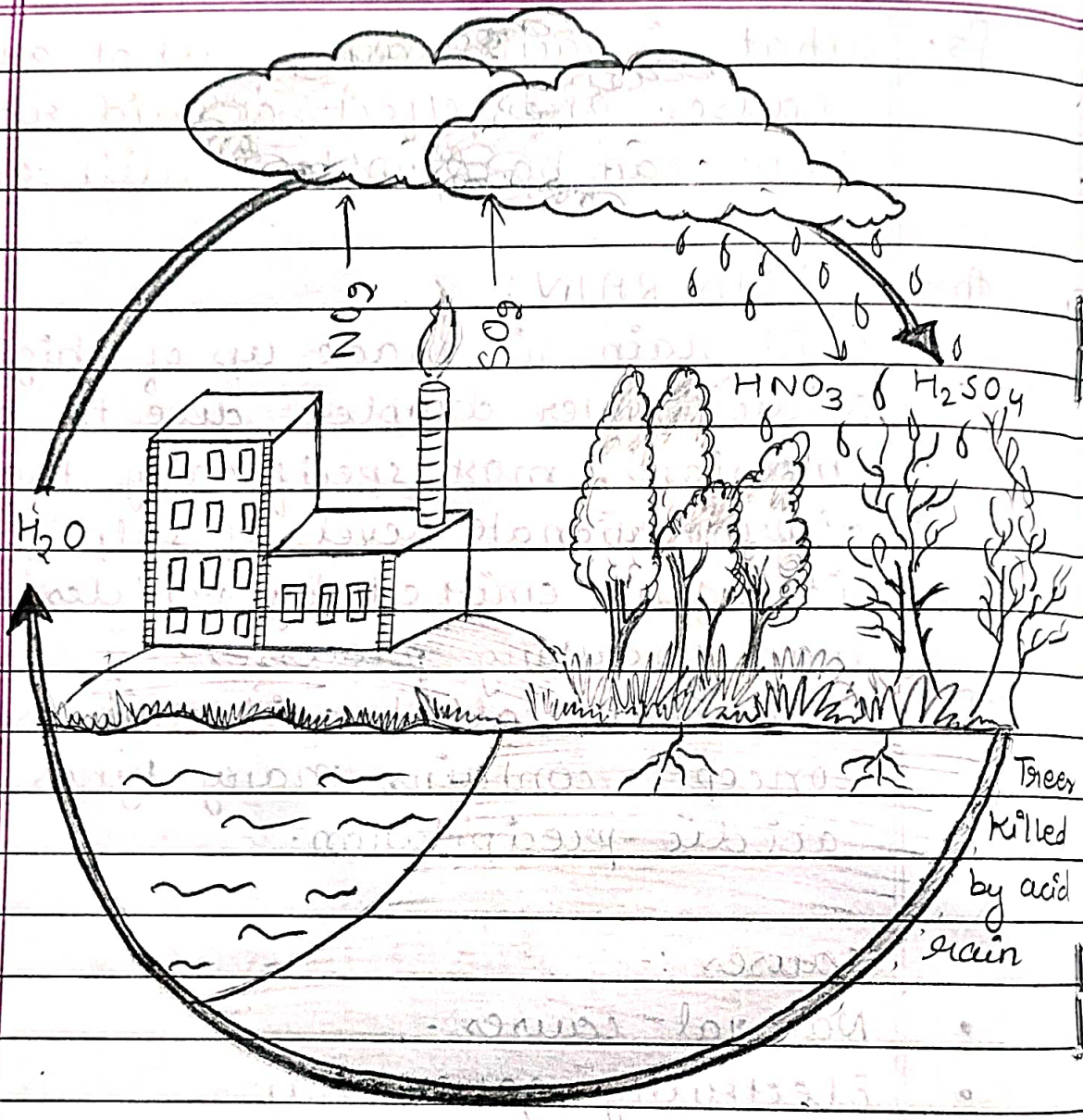
It is often called acid rain as this concept contains many types of acidic precipitation.

Causes :-

- Natural causes.
- Electricity generation.
- Vehicles
- Agriculture
- Industrial processes and consumption levels.

Effects :-

- Effects on aquatic environments.
- Effects on animals and plants.
- Effects on forests.
- Effects on global warming
- Effects on vegetation cover, soil, health.



Solutions :-

optimize fossil energy resources.

Transition to renewable energies.

Confine the use of fertilizers and pesticides.

Restoring environments.

save energy.

Reduce consumption levels

Convince others, Education.

Government regulations.

Q4. Discuss the phenomenon of green house effect. what are its effect. What remedial measures you suggest.

Ans Green House Effect:-

Green house effect is the process by which radiations from the sun are absorbed by the greenhouse gases and not reflected back into space. This insulates the surface of the earth and prevents it from freezing".

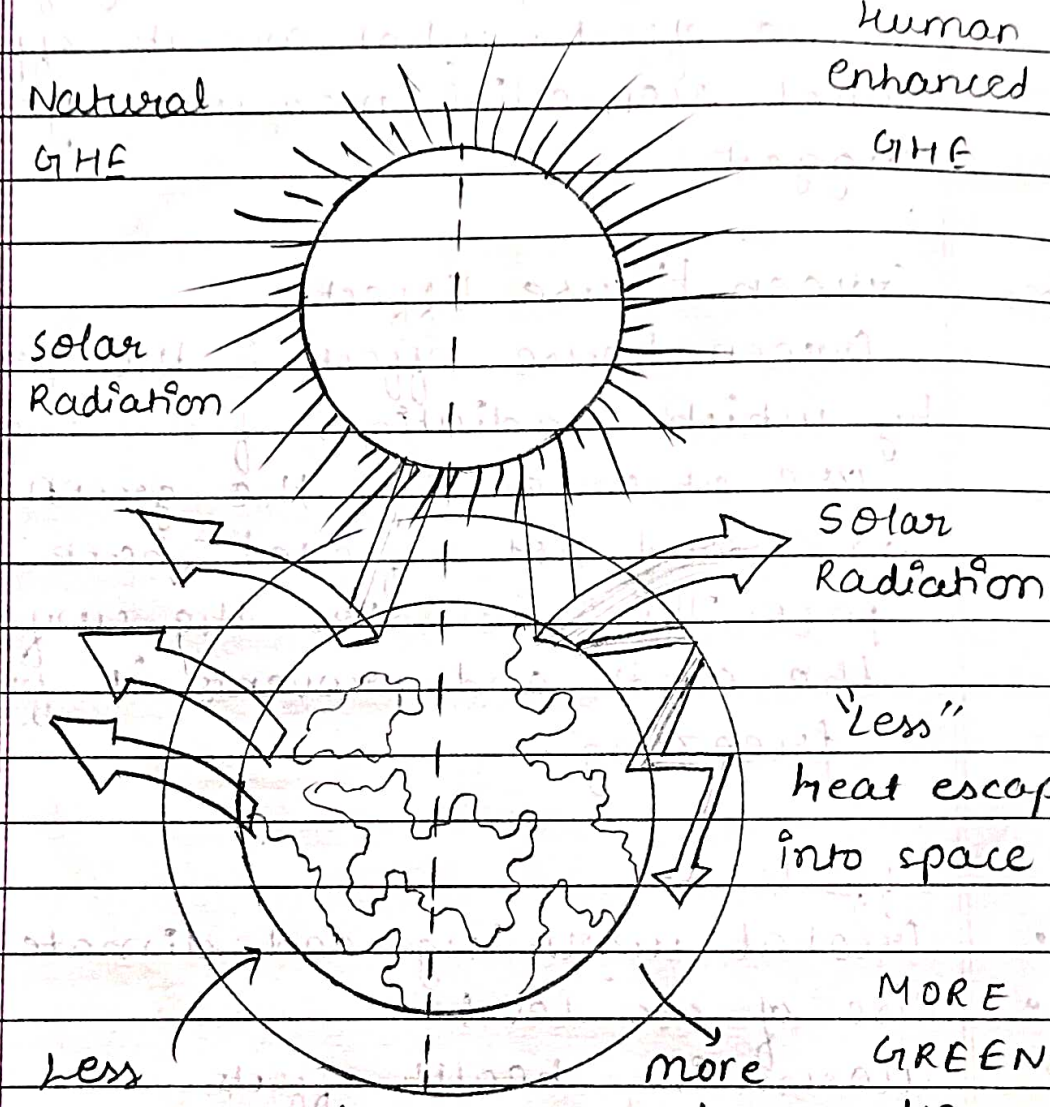
Effects:-

- Global warming and climate change
- Rise of sea level
- Worsening health effects
- Disruption of the water cycle.
- changing forest and natural areas.
- Effect on the ozone layer.
- Effect on oceanic climate.

Remedial Measures:-

- Alternate sources are to be used.
- Energy conservation
- Developing new energy systems.
- Forest protection / Reforestation.

GREENHOUSE EFFECT :-



- Recovery of methane from garbage.
- Banning of CFC production.
- International conferences.
- National standards of pollutants.
- Anti pollution measures.

Q5. Write a note on minamata disease

Ans Minamata Disease is a poisoning disease that nervous system, mainly central nervous system, is damaged by methyl mercury. It is established that the disease differs from inorganic mercury poisoning which damages kidneys, etc, and also, it isn't confirmed that it damages organs other than nervous system.

The first record of Minamata disease happened in japan in the 1905s, when people at fish contaminated by large quantities of mercury compounds that were discharged into minamata Bay by a chemical factory.

Signs and symptoms include ataxia, numbness in the hands and feet, general muscle weakness, loss of peripheral version and damage to hearing and speech.

In extreme cases, insanity, paralysis, coma and death. A congenital form of the disease affects fetuses in the womb.