Environment & Ecology Assignment

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Unit-1

Q1:- Define ecosystem. Discuss also the structure and concepts of ecosystem.

Ans:- An ecosystem consists of all the organisms and the physical environment with which they interact. These biotic and abiotic components are linked together though nutrient cycles and energy flows. Ecosystem are controlled by external & internal factors.

↳ concept and structure of an ecosystem.

Living organisms can not live isolated from their non-living environment because the latter provides materials and energy for the survival of the former i.e there is interaction between a biotic component and its environment to produce a stable system. Ecosystem has two main components:-

(i) ABIOTIC COMPONENTS

The non-living factors or the physical environment prevailing in an ecosystem form the abiotic components

They are of 2 types:-

(a) climate factors → It includes rain, temperature light, wind, humidity etc.

(b) factors:- It includes soil, pH, topography, minerals etc.

(ii) Biotic components.
The living organisms including plants, animals and microorganisms (bacteria & fungi) that are present in an ecosystem form the biotic components.

On the basis of their role in the ecosystem the biotic components can be classified into three main groups:-

(a) Producers :- Includes autotrophs such as plants. They produce their own food with a process called photosynthesis. All the organisms higher up on the food chain rely on producers.

(b) Decomposers :- Includes saprophytes such as fungi and bacteria. They directly thrive on dead and decaying organic matter.

→ There are two types of ecosystem

(1) Terrestial ecosystem
They are exclusively land-based ecosystems There are different types of terrestial ecosystem based on geological zones-
(i) Forest ecosystem
(ii) Tundra ecosystem
(iii) Grassland ecosystem
(iv) Desert ecosystem.

(ii) Aqeatic ecosystem:- They are ecosystem present in a body of water.
They can be further divided into two types
(i) Freshwater ecosystem (ii) Marine ecosystem.

Q2- Discuss about the Ecological Succession.

Ans:- Ecological Succession is the steady and gradual change in a species of a given area with respect to the changing environment. It is a predictable change and is an inevitable process of nature as all the biotic components have to keep up with the changes in our environment.

There are three types of ecological succession

① Primary Succession:- It is the succession that starts in lifeless area such as the regions devoid of soil or the areas where the soil is unable to sustain life

→ If this primary ecosystem is destroyed, secondary succession takes place.

② Secondary Succession:- A climax community gets destroyed by fire. It gets recolonised after the destruction.

③ Cyclic succession:- This is only the change in the structure of an ecosystem on a cyclic basis. Some plants remain dormant for the rest of the year and emerge at all once. This drastically changes the structure of an ecosystem.

Example:- Acadia National Park,
Ecological Succession of coral reefs

↳ Main cause of ecological succession include the biotic & abiotic factors that can destroy the population of an area.

Unit-2

Q1- Discuss about the water borne disease. Write down the water borne disease and water Induced disease.

Ans:- Disease caused by ingestion of water contaminated by human or animal faces by urine which contain pathogenic organisms.
Disease that are transmitted by water can be divided into—

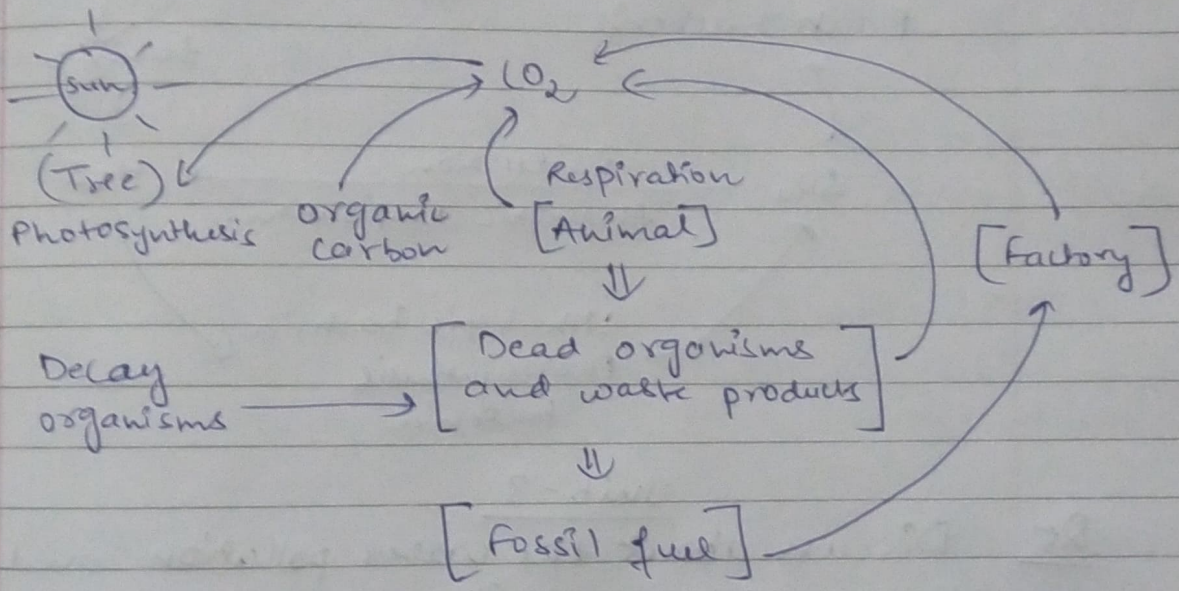
(i) Diarrhoeal water-borne disease:- Most water borne pathogens infect the gastrointestinal and cause diarrhoeal disease.

(ii) Non-Diarrhoeal water-borne disease- While most water borne pathogens cause diarrhoeal disease, a few important water-borne diseases affect other parts of body.

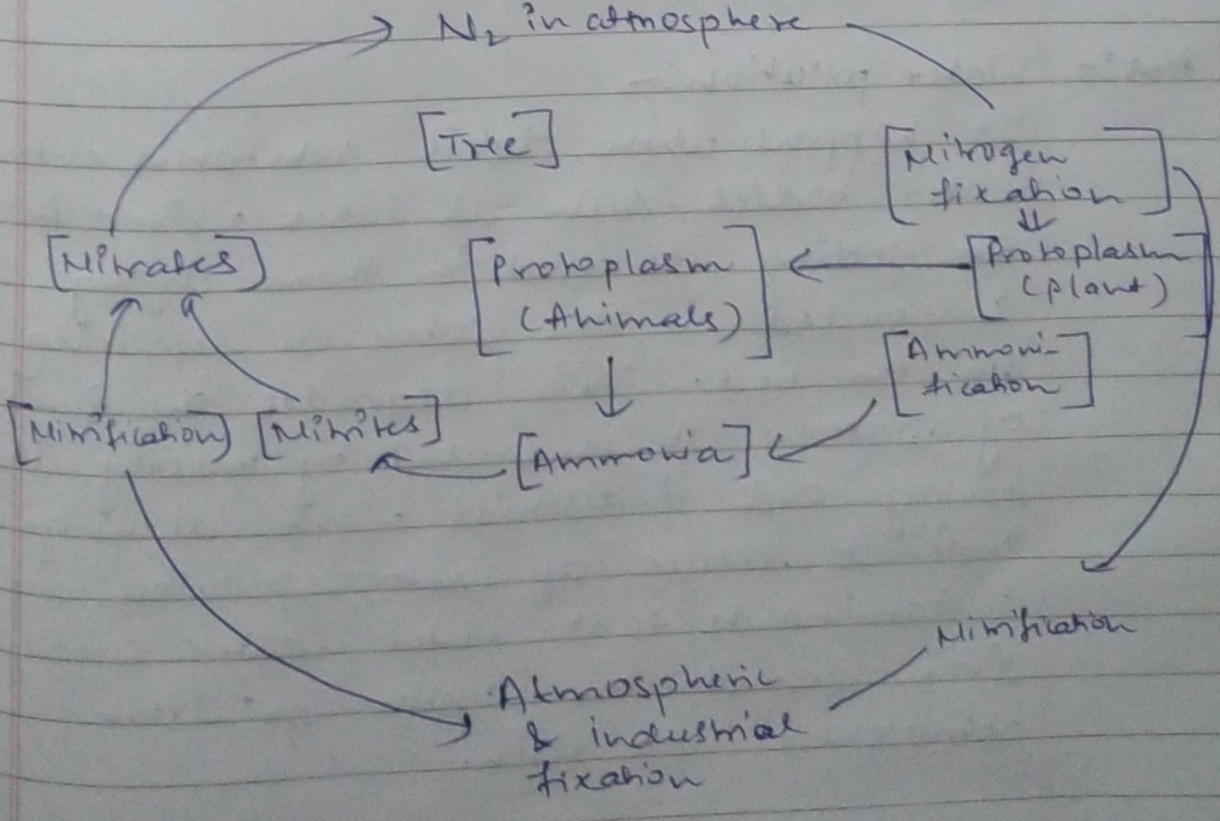
Water-borne disease
Disease caused by ingestion of water contaminated by human or animal faces of urine
↳ Cholera, Typhoid etc.
water Induced disease.
Cause of water related disease include micro-organism parasites, toxins & chemical contamination of water.
↳ Schistosomiosis, Dracunculiasis etc.

Q2- Draw the figure of carbon, Nitrogen and sulphur cycle

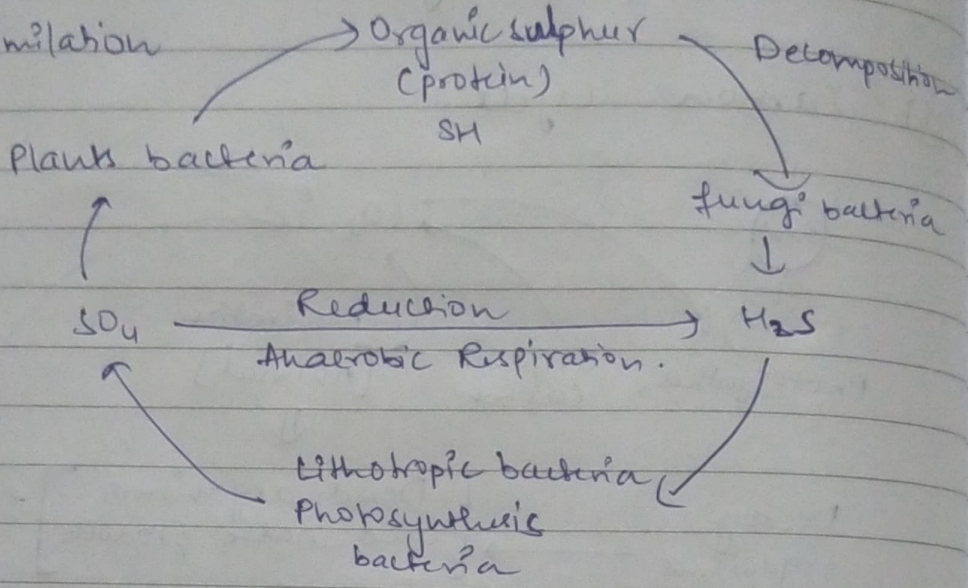
(a) Carbon cycle.



(b) Nitrogen cycle.



⊙ Sulphur cycle.



Unit-3

Q5 Discuss about the water pollution and Noise pollution. Write down the permissable limit of Noise pollution for all the land use pattern.

Ans:- Water pollution:-
It happens when toxic substances enter water bodies such as lakes, rivers & ocean ~~or~~ getting dissolved in them dying suspended in the water or depositing on the bed. This degrades the quality of water. It is caused by mostly city sewage and industrial waste discharge. Indirect source of water pollution are contaminants that enter water supply from groundwater system or from atmosphere via rain.

Noise pollution.
It is generally defined as regular exposure

to elevated sound levels that may lead to adverse effects in humans or other living organisms. According to WHO sound levels less than 70dB are not damaging to living organisms, regardless of how long or constant the exposure is. Human diseases caused by this are hypertension, sleep disturbance, hearing losses.

4. The central pollution control board (CPCB) has laid down the permissible noise level in India for different regions/areas.

Zone	Permissible noise level standards in daytime (dB)	Permissible noise level standards at night. (dB).
Industrial Zone	75	70
Commercial Zone	65	55
Residential Zone	55	45
Silent Zone	50	40.