



ASSIGNMENT - I

Q1 Define the term environment. Explain the importance of environmental studies in present context.

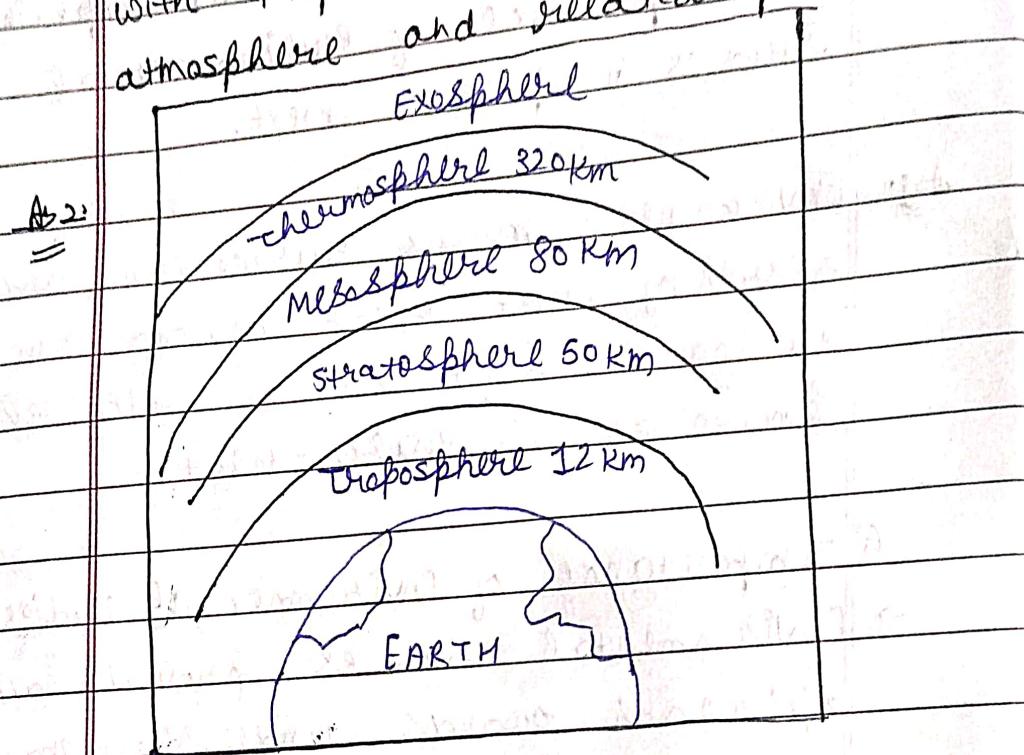
Ans. Environment means surrounding and everything that affect an organism during its life time is collectively known as its environment.

* Importance of Environmental studies:

- Environmental studies provide an approach towards understanding the environment of our 'planet' and the impact of human life upon the environment.
- Social issues in relation to development and environment.
- Environmental study provides new career opportunities such as sustainable environmental law, business administration and environmental engineering.



Q2. With the help of neat sketch discuss the structure of atmosphere along with temperature profile of atmospheric and related phenomena.



Temperature Layers	Atmospheric Distance	Activities
→ 1200°C Exosphere	800 to 300km	Space ship
→ -865°C to 1200°C Thermosphere	80-90 to 800Km	Satellite Aurora
→ -2° 5°C to -86.5°C Mesosphere	40-50 to 80-90 Km	Meteorology Ballistic
→ -56.5 to -2.5°C Stratosphere	11 to 50 Km	Radio Sound
→ 15 to -56.5°C Troposphere	0 to 12-18 Km	Aircraft

Q3. what is meant by structure of an ecosystem? Explain the various components of ecosystem structure. Discuss functions of an ecosystem also.

A3. An ecosystem is the ecological unit consisting of both biotic and abiotic factors in a specific area.

① Structure of ecosystem :-

An ecosystem has two types of components:-

- (i) Biotic
- (ii) Abiotic

Abiotic :-

Abiotic components includes :-

① ~~Physical~~

- Sunlight
- water
- temperature
- soil

② Chemical

- Proteins
- carbohydrates
- Fats
- minerals etc.

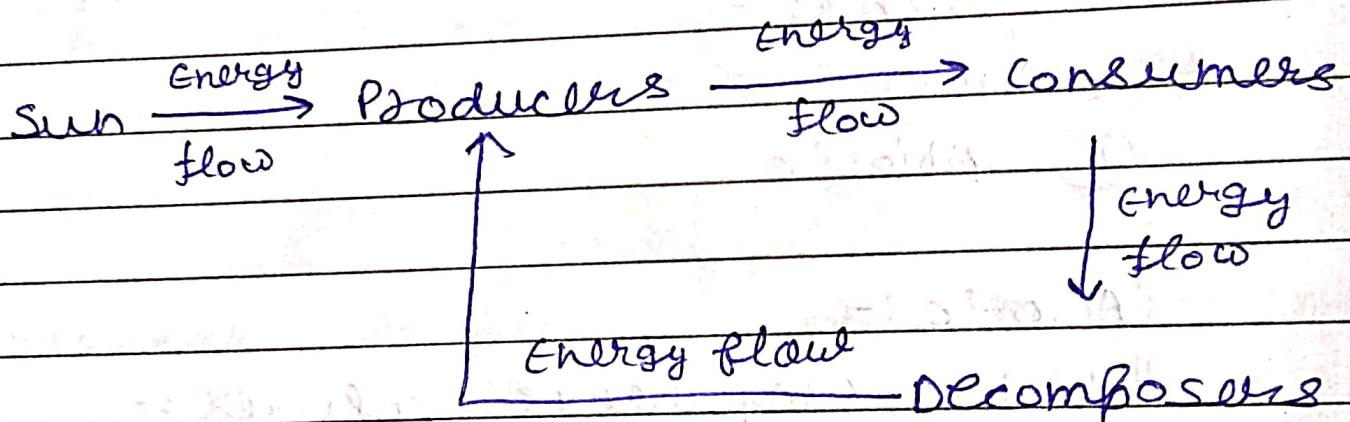
Biotic :-

- Producers / Autotrophs
- consumers / heterotrophs
- decomposers / detritivores

Function of ecosystem :-

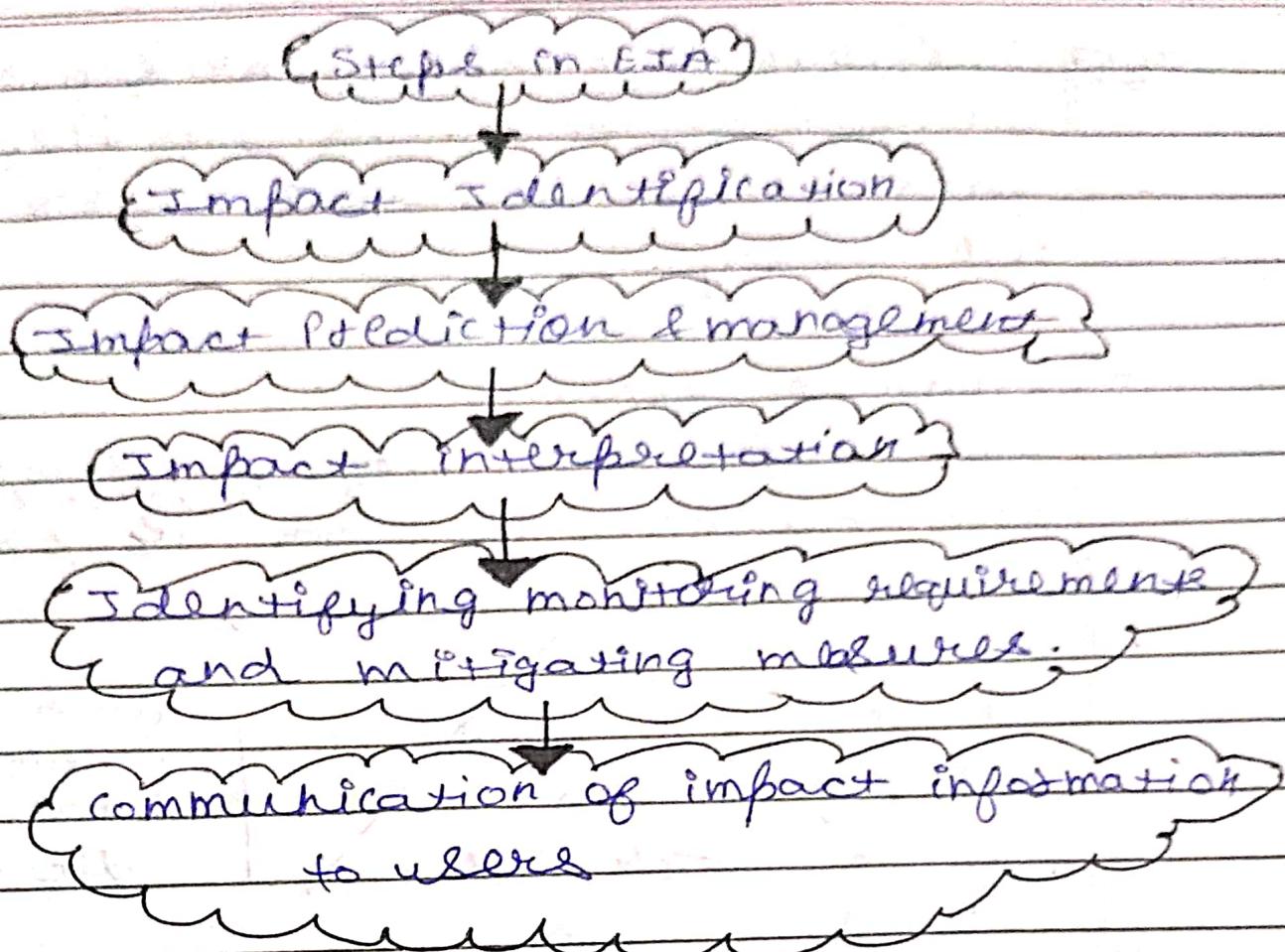
→ Ecosystem balances the rate of biological energy flow.

→ It balances the nutrient cycle.



Q4. What is EIA? Discuss its process and list of the projects for which EIA is mandatory in INDIA?

A4: It is a formal study process used to predict the environmental consequences of proposed major development projects.



- * Projects for which EIA is mandatory in INDIA are :-
- Petroleum industry.
 - cement industry.
 - Distilleries
 - Heavy water project.
 - Hazardous waste treatment plants.
 - Nuclear Power Plant.

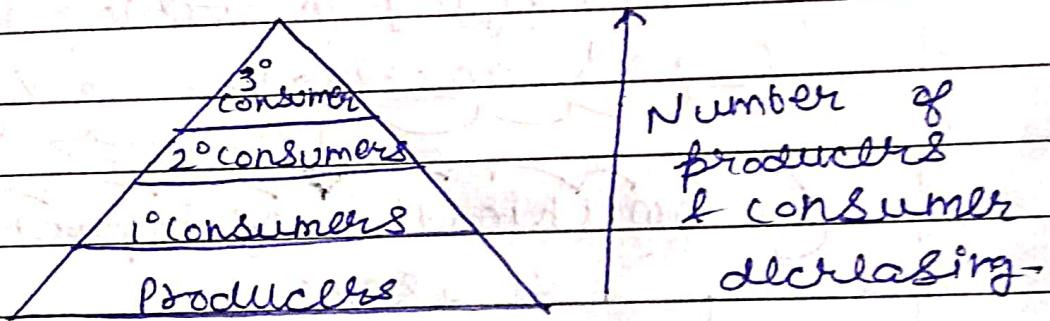
Q5. what are ecological pyramids? discuss their types. also mention which pyramid is always upright & why?



Ans. Ecological pyramid represents the states of ecosystem for different parameters such as number, biomass and energy.

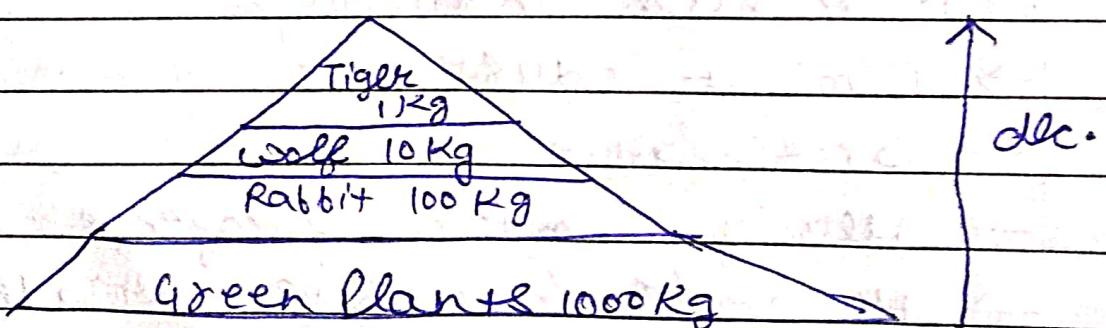
* Pyramid of Number :-

Represents the no. of producers and consumers in each ^{successive} trophic level.



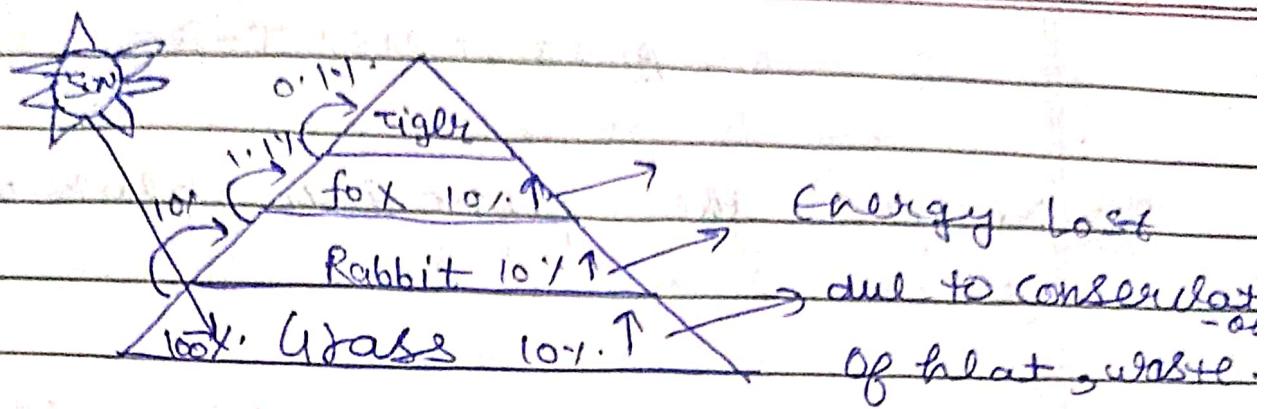
* Pyramid of Biomass :-

Represents the weight of bio-mass in each ^{successive} trophic level.



* Pyramid of Energy :-

Represents the energy level in each successive trophic level.



→ The energy pyramid is always upright because energy is constantly lost as heat when it travels from one trophic level to the next. This heat escapes into the atmosphere and is never returned to the sun.

ASSIGNMENT-2

Q1. Discuss the function value of forest.

- A1. → • Forests are one of the most important natural resources on earth, providing the earth with green cover.
- It plays a vital role in improving the quality of ~~life~~ environment by existing beneficial effect on life support system.
 - forests play a major role in economic development of country by providing goods & services to people and industry.
 - forests are the treasure house of valuable plant and animals, their genes, medicinal plants etc. therefore are called biorepositories.

Q2. What are alternative energy resources? Differentiate few renewable & non-renewable natural resources.



Q2 → The term "alternative energy" generally refers to sources of energy like solar power, wind power and hydropower. They are non-polluting, renewable resources.

Renewable Resources

→ They can't deplete over time.

→ These resources have low carbon emission.

→ High cost

→ Requires large land.

→ e.g. wind, water, sunlight etc.

Non-renewable Resources

They deplete over time.

Comparatively high.

Low cost

Comparatively lower area.

e.g. coal, petroleum etc.

Q3. What is geothermal energy? Discuss its merits and demerits.

Aus 3: Geothermal energy is the thermal energy in the Earth's crust which originates from the formation of planet and from radioactive decay of materials.

Advantages

→ Geothermal energy sourcing is good for environment.

→ Reliable source of renewable energy.

→ It requires little maintenance.

→ Unlimited supply of geothermal energy.

Disadvantages

→ Its extraction causes greenhouse emission.

→ There is a possibility of depletion of geothermal sources.

→ Drilling cost is high.

→ Geothermal energy reserves can not easily be found.

Ques: Write a short note on bio gas and biomass energy.



Q4. \oplus Biogas is an important solution to the present energy crisis in rural areas.

- Its composition is methane, less hydrogen and nitrogen.
- It is used for domestic purposes like cooking because it is a clean source of energy.

\oplus Biomass energy is the energy generated or produced by living or once-living organisms.

The most common biomass material used for energy are plants, such as corn and soy.

The energy from these organisms can be burned to create heat or converted into electricity.

Q5. What do you mean by deforestation? Explain its causes, ill effects and control measures (afforestation)?



② The cutting down of trees at mass level is called deforestation.

Effect of Deforestation

Heavy logging equipment compresses the soil

Soil becomes hard

Rain water run off
cause flood

Fewer roots hold the top soil in

Top soil erodes

Microorganism feeding on waste lost

Increased risk of burning

waste wood from logging is destroyed

pioneer species move in
Vegetation is degraded

Plants return less moisture to air

less precipitation

Less biodiversity

Food Insecurity

DATE



④ Control measures of deforestation:-

- Plant a tree.
- Use less paper.
- Recycle paper and cardboard.
- Don't buy products containing palm oil.
- Help restore degraded forests.
- Practice eco-forestry.
- etc.

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