PAGE NO
DATE

Unit-1

* Environment → french word environner
  ↓
  means to encircle or surround

* Environ... laws provide tools for effective management and protection of environment.

SCOPE : 1) Natural Resource Conservation and management
2) Ecology and biodiversity
3) Env... pollution and Control
4) Social issues in relation to development and environment
5) Human population and environment.

issues : 1) Safe clean drinking water
2) hygiene living
3) Clean and fresh air
4) fertile land
5) healthy food

* Cleaning up of the wastes is a potential market.

ECOSYSTEM * A group of biotic communities of species interacting with one another and with their non-living environment exchanging energy and matter

* ecology : Study of ecosystems.

Biotic → producers (green plants)
↓ ↘ Consumers
Decomposers

Abiotic (Non living)
↓ ↓
sun Soil etc.

** IMP.
Functional attributes of ecosystem

↓ Food Chain, Food web trophic Structure
↓ Energy flow
↓ Cycling of nutrients
↓ primary and secondary production
↓ Ecosystem development and regulation

* Each food level is known as trophic level.

* Food web is a network of food chains.
↳ they give better Stability to the ecosystem

Significance of food web and chains:

1) energy flow and nutrient cycling take place through them.
2) Help maintain ecological balance.
3) Biological magnification - a unique property of food chains.

ECOLOGICAL PYRAMIDS :

graphical representations of trophic structure. Starting with producers at base and successive trophic levels.

1) Pyramid of numbers → Inverted or upright
   - Parasitic food chain
   - grasses, pond

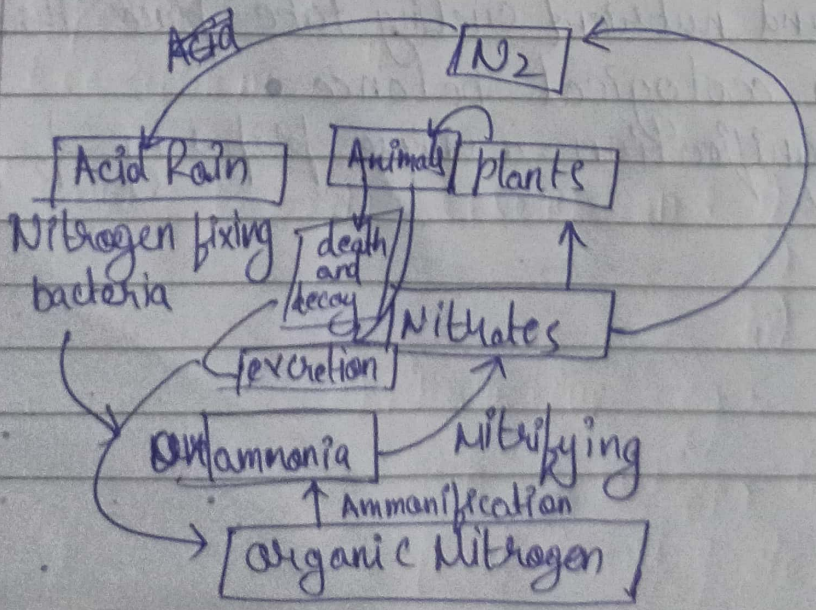
2) " of biomass → upright or inverted

3) " " energy → Always upright
   - ↳ only 10% of energy is passed to the next level.

ENERGY FLOW :

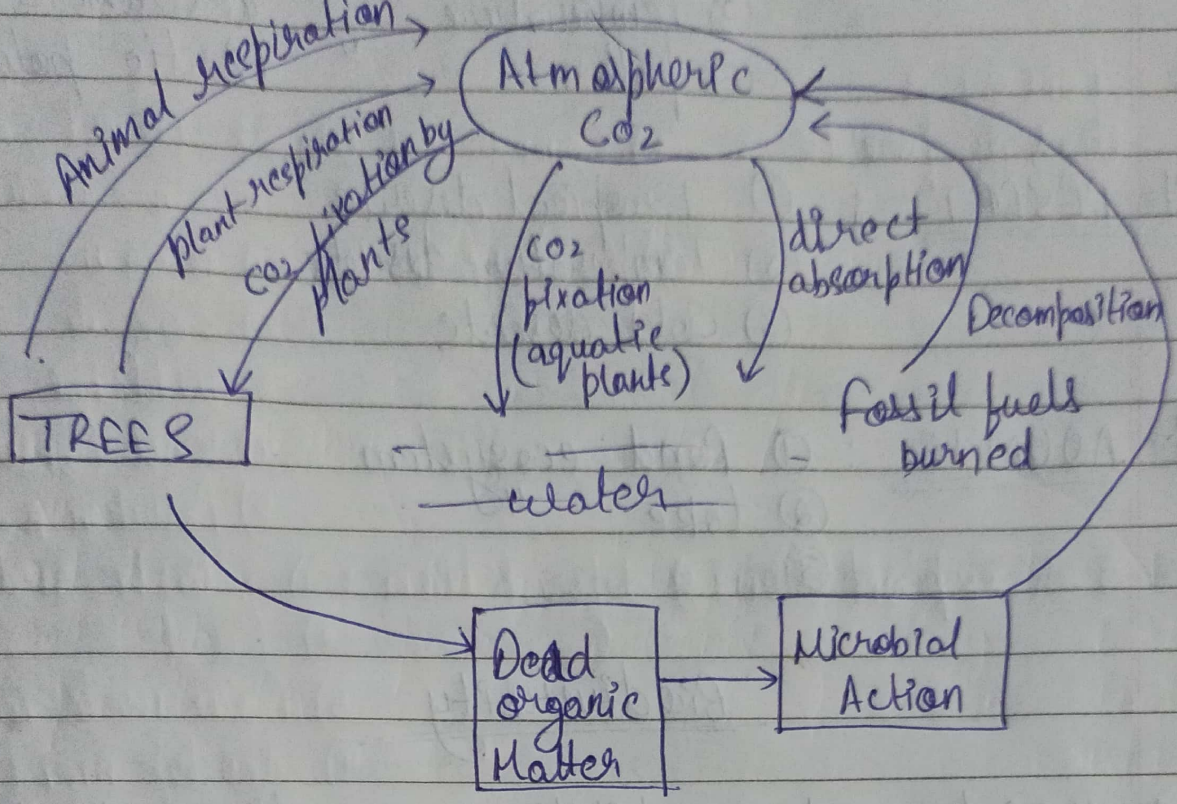
* Unidirectional
* 10% energy flow rule

NITROGEN CYCLE



PAGE NO.
DATE

CARBON CYCLE:



ecological Succession: An orderly process of changes in the community structure and function with time.

* It is observed that one type of community is totally replaced by another type of community over a period of time and simultaneously several changes also occur known as ecological succession

FOREST ECOSYSTEM ① Tropical Rain forest
② " ~~dedi~~ deciduous "
③ Tropical Scrub "
④ temp. rain "
⑤ temp. deciduous "
⑥ evergreen/~~conif~~ coniferous "

Wet places

Less Rain

Shed all leaves during one season

GRASSLAND : ① Tropical " (Near borders of tropical
② Temperature " (extreme climate (medi
③ polar " (Artic polar region

DESERT : ① Tropical deserts
② Temperature deserts
③ Cold deserts

AQUATIC : ① Pond ecosystem
② lake "
③

Biodiversity

* variety and variability among all groups of living organisms and the ecosystem complexes in which they occur.

1) # genetic diversity : Slight difference in gene which make many diversity in them. Eg : Rice.

~~Species~~

2) Species "
3) Ecosystem "

Value : 1) Consumption : i) Food
ii) Drugs and medicines
iii) Fuel
2) Productive eg : paper and pulp industry
Silk industry, leather industry,
pearl industry etc.

rain forest)

3) Social Value : i) Tulsi ii) peepal iii) Lotus iv) Cow v) Peacock.

4) Ethical Value : There is a ethical value attached to every species.

5) Aesthetic Value : eco-Tourism and ecotourism is estimated to generate 12 billion dollars of revenue.

* Species which are restricted only to a particular area are known as endemic.

IUP.

Threats to biodiversity :

1) loss of habitat : i) destruction
ii) Habitat fragmentation

2) Poaching

3) Man wildlife Conflicts : i) Animals kills humans and because of revenge animals are also being killed.