

Basics of Environment and Energy

- ① Basics of Environment → Related to Ecosystem & Ecology Areas
- ② Biodiversity & Conservation
- ③ Environmental pollution and Degradation
- ④ Climate change
↳ Including ozone depletion
- ⑤ Environmental Impact Assessment
- ⑥ Basics of Energy

CRACK GS CODE
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Telegram channel

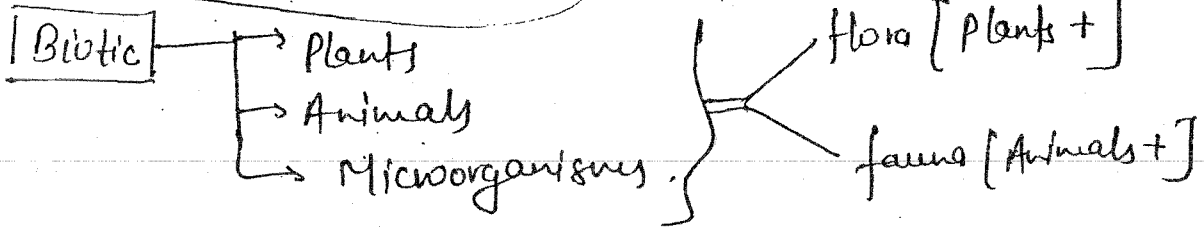
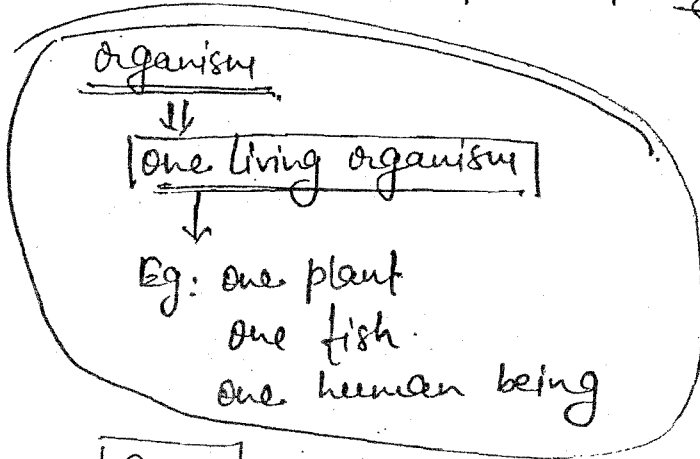
Telegram
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1. Basics of Environment

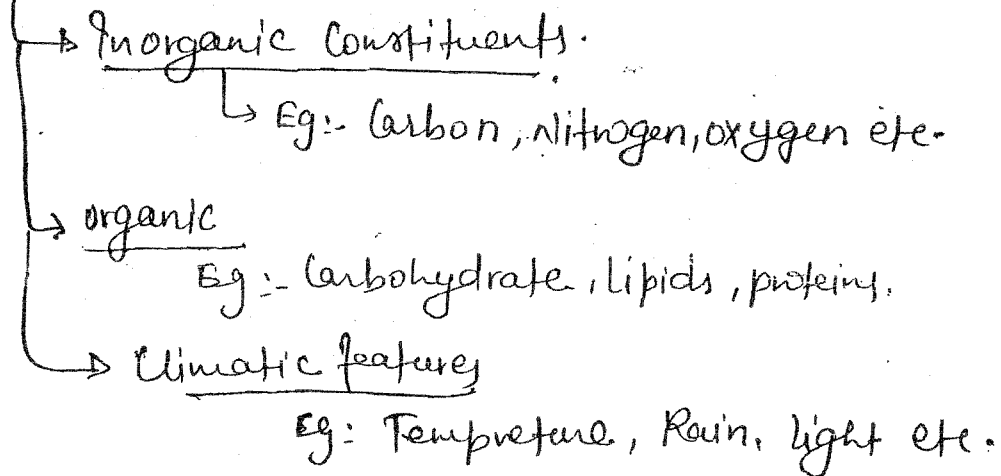
What is Environment? → origin - to word - 'Environer'
to surround
(Neighbourhood)

Environment is
↳ sum total of All living and non living (Abiotic)
(Biotic)

factors and influences surrounding an organism is
Environment for that organism.



Abiotic (Non living)



As per environment Act, protection Act 1986

[Called as umbrella law of for Environment in India].

Section (2) Environment Includes

land, Air, and water and the interrelationship which exist among and b/w land, air & water and human beings other living creatures, plants, microorganisms and property.

different human of
1986

Anthropogenic
human created
road, bridge etc

Biotic
Organism

one living being

Population

More than one organism of particular species.

Eg:- 100 tigers

Eg:- 1000 human being

Community

Two or more population assembled

Two or more species collected at a place.

It is also called "Biocenosis"

Species problem

No one universally application definition

(i) Concept of species.

At a place

Phytoplankton
+
Small fish
+
Large fish
+
Zooplankton

Community

Tree + Deer + Tiger
↓
Tree Animals

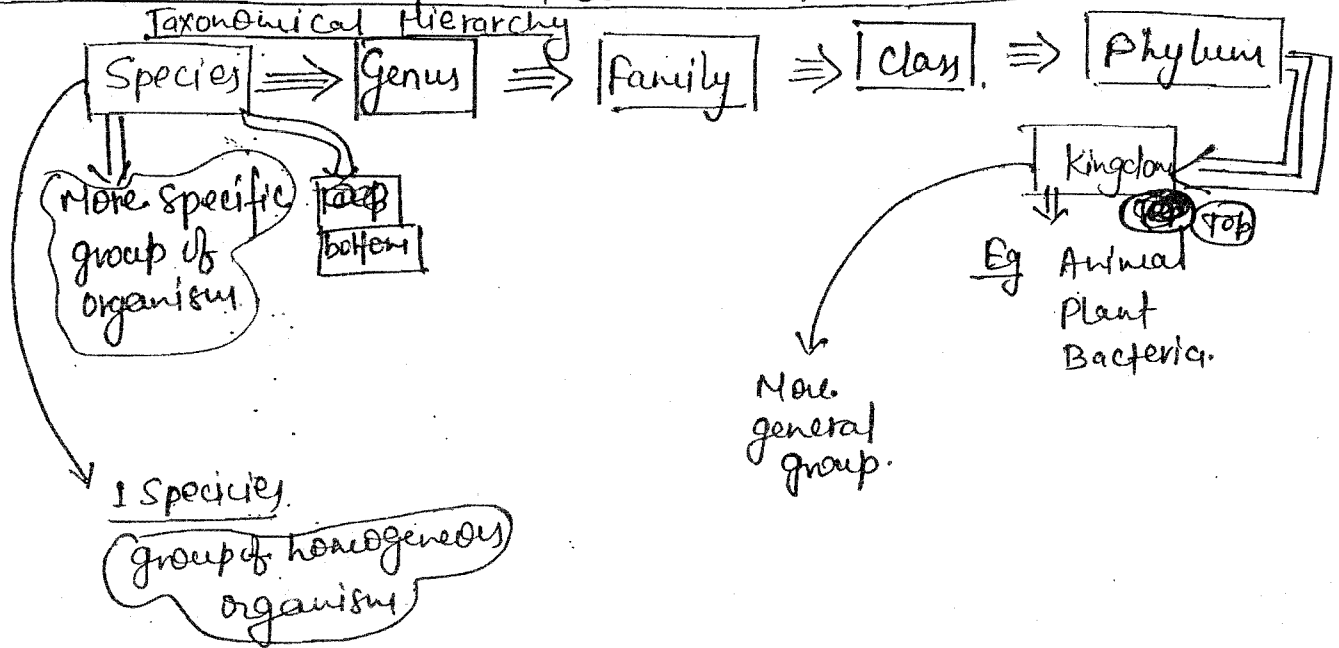
Community.

Generally
 ↳ species a specific group of organisms have } Called as
 reproductive isolation. } Biological
 species
 concept

↓
 (i.e.) breed within the group &
 are Capable of producing
fertile & off spring.

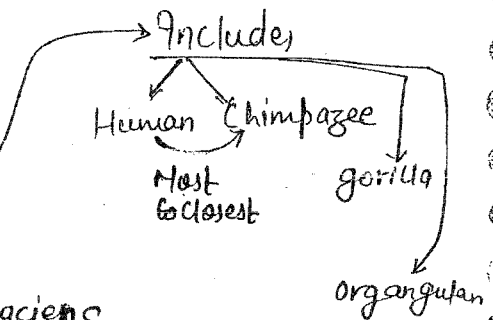
① Tiger ② leopard ③ Lion ④ Jaguar ⑤ Puma ⑥ Cheetah.

~~Snow leopard~~ ⑦ snow leopard ⑧ Clouded leopard ⑨ Bunda Clouded leopard



Humans

- Kingdom — Animal
- Phylum — Chordata
- Class — Mammal
- Order — Primate
- Family — Hominidae
- Genus — Homo
- Species — Homo sapiens



Asian Elephant

↓
one species

↓
3 varieties

Indian Sri Lankan Sumatran
Elephant Elephant Elephant

3 species of Elephants

Asian
Elephant

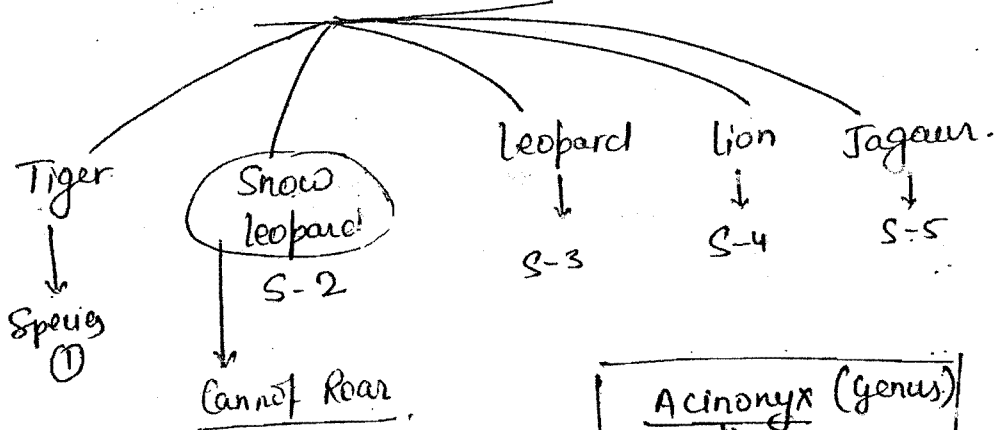
African
Bush
Elephant

African
Forest
Elephant

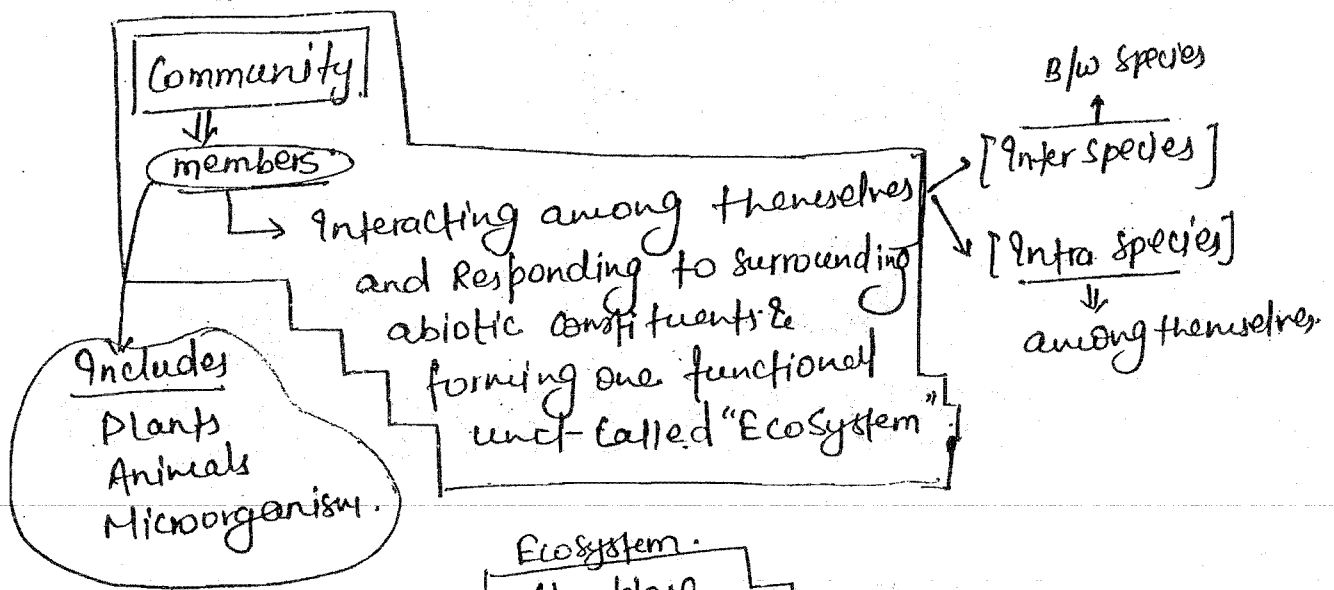
- ⊛ Biggest terrestrial species / land based ⇒ Elephant
- ⊛ Biggest species to exist on Earth ⇒ Blue whale

} Mammals

Panthera [genus]



Acinonyx (genus)
↓
Species
[Cheetah]



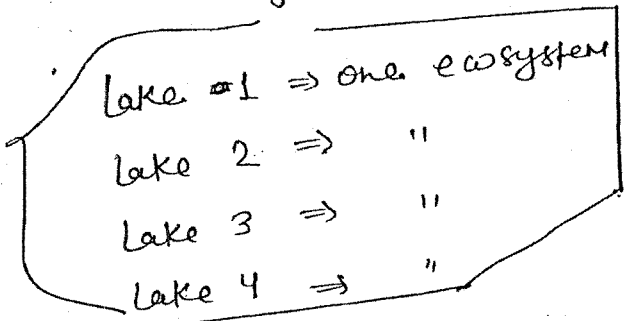
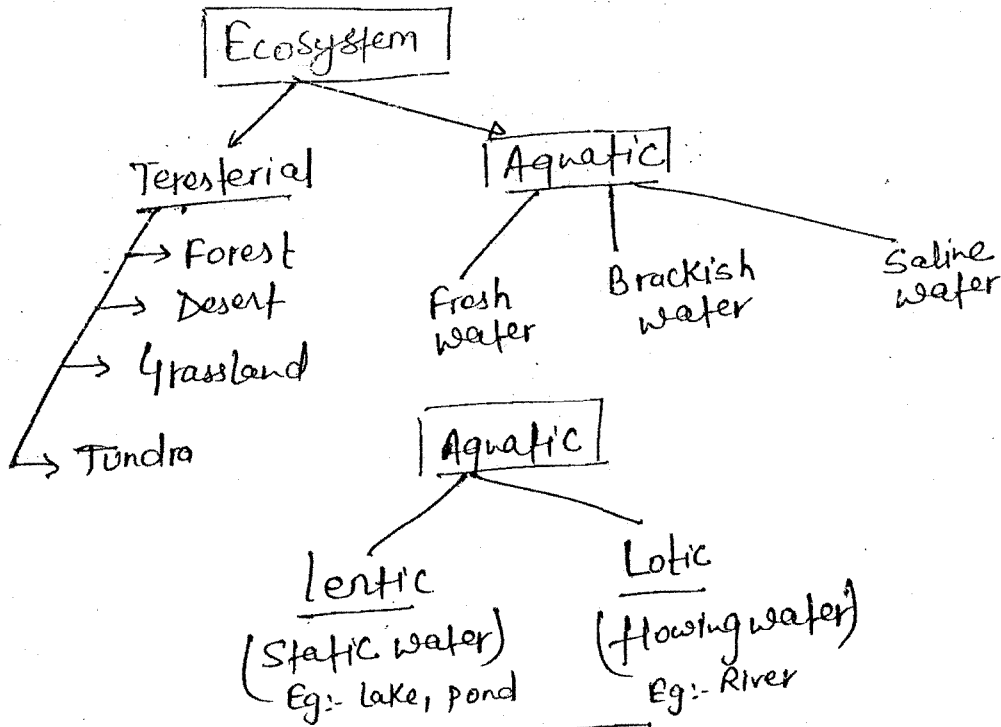
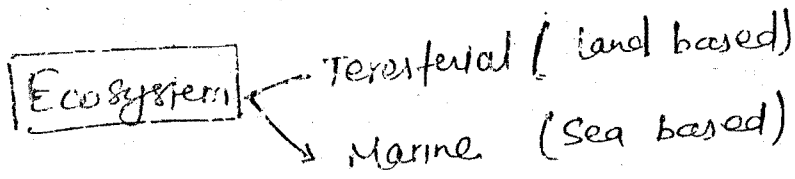
Ecosystem

A Complex, Dynamic functional unit of relationship & interactions b/n and within the species and with their surrounding.

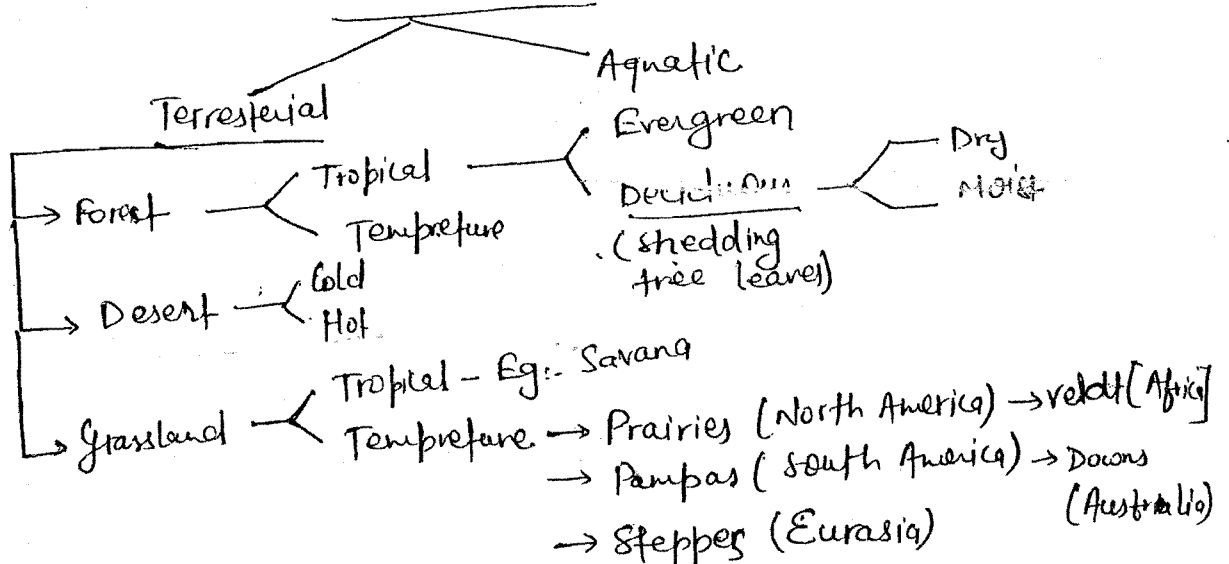
It is self sufficient and self regulatory in nature.

It performs various functions and provides various ecosystem services (Benefits).

- Eg
- lake • Pond • River
 - Estuary • well • forest
 - Grassland • Desert etc.



Biome on Earth

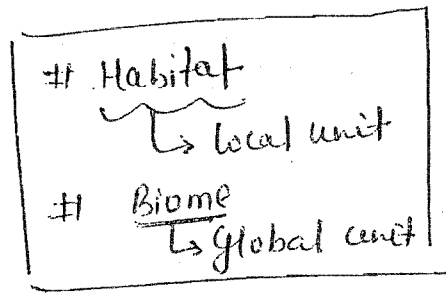


Biome

→ large community of flora & fauna. (total Biota) adapted to particular environmental condition [Eg. particular climatic condition]. characterised by Dominant vegetation types.
→ Also called as "Major Habitat type"

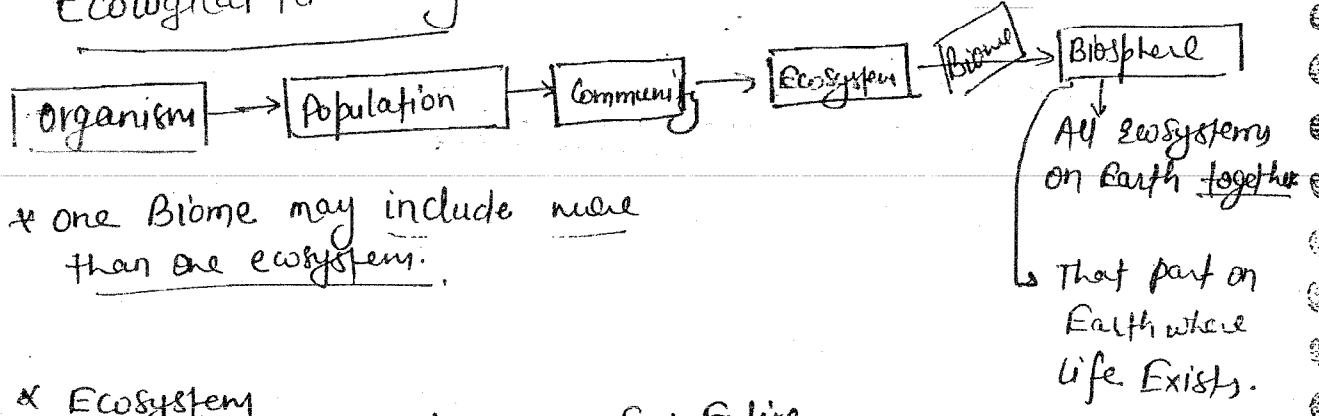
Habitat @ Ecological Habitat

→ Environmental condition within which a species lies.



- Ganga River → species live in freshwater Habitat.
- Himalaya → species. lives in high altitudes habitat.

Ecological Hierarchy



* one Biome may include more than one ecosystem.

* Ecosystem
↳ one functional unit
↳ small @ ~~and~~ very big
→ Eg :- Entire Earth as an Ecosystem ⇒ is called as Ecosphere