

CLASS-12
Subject-BIOLOGY
Chapter- ECOSYSTEM
SYNOPSIS

Ecosystem is a functional unit of living and non living components to form a stable System by interaction.

- ❖ Structure of ecosystem:
 - Abiotic or Nonliving components:
 - Biotic or living organisms
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- Nutrient Cycles: Biogeochemical cycles .They are Carbon cycle (gaseous cycle) and Phosphorus cycle(sedimentary cycle).
- ❖ Energy flow in an ecosystem is Unidirectional.
- ❖ 10% Law states that only 10%of energy entering a particular trophic level is available for transfer to the next level.(Lindermann)
- ❖ Food Chain is a sequence of repeated eating and being eaten where at each level there is transfer of energy.
- ❖ Types of food chain: Grazing food chain and Detritus food chain.
- ❖ Food Web: Interconnected network of food chains.

Trophic levels: they are the steps in a food chain at which transfer of food energy occurs.

- Ecological pyramid: Graphical representation of structure and function of an ecosystem.
- Types of ecological pyramid: Pyramid of number, Pyramid of biomass and Pyramid of energy.
- PAR stands for photosynthetically active radiation in the range of 400 to 700 nanometer which is used by photosynthetic organisms in the process of photosynthesis.
- Standing Crop: total dried biomass of the living organisms present in an environment.
- Standing State: amount of nutrient present in the soil at any given time.

Ecological Services refer to processes that moderate natural phenomenon, They include

- Carbon fixation,
- Pollination,
- Seed dispersal,
- Oxygen release.

WORKSHEET

SHORT ANSWER TYPE-

1. Define ecosystem with an example.
2. Construct a pyramid of numbers by taking suitable examples for each trophic level in an ecosystem.
3. How is a grazing food chain different from detritus food chain?
4. Which biogeochemical nutrient cycle is referred to as sedimentary cycle of matter?
5. Why is earthworm called as a detritivore?

LONG ANSWER TYPE –

1. Explain energy flow in an ecosystem with a flow chart.
2. Explain ecological services and any 2 types studied by you.
3. Describe the various biotic components studied by you.