CHAPTER TWENTY SIX

ECOLOGY:

1) Ecology is the study of the relationship that living things have with their environment.

2) Living-things refer to plants and animals.

Characteristics of living things (similarity between plants and animals):

These characteristic or similarities are:

(1) Movement:
Living things move from place to place or show signs of movement.

(2) Respiration:
All living things breathe.

(3) Nutrition (feeding):
They take in food.

(4) Irritability (sensitivity):
They respond to stimuli such as touch or heat.

(5) Growth:
All living things grow.

(6) Excretion:
They excrete or remove waste from their bodies.

(7) Reproduction:

They are able to produce their young ones.

Differences between plants and animals:

These differences are:

(1) Plants can prepare their own food, but animals cannot.
(2) Chlorophyll can be found in plants but cannot be found in animals.
(3) Even though animals move from place to place, plants do not do so but only certain parts of them show signs of movements.
(4) Animals respond immediately to stimuli, but plants respond slowly to stimuli.

(5) Animals stop growing at a certain age, but plants do not stop growing.
(6) Animals have excretory organs but plants do not.

Basic classification of animals:

- Animals can be divided into two main groups, and these are vertebrates and invertebrates.
- While vertebrates are animals with backbones, those without backbones are called invertebrates.
- Vertebrates and invertebrates can again be divided into other groups, and some of these groups are:

(1) Reptiles:

- Examples are lizard, snake and turtle.
- They live on land and have scales on their bodies.
- They lay eggs.

(2) Amphibians:

- Examples are frog and crocodile.
- They live in water and on land.
- They lay eggs and have scales on their bodies.

(3) Mammals:

- Examples are horse, man, bat, dog, monkey and sheep.
- They breathe using lungs and their bodies are covered with fur.
- Their young ones are born and they suck milk produced by the mammary gland.
- They are warm blooded i.e they have a constant body temperature.

(4) Worms:

- Examples are earthworm and tape worm.

(5) Mullucs:

- **Examples are snails.**

(6) Insecta:

- Examples are insects.

The mode of feeding of plants and animals:

- The feeding habit of plants is said to be autotrophic, because plants are able to manufacture their own food, through the process of photosynthesis.
- The feeding habit of animals is said to be heterotrophic, because animals cannot prepare their own food, and depend on plants for their food.

Association:

There are three types of association and these are:

(a) Symbiotic association:

- This is a close association between two organisms, in which each organism benefits from the other.
- An example can be shown using the protozoanswhich live the stomach of termites.
- They help in the digestion of the food of the termite, but at the same time, these protozoans in turn get protection from the termite.

(b) Parasitic association:

- Is the type of association which exists between two organisms, in which one organism depends on the other for its needs.

(c) Commensalism:

- Is a loose association between two organisms in which only one or both may benefit.

Ecological terms:

(1) Environment:

- This refers to the surroundings of living organisms.

(2) Population:

- This refers to a particular kind of plants or animals, living in a particular area.
- Example (1), all the dogs living within an area called Mataheko, form the dog population of Mataheko.
- Example (2): All the parrots found at Kaneshie constitutes the parrot population of Kaneshie.

(3) Community:

- This refers to all the different kinds of plants and animals, living within an area.
- Air, water and temperature are some of the things which form the environment.

(4) Habitat:

- This refers to a place where living organisms can live and reproduce. There are two main types of habitats and these are:

(1) Terrestrial habitat. (2) Aquatic habitat.

- Terrestrial habitat refers to land and aquatic habitat refers to water bodies such as lakes and rivers.
- There are two main types of aquatic habitats and these are:

(a) Fresh water habitat such as lakes, ponds and rivers which do not contain much salt.

(b) Marine habitat, which refers to the sea, which contains much salt.

(4) Salinity:

- This refers to the amount of salt within a water body.

Factors that influence a living organism choice of a habitat:

- A living organism may choose a particular habitat, based on the following reasons or factors:

(1) The availability of food.
(2) Weather conditions.
(3) Breeding.
(4) Shelter.
(5) Natural disasters.
(6) Mortality or death rate.

Interaction between living organisms and chosen habitat:

(1) Bacteria and fungi helping to decompose organic matter, which is the remains of dead plants and animals.
(2) Insects and birds acting as agents of pollination.
(3) Trees providing shade and shelter to animals and other plants.
(4) Animals acting as agents of seed and fruit dispersal.
(5) Birds acting as agents of fruit and seed dispersal.
(6) Termites aiding decomposition and aeration of the soil.

ECOSYSTEM:

- Is a combination of a community and its environment?
- In short, an ecosystem consists of different living things and their habitats.

Adaptation: Refers to the special features which living organisms have, which enable them to live in their habitats.