16. INTERDEPENDENCE IN NATURE

1. How is water useful to plants?

Ans The roots of plants can absorb minerals only when the minerals are dissolved in water in the soil.The seeds of many plants are also dispersed by water.

2. Why are green plants called producers?

Ans Green plants produce their own food by photosynthesis. Therefore, they are called producers.

3. How do bacteria and fungi help in making the soil fertile?

Ans Some bacteria and fungi help in the decaying of dead plants and animals. In this process, minerals present in the dead and waste material get mixed in the soil. These minerals are absorbed by plants and are used for various life processes.

4. What do you understand by interdependence in nature? Explain with an example.

Ans i)The living and non-living things in the environment depend on each other for their survival.

ii)Living things require non-living things such as air, water, soil, sunlight and warmth.

iii)Living things also depend on each other. This is called interdependence in nature.

iv)For example, animals depend on plants for food, shelter and oxygen, whereas plants depend on animals for reproduction and dispersal of seeds and carbon dioxide.

5. What are herbivores and carnivores? How do they form food chains?

Ans Animals that eat only grass and other parts of plants are called herbivores.

Animals that eat other animals are called carnivores.

Green plants produce their own food by photosynthesis. Herbivores eat or consume grass and parts of green plants. Herbivores are eaten up by carnivores. Some carnivores, in turn, are eaten by other carnivores. This forms different food chains in nature. All food chains begin from green plants.

6. Explain how plants and animals depend on each other.

Ans Animals depend on plants for

i. Food – All animals, directly or indirectly, depend on green plants for their food.

ii. Water – In deserts, it is very hard to find water. Some animals that live in deserts get their water by eating plants.

iii. Shelter – Some animals such as squirrels, gibbons, monkeys and birds make their home on trees.

iv. Oxygen – Plants give out oxygen during the process of photosynthesis. Animals use oxygen for breathing.

Plants depend on animals for

i. Reproduction and dispersal of seeds – Insects such as honeybees and butterflies, and many birds visit flowers to collect nectar. While doing so, they carry pollen from one flower to another, thus helping plants to make seeds. Animals also help in the dispersal of seeds.

ii. Carbon dioxide – Animals breathe out carbon dioxide. Plants use carbon dioxide to make food.

iii. Fertility of soil – Animals such as earthworms, rats and moles turn the soil and make it airy, and add their wastes to the soil. Some bacteria and fungi help in the decaying of dead plants and animals. In this process, minerals present in the dead and waste material get mixed in the soil. These minerals are absorbed by plants and used for various life processes.

7. Explain how plants and animals are dependent on soil.

Ans Soil is home to many animals. Many insects, such as earthworms, moles, snails, centipedes and millipedes,and microorganisms such as bacteria live in the soil. Rats and rabbits make burrows in the soil and use them as homes.

Plants need soil to grow. Roots of plants absorb minerals and water from the soil. The soil holds plants and trees in their place and provides them a place to grow.

8. What do you understand by the term ‘balance in nature’? Explain with an example.

Ans All living and non-living things are important parts of nature. Their interdependence maintains a delicate balance in nature in many ways.

Let us consider the example of deforestation.

* Deforestation disturbs the balance in nature in many ways. Plants absorb carbon dioxide and release oxygen during photosynthesis.
* Thus, plants help in adding oxygen to the air and reduce the amount of extra carbon dioxide in the air. This ensures a balance of oxygen and carbon dioxide in the air.
* Cutting down trees increases the amount of carbon dioxide in the air. This results in an increase in greenhouse effect and causes global warming.
* Deforestation can also reduce the amount of oxygen in air, thus affecting the life of animals

on the Earth.