Chapter 4: Environmental Balance

Q. 1. Fill in the blanks:

(1) The variety we see in all the living things that belong to a particular area is called the biodiversity of that place
(2) The surroundings and the conditions therein which affect the life of the organisms is called an environment
(3) Environmental Science studies interactions between living and non-living things.
(4) Plants are the main support for every food chain.
(5) For the existence of living things, it is important that environmental balance is maintained

Q. 2. Write whether the following statements are True or False:

(1) Microorganisms form a part of the environment. True
(2) It is necessary to maintain biodiversity. True
(3) A grasshopper eats birds. False
(4) Sunlight is an important factor for every environment. True
(5) Scientists make observations about biodiversity for just one week. False
(6) Plants use oxygen to prepare their food. True

Q. 3. Cross out the wrong word:

(1) The living things that are seen in the field and near the water source are of the same/different type
(2) Air, water, soil and sunlight are living/non-living factors in the environment.
(3) If all the sparrows from the surroundings disappear, then number of insects/owls will rise.
(4) Plants release carbon dioxide/oxygen into the air.
(5) Plants/Microorganisms decompose the dead and decaying materials in the environment.
(6) Environmental balance should be maintained for the happiness/existence of the living things.

Q. 4. Name the following:

(1) Factors in the environment: Living thing, air, water, sunlight, soil
(2) The interactions among the living things in the environment: Food chain, food web
(3) The main support of all food chains: Plants
(4) The cycles in the environment: Water cycle, carbon-dioxide cycle, decomposition cycle

Q. 5. Answer the following questions:

(1) What is a food chain? Give an example of it.

Ans. A food chain represents the flow of energy and nutrients among different organisms in an ecosystem. It tells us how energy and nutrients are transferred from one trophic level to another and how the organisms interact in an ecosystem.

(2) How is the balance in the environment maintained?
Ans. Balance in the environment is kept by nature in a few key ways. Predators keep prey numbers in check, so no species gets too big. Plants and animals compete for resources, which helps control their populations. Decomposers break down dead plants and animals, returning nutrients to the soil for new growth.

(3) Who Study the biodiversity in a particular area? How do they do this?
Ans. Scientists called biologists or ecologists study biodiversity. They do this by counting and identifying different plants and animals, collecting samples from the environment, and observing how species interact with each other. They also use tools like GPS and drones to track and map species.

(4) Why is it said that plants are the main support for all the types of food chains?
Ans. Plants are the main support for all food chains because they are producers. They use sunlight to make their own food through photosynthesis. All animals, from the smallest insects to the largest predators, rely on plants either directly or indirectly for their energy and food.

(5) How do microorganisms maintain the environmental balance?
Ans. (1) There are different types of microorganisms in the soil. (2) They help process of decomposition. Plant residues, dead animals, excreta and other such material is decomposed by them. (3) This decomposition forms the substances which are us for the plants for their growth. (4) When the plants die, once again microorganism release these useful substances back into the soil by decomposition. In this microorganisms maintain the environmental balance.

(6) What substances in the soil are useful for the growth of plants?
Ans. (1) Plants require water, minerals and other substances in the soil for growth. (2) The substances formed due to decomposition of dead and decaying and animal material are very useful for plants. (3) These substances help in the growth of plants.

Q.6. What's the Solution?

We have to remove insects from the grain without using insecticides
Ans. To remove insects from grain without using insecticides, we can
(a) Spread the grains under the sun for a few hours. The heat will kill the insects.
(b) Store grains in airtight containers to keep insects out.
(c) Place the grains in the freezer for a few days to kill any insects.

Q. 7. Can you Tell? (Textbook page 20)

(1) What is the deer's food?

Ans. Deer is a herbivorous animal. It eats grass. In search of green grass, they m about in the jungles. It also feeds on leaves and smaller herbs and shrubs.

(2) What is the food of the tiger?
Ans. Tiger is a carnivorous hunting animal. Flesh of these animals is food for tiger.