

Exercise Questions

1. Fill in the blanks.

- (a) A place where animals are protected in their natural habitat is called a _____.
- (b) Species found only in a particular area are known as _____.
- (c) Migratory birds fly to faraway places because of _____ changes.

Soln:

- (a) A place where animals are protected in their natural habitat is called a **sanctuary**.
- (b) Species found only in a particular area are known as **endemic**.
- (c) Migratory birds fly to faraway places because of **climatic** changes.

2. Differentiate between the following.

- (a) Wildlife sanctuary and biosphere reserve
- (b) Zoo and wildlife sanctuary
- (c) Endangered and extinct species
- (d) Flora and fauna

Soln:

(a)

Wildlife Sanctuary	Biosphere Reserve
An area within which wild animals are protected from external dangers like hunting.	An area constructed for the conservation of biodiversity.
Adequate habitat and protection are provided for the wild animals living in a sanctuary.	Several life forms like plants, animals, and microorganisms conservation are possible in a reserve.
Eg: Jim Corbett National Park	Eg: Nilgiri Biosphere Reserve

(b)

Zoo	Wildlife Sanctuary

Animals are kept in artificially constructed facilities for public exhibition.	An area within which wild animals are protected from external dangers like hunting.
It is an artificial habitat, and the animals may or may not adapt to the new conditions.	The animals are conserved within their natural habitat itself. So they won't have a problem with their surroundings.

(c)

Endangered Species	Extinct Species
The species which are on the verge of extinction are called Endangered species.	The species of animals or plants that no longer exist are called Extinct species.
Eg: Bengal tiger, blue whale, etc.	Eg: Caribbean monk seal, great auk, passenger pigeon etc.

(d)

Flora	Fauna
It is the collective name for plant life from a particular area.	It is the collective name for the animal life from a particular area.
Eg: Spurge and hogweed from the Nilgiris region	Eg: Langur, tiger, and tahr from the Nilgiris region.

3. Discuss the effects of deforestation on the following.

- (a) Wild animals
- (b) Environment
- (c) Villages (Rural areas)
- (d) Cities (Urban areas)
- (e) Earth

(f) The next generation

Soln:

(a) Effects of deforestation on wild animals

Removal of trees and plant life from a particular area for the construction of industries, agriculture or for other such purposes is termed Deforestation. Plant life forms an integral part of the ecosystem, and they form the natural habitat of various animals in an ecosystem. Destroying plant life will ultimately threaten the existence of animals in a particular ecosystem and may lead to their extinction.

(b) Effects of deforestation on the environment

In plants, Photosynthesis takes place through the absorption of CO_2 from the earth's atmosphere. The percentage of CO_2 in the atmosphere increases rapidly if the plant life of an area is destroyed. Increased concentrations of CO_2 result in the trapping of excessive heat radiations within the Earth's atmosphere contributing to global warming. This results in the rise of the temperature of the Earth and disturbs the water cycle which occurs in nature. Hence, rainfall pattern changes, leading to droughts and floods.

(c) Effects of deforestation on villages

The soil particles are held together in a place by the roots of the plants, trees and other vegetation. In the event of water flow or a high-speed wind over the top layer of the soil, the soil particles get removed easily as there are no plants to hold them in place. Lately, soil erosion has increased by deforestation activities. Soil loses fertility and humus. Hence, fertile land fit for agriculture turns into a desert.

(d) Effects of deforestation on cities

The risk of natural calamities like floods and drought in urban areas has increased by deforestation. It will also lead to global warming because of increased CO_2 levels in the atmosphere. Global warming is a result of continuous pollution from automobiles and industries. The water cycle in the vicinity is also affected.

(e) Effects of deforestation on Earth

Deforestation leads to increased chances and occurrences of desertification, droughts and floods. Carbon Dioxide level in the earth's atmosphere also increases, which leads to global warming. The water cycle is disrupted, and there is also an increased risk of natural calamities.

(f) Effects of deforestation on the next generation

Our environment is slowly changing due to the activities of deforestation, both directly and indirectly. Soil erosion, global warming, desertification, drought, greenhouse effect, floods and many other problems are caused only because of deforestation. Ultimately, the next generation will face the consequences of deforestation.

4. What will happen if

(a) we go on cutting trees

(b) the habitat of an animal is disturbed

(c) the top layer of soil is exposed

Soln:

(a) If we go on cutting the trees

If we go on cutting the trees, the animals will lose their natural habitat as an essential part of their ecosystem is destroyed. This reduces the biodiversity of the affected areas. The temperature of the Earth also increases and paves the

way to global warming. Global warming, in turn, affects the water cycle. Hence, rainfall pattern changes, leading to droughts and floods. As a result, risks of soil erosion, global warming, desertification, greenhouse effect increase.

(b) If the habitat of an animal is disturbed

All the basic necessities for an animal, like food, water, shelter and protection, are provided by the habitat in which the animal lives-in. Disturbing the habitat of the animals forces them to move to another place in search of food, water, shelter and protection. The animals, in due course, may get killed by other animals.

(C) If the top layer of the soil is removed

Removing the top layer of the soil gradually exposes the lower layers of the soil. The lower layers of the soil are hard and rocky in nature and are less fertile. This is because of the reduced quantity of humus. Soil erosion on a continued basis will turn land barren and infertile.

5. Answer in brief.

(a) Why should we conserve biodiversity?

(b) Protected forests are also not completely safe for wild animals. Why?

(c) Some tribals depend on the jungle. How?

(d) What are the causes and consequences of deforestation?

(e) What is Red Data Book?

(f) What do you understand by the term migration?

Soln:

(a) The number and variety of various life forms, such as plants, animals and microorganisms in the area, are called Biodiversity. Both plants and animals have a mutual dependence on each other for their survival. As they are related to one another, the destruction of one will automatically destroy the other. Hence, biodiversity has to be conserved in order to maintain nature's balance.

(b) People who live near the forests depend on the resources of the forests in order to fulfil their day-to-day needs. Therefore, it is not safe for animals living in protected forests. The animals would be threatened by the presence of the human population. This results in the killing of wild animals and selling their products for huge sums of money.

(c) The forests provide food and other resources to the tribal people. It is inevitable for them to depend on forests and their resources for everyday needs.

(d) Causes of deforestation

There are a lot of causes of deforestation. A few of them are listed below.

I. In order to accommodate the ever-expanding urban population, forest areas are often cleared and converted into lands for various uses.

II. For agricultural activities, like crop cultivation and cattle grazing, forest lands are cleared.

III. Firewood is a major product from the forests, and it is one of the main reasons for cutting trees on a large scale.

Consequences of deforestation

There are a lot of fatal consequences caused by deforestation. A few of them are listed below.

1. Soil erosion

2. Loss of biodiversity
3. Floods
4. Droughts
5. Global warming as a result of climate change
6. Disruption of the water cycle

(e) The Red Data Book is a sourcebook which has an international list of all plant and animal species which are endangered, that is, on the verge of extinction. The International Union for Conservation of Nature and Natural resources (IUCN) maintains the books and adds/removes the names of the species by conducting a comprehensive survey.

(f) The movement of an organism or a group of organisms from its natural habitat to another place on a standard basis at a particular time each and every year is known as migration. The organisms do so in order to avoid uninhabitable conditions of climate or for the process of breeding.

6. In order to meet the ever-increasing demand in factories and for shelter, trees are continually being cut. Is it justified to cut trees for such projects? Discuss and prepare a brief report.

Soln:

No. Cutting trees in order to meet the ever-growing demands of the human population is not at all justified. There are a vast number of organisms, like wild animals, insects, and birds, living in the forests. The forests provide good-quality air for animals, birds, humans and other organisms. This is because of the process of plant respiration by which they consume harmful carbon dioxide and give out good quality Oxygen. Thus, they keep greenhouse gases and global warming under check. The roots of the flora of the forests help in preventing soil erosion. Natural Calamities such as floods and droughts could also be prevented by their presence. They help in increasing the soil's fertility and conserving the biodiversity of the ecosystem.

Overutilisation of forests and their resources by cutting a large number of trees in order to satisfy the demands of the ever-increasing human population leads to many long-term problems like

- Soil erosion
- Greenhouse effect
- Global warming
- Floods
- Droughts

Besides the above-listed problems, the effects of large-scale deforestation will leave an everlasting mark on the face of human civilisation. The balance of nature is disturbed by the destruction of trees. Hence, it is of utmost priority and importance to conserve forests.

7. How can you contribute to the maintenance of the green wealth of your locality? Make a list of actions to be taken by you.

Soln:

I can take care of the green wealth of my locality by growing plants in my locality. I shall motivate the people of my neighbourhood to plant more trees and take care of the existing trees by creating awareness about the importance of plant life in an ecosystem. In order to make this possible, I would initiate the proceedings and organise weekly events on the same. Creating awareness among the children and youth would be of top priority as they will easily understand

the issues that we are facing. Planting new trees is as important as looking after the existing ones. So, my volunteers and I would water the plants and trees on a regular basis.

8. Explain how deforestation leads to reduced rainfall.

Soln:

Removal of trees and plant life from a particular area for the construction of industries, agriculture and other purposes is termed Deforestation. Photosynthesis, in plant life, takes place through the absorption of CO_2 from the earth's atmosphere. When plant life is destroyed, the Carbon Dioxide levels in the atmosphere will increase drastically, leading to the trap of heat radiation which causes global warming. This rise in temperature will affect the water cycle. Disturbance in the water cycle will lead to a chain of events, and in the end, the rainfall pattern changes and results in droughts.

9. Find out about national parks in your state. Identify and show their location on the outline map of India.

Soln:

Periyar National Park, located in the state of Kerala.



10. Why should the paper be saved? Prepare a list of ways by which you can save paper.

Soln:

If one ton of clean white paper is to be produced, seventeen full-grown trees are cut down. Trees play a major role in maintaining a balance in nature. So, it is essential to save paper in order to protect the trees and avoid the impact of the loss of trees on the living organisms that depend on these trees.

Ways to save paper are

- Collection and recycling of used paper.
- Using both sides of a paper for writing.
- Spreading awareness about the importance of paper among school children and youth.
- Intelligent and proper use of paper.

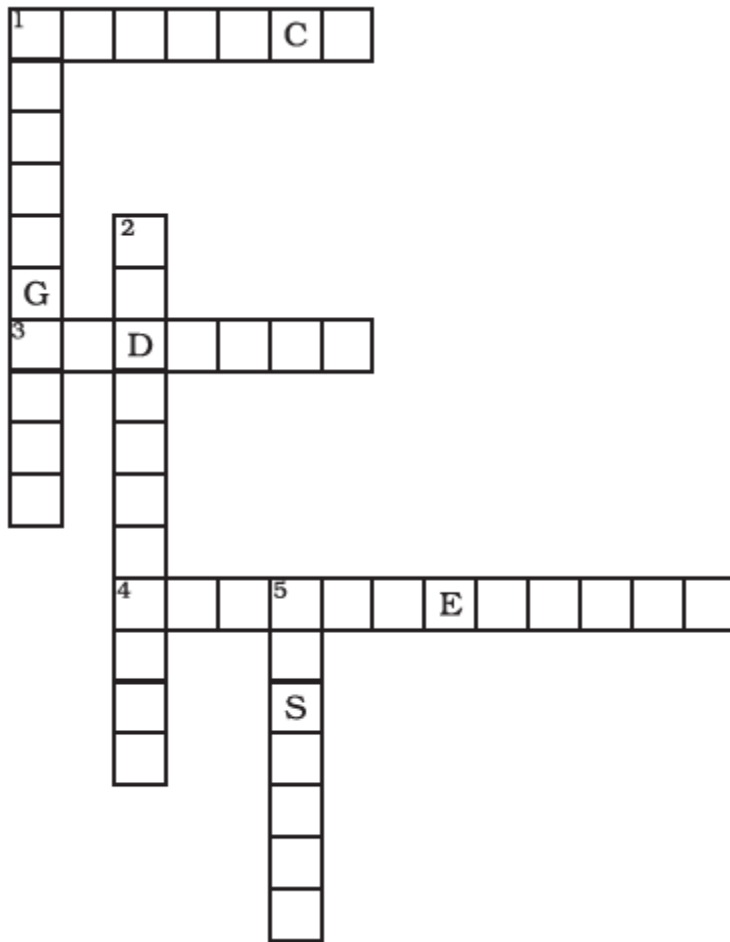
11. Complete the word puzzle.

Down

1. Species on the verge of extinction.
2. A book carrying information about endangered species.
5. Consequences of deforestation.

Across

1. Species which have vanished.
3. Species found only in a particular habitat.
4. Variety of plants, animals and microorganisms found in an area.



Down

1. Endangered
2. Red Data Book
3. Deserts

Across

1. Extinct
2. Endemic
3. Biodiversity

