

CHAPTER 12**FOREST: OUR LIFELINE****2-mark questions:**

1. Explain how animals dwelling in the forest help it grow and regenerate.

Answer:

Animals dwelling in the forest help it grow and regenerate in the following ways:

- Animals help in dispersing plant seeds.
- Decaying animal dung provides nutrients for plants to grow
- Microorganisms convert the dead plants and animals to humus

2. Explain how forests prevent floods.

Answer:

Plants in the forests will not allow the rainwater to fall directly on the earth, and these plants also hold water which helps in preventing floods.

3. What are decomposers? Name any two of them. What do they do in the forest?

Answer:

The micro-organisms which convert dead plants and animals to humus are known as decomposers. For example, bacteria and fungi. They help in the recycling of nutrients by decomposing dead plants and animals.

4. Explain the role of forests in maintaining the balance between oxygen and carbon dioxide in the atmosphere.

Answer:

Plants in the forests consume carbon dioxide and release oxygen through the photosynthesis process. This helps in balancing oxygen and carbon dioxide in the atmosphere.

5. Explain why there is no waste in a forest.

Answer:

There is no waste in a forest because the waste created is bio-degradable, which gets converted to humus by the action of microorganisms.

6. List five products we get from forests.

Answer:

The five products we get from forests are listed below:

I) Medicines

ii) Spices

iii) Wood

iv) Paper

v) Gum

7. Why are forests often referred to as the "lungs of the Earth"?

Answer:

Forests are called the "lungs of the Earth" because they release oxygen through photosynthesis, contributing to the balance of oxygen and carbon dioxide in the atmosphere.

8. How do forests prevent floods?

Answer:

Forests prevent floods by acting as natural absorbers of rainwater. The canopy intercepts raindrops, slowing down their impact on the ground. This allows water to seep into the soil, maintaining a steady water flow in streams and preventing flooding.

9.What is the role of decomposers in a forest ecosystem?

Answer:

Decomposers play a crucial role in a forest ecosystem by breaking down dead plant and animal matter into humus. This process releases nutrients back into the soil, supporting the growth of plants and contributing to the overall health of the forest.

10.How do forests influence the balance of oxygen and carbon dioxide in the atmosphere?

Answer:

Forests contribute to the balance of oxygen and carbon dioxide in the atmosphere through the process of photosynthesis. During photosynthesis, plants absorb carbon dioxide and release oxygen. This helps maintain the equilibrium of these gases, benefiting the overall air quality.

5-mark questions:

1. Explain the interdependence of various components in a forest ecosystem.

Answer:

The components of a forest ecosystem, including plants, animals, and micro-organisms, are interdependent. Plants release oxygen through photosynthesis, providing a vital resource for animal respiration. Herbivores depend on plants for food, and carnivores rely on herbivores for sustenance, forming a complex food web. Decomposers play a crucial role by breaking down dead matter, releasing nutrients into the soil, which, in turn, supports plant growth. This interdependence ensures the balance and vitality of the entire forest ecosystem.

2. Discuss the environmental impact of deforestation and its consequences.

Answer:

Deforestation has severe environmental consequences. Firstly, it disrupts the balance of oxygen and carbon dioxide in the atmosphere as fewer trees are available to absorb carbon dioxide and release oxygen. Secondly, it leads to soil erosion as the roots of trees, which normally bind the soil, are removed. This, in turn, causes floods and damages the soil. Additionally, deforestation results in the loss of habitat for many plants and animals, leading to a decline in biodiversity. It also contributes to climate change due to the reduction in the number of trees that act as carbon sinks.

3. Describe the water-related functions of forests and how they contribute to water conservation.**Answer:**

Forests play a crucial role in water conservation. The canopy of trees intercepts raindrops, preventing direct impact on the forest floor and reducing soil erosion. The forest floor, covered with dead leaves and organic matter, acts like a sponge, allowing water to seep gradually into the soil. This process maintains the water table and prevents floods. Moreover, the roots of trees contribute to the water cycle by absorbing water and releasing it through transpiration. Overall, forests act as natural absorbers and regulators of water, ensuring a steady supply and preventing water-related disasters.

4. Discuss the role of forests in supporting the livelihood of forest-dwelling communities.**Answer:**

Forests play a crucial role in supporting the livelihood of forest-dwelling communities. These communities often depend on forests for their food, shelter, water, and medicinal plants. Forests provide them with resources such as timber, fodder for animals, and various products like gum, oils, and spices. Additionally, these communities often possess traditional knowledge about the medicinal plants found in the forest, which is crucial for their healthcare. The forest ecosystem is an integral part of their lifestyle, and their sustainable use of forest resources is vital for their economic and cultural well-being.

8. Why should we worry about the conditions and issues related to forests far from us?

Answer:

We should worry about the forest for the following reasons:

- A decrease in forests results in an increase in carbon dioxide content in the atmosphere. This results in global warming.
- Depletion of forests results in soil erosion
- The decrease in forests adversely affects the lives of animals living in the forest.
- The absence of forests leads to flooding more often.
- Due to the reduction of forests, the land will turn barren, which is called desertification.

9. Explain why there is a need for a variety of animals and plants in a forest.

Answer:

A variety of plants and animals in the forests helps plants to regenerate and grow. A wide range of plants supports herbivores, which in turn serve as food for carnivores. Decomposers turn dead animals and plants into humus, thereby maintaining nutrient recycling. This wide variety makes the forest a dynamic living entity.

7. Fill in the blanks:

(a) The insects, butterflies, honeybees and birds help flowering plants in _____.

(b) A forest is a purifier of _____ and _____.

(c) Herbs form the _____ layer in the forest.

(d) The decaying leaves and animal droppings in a forest enrich the _____.

Answer:

(a) The insects, butterflies, honeybees and birds help flowering plants in pollination.

(b) A forest is a purifier of **air** and **water**.

(c) Herbs form the **lowest** layer in the forest.

(d) The decaying leaves and animal droppings in a forest enrich the **soil**.

11. Which of the following is not a forest product?

(i) Gum

(ii) Plywood

(iii) Sealing wax

(iv) Kerosene

Answer:

The answer is (iv) Kerosene

12. Which of the following statements is not correct?

- (i) Forests protect the soil from erosion.**
- (ii) Plants and animals in a forest are not dependent on one another.**
- (iii) Forests influence the climate and water cycle.**
- (iv) Soil helps forests to grow and regenerate.**

Answer:

Statement (ii) Plants and animals in a forest are not dependent on one another.

13. Micro-organisms act upon the dead plants to produce

- (i) sand**
- (ii) mushrooms**
- (iii) humus**
- (iv) wood**

Answer:

The answer is (iii) humus

Summary:

The chapter follows a group of children led by Professor Ahmad as they venture into a forest to understand its significance. The children are introduced to the concept of forests as essential for the environment.

As the children explore the forest, they observe the different layers of vegetation, including trees, shrubs, and herbs. The rich biodiversity of the forest becomes apparent with sightings of animals such as monkeys, deer, insects, and birds.

The children learn about various products derived from forests, ranging from wood to medicinal plants. An activity encourages them to identify household items made from forest materials.

The concept of interdependence is explained, illustrating how different components, such as plants, animals, and decomposers, play vital roles in maintaining the balance of the forest ecosystem.

The chapter highlights the environmental functions of forests, including their role in preventing floods, regulating the water cycle, and contributing to the balance of oxygen and carbon dioxide in the atmosphere.

The consequences of deforestation are discussed, covering disruptions to the water cycle, soil erosion, loss of biodiversity, and its contribution to climate change.