Forest as a System

A. Choose the correct answer:

1. What is the role of forests in maintaining ecological balance?

A) They increase soil erosion

B) They provide oxygen and support biodiversity

C) They reduce rainfall

D) They prevent photosynthesis

2. Which component of the forest ecosystem is responsible for decomposing organic matter?

A) Herbivores

B) Carnivores

C) Decomposers

D) Producers

3. Which of the following is an example of a biotic component in a forest?

A) Sunlight

B) Soil

C) Trees

D) Water

B. Fill in the Blanks:

1. Forests help in maintaining the _____ cycle by absorbing carbon dioxide and releasing oxygen.
2. The different organisms in a forest are interdependent and form a complex _____.
3. Forests prevent _____ by holding soil together with tree roots.

C. Case Study:

A scientist, Dr. Meera, conducted a study on a dense tropical forest to understand its ecological significance. She observed the following:

- The forest had a variety of plants, herbivores, carnivores, and decomposers.
- Trees played a crucial role in preventing soil erosion and maintaining groundwater levels.
- Cutting down large portions of the forest led to reduced rainfall and an increase in local temperature.

- Several animals lost their natural habitat due to deforestation.

Questions & Answers:

1. What was Dr. Meera trying to analyze through her study?
2. How did deforestation impact rainfall and temperature in the region?
3. Why is the presence of herbivores and carnivores important in a forest ecosystem?
4. Based on the study, explain why forests are called the "lungs of the Earth".

D. Short Answer Questions:

1. What is a forest ecosystem?
2. How do trees in a forest help in regulating climate?
3. What role do decomposers play in a forest system?

E. Long Answer Questions:

1. Explain how different components of a forest ecosystem interact with each other.
2. Describe the consequences of deforestation and suggest ways to prevent it.
3. Discuss the importance of forests in controlling air pollution and conserving biodiversity.