

# Chapter 11. Understanding Ecosystems

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## Solution 1:

Environment is the sum of all external conditions and influences that affect organisms. The environment may be divided into biotic i.e. living and abiotic i.e. non-living components.

## Solution 2:

Ecosystems are units consisting of living things and their specific habitats in the biosphere where living things interact with each other and their environment.

## Solution 3:

Man made ecosystem is formed by major human modification or alteration in the natural environment. Examples of man-made ecosystems are aquarium, park, grassland, garden etc.

## Solution 4:

Two major types of ecosystems are natural ecosystem and artificial ecosystem.

## Solution 5:

Two features of forests are:

1. It includes a complex assemblage of different kinds of biotic and abiotic factors.
2. The temperature and rainfall conditions of a place determine the nature and characteristics of forests.

## Solution 6:

The trees in coniferous forests are found in single strands with no undergrowth. Plants predominantly found here include firs, pines, spruces and hemlock while the ground is covered with mosses, grasses, sedges and herbs that are adapted to cold.

## Solution 7:

Tropical rainforests are found in regions that experience high temperature, high humidity, heavy and well-distributed rainfall all year round. These regions lack seasonal changes and there is little difference between the length of days and nights.

Tropical rainforests mainly occur inside the World's equatorial regions. They are restricted to the small land area between the Tropic of Capricorn and the Tropic of Cancer.

## Solution 8:

Forest biome refers to the naturally occurring community of flora and fauna occupying the forest.

Features of forest biomes are:

1. **In tropical rainforest biomes**, there is an amazing biodiversity of plants and animals. Trees are tall, with buttressed trunks and shallow roots, mostly evergreen, with large dark green leaves. Plants such as orchids, bromeliads, vines, lianas, ferns, mosses, and palms are present in tropical forests. Fauna include numerous birds, bats, amphibians, reptiles, small mammals, and a huge diversity of insects.



2. **In deciduous rainforest biomes**, many types of tall and short trees, shrubs, herbs, mosses and lichens are found occupying five different layers. Also a huge variety of fauna like panda, brown bear, hedgehog etc are found.
3. **Not much biodiversity occurs in coniferous forest biomes.** The trees here are found in single strands with no undergrowth. Plants predominantly found here include firs, pines, spruces and hemlock while the ground is covered with mosses, grasses, sedges and herbs that are adapted to cold. Fur bearing animals are found abundantly like brown bear, fox, mink, beavers, deer and large birds of prey like red tailed hawks. Many animals migrate or hibernate during the extremely cold winters.

#### Solution 9:

Terrestrial ecosystem	Aquatic ecosystem
These ecosystems are less dominant than aquatic ecosystems.	Aquatic ecosystems cover more than 70% of the earth's surface.
The organisms here are adapted to live on land.	The organisms here are adapted to live in water.
The different kinds of terrestrial ecosystems are forest, grassland, deserts and tundra ecosystem.	The different kinds of aquatic ecosystems are fresh water, marine water and brackish water ecosystem.

#### Solution 10:

- (i) (d) all plants and animal species along with environment.
- (ii) (c) an artificial ecosystem
- (iii) (c) communities of organisms interacting with one another
- (iv) (c) Tansley
- (v) (c) 100-150 cm
- (vi) (b) Decomposers

