

**Chapter: 18**

**Q.1 Match the pair**

2

1

Producers	Ecosystem
i. Cactus	a. Forest
ii. Aquatic plants	b. Creek
	c. Aquatic
	d. Desert

**Ans**

i. Cactus	Desert
ii. Aquatic plants	Aquatic

2

Column - A	Column - B
i. Mangroves	a. Forest
ii. Pine	b. Creek
	c. Aquatic
	d. Desert

**Ans**

i. Mangroves	Creek
ii. Pine	Forest

**Q.2 Multiple Choice Questions (Activity)**

3

1

Man is ..... in an ecosystem.

- a. producer      b. consumer      c. decomposer      d. none of the above

**Ans** Option b.

2

Rivers, ponds, ocean are ..... ecosystems.

- a. land      b. aquatic      c. synthetic      d. green land

**Ans** Option b.

3

Air, water, minerals soil are ..... factors of an ecosystem.

- a. physical      b. organic      c. inorganic      d. aquatic

**Ans** Option a.

**Q.3 Write Short Notes**

6

1

Write short note on Food Web.

**Ans**

- A food web is a natural interconnection of food chains and a graphical representation of (what-eats-what) producers, consumers and decomposers in an ecological system.
- Food web implies the transfer of food energy from producers to consumers.
- Food webs have trophic level and positions. For example, in grazing food chain of grassland, in the absence of rabbit grass may also be eaten by mouse. The mouse in turn be also eaten directly by hawk or

- by snake first which is eaten by the hawk
- iv. Thus, in nature there are found alternatives which all together constitute some sort of interlocking pattern and are called the food web.
- v. The complexity of any food web depends upon the diversity of organisms in the system

**2** Write short note on Biome.

- Ans**
- In some regions on earth, a large area has same climate and abiotic factors.
  - The living organisms in those areas are also similar. So, a specific ecosystem develops in a vast area.
  - Such large ecosystems are called 'Biomes'. These biomes contain many small ecosystems.
  - Earth itself is a vast ecosystem. Two types of biomes are found on the earth. i.e. Land biomes and Aquatic biomes.

**3** Write short note on Ecosystem.

- Ans**
- The structure that is formed due to the continuous interaction between the biotic and abiotic factors is called as an ecosystem.
  - Living organisms need different types of abiotic factors and they have different capacities to adapt with those abiotic factors.
  - The proportion of abiotic factors in an ecosystem is always changing as biotic factors use or excrete abiotic factors.
  - Most of the ecosystems are complex and there is tremendous quantitative and qualitative variety of species in them.
  - Variety of ecosystems is found on the earth. Each place has a different ecosystem. For example Forest, pond, ocean, river, etc.
  - Types of ecosystem are formed according to size, place, climate types of plants and animals.

**Q.4 Distinguish between**

**2**

**1** Evergreen Forests and Grasslands.

Ans	Evergreen Forests	Grasslands
	Evergreen forests are natural ecosystem where variety of plants, animals and biotic factors are found.	Grasslands develop where there is not enough rain to grow trees but vast growth of grass is found
	Different species of birds, reptiles and animals are found in evergreen forests	Insects, birds and Animals like goat, giraffe, zebra, elephant, deer, etc. are found in grasslands
	Trees like conifers, pine, teak, oak, etc. are found in abundance in evergreen forests	Longer summer and limited rain develop dwarf plants in the grassland areas

**Q.5 Give scientific reasons**

**6**

**1** Plants in an ecosystem are called consumers.

- Ans**
- Ecosystem consists of biotic factors and abiotic factors.
  - Plants are the biotic factors that can produce their own food using sunlight, carbon-dioxide and water by the process of photosynthesis and are hence, called producers.
  - In an ecosystem, only producers can produce their own food. The primary consumers derive their nutrition from these produces. Secondary consumers derive nutrition form the primary consumers and so on.
  - Consumers cannot produce their own food and get energy directly or indirectly from the energy trapped in plants.
- Thus, plants in an ecosystem are called producers.

**2** Rhinos were restored in Dudhwa forest

- Ans**
- Single horned Rhino became extinct in the Dudhwa forest about 150 years due to unrelenting hunting and habitat destruction
  - But on 1<sup>st</sup> April 1984, this Rhino was restored there
  - They were bred in captivity and then released in their habitat
  - For this, 27 square km grassland and forest having round the year water resources were selected. Also two observatories were established
  - These efforts are successful and thus Rhinos were restored in Dudhwa forest

**3** Construction of large dams destroys the ecosystem

- Ans**
- Construction of large dams requires vast lands which includes huge forests or grasslands
  - So the forests or grasslands in that area get converted into aquatic ecosystem due to construction of dams.
  - Dams also lessen the water current in lower area which destroys the previous ecosystem in that running water

**Q.6** Write answers based on given diagram/paragraph

6

- 1** Describe the following picture.



**Ans** The given picture indicates desert ecosystem where temperatures across the year are very high with scanty rainfall.

Desert ecosystem has less rainfall and so plants like cacti, small shrubs, grasses, palm trees etc. are seen in this region.

Camels are the primary consumers in these regions while snakes, vultures are the carnivores that are mostly seen in this region.

- 2** Describe the following picture.



- Ans**
- The given picture indicates a pond ecosystem where animals and birds are dependent on it for survival.
  - This pond can be a part of the forest as well as a grassland area.
  - In the picture small grasses, trees and shrubs are the producers on which primary consumers like elephants are seen.
  - The pond also is the source of drinking water for various animals, birds, etc. A huge food web can be present within the pond ecosystem itself.
  - A toucan seen on the branch of the tree depends on fruits, insects, etc. for its survival.
  - An eagle/kite seen above depends on the fishes as well as snakes and other creatures present near the pond.
  - Tiger, the tertiary consumer depend on other consumers for its food.

**Q.7** Answer the following

12

- 1** Explain the interactions among the factors of an ecosystem

- Ans**
- The biotic and abiotic factors and their interactions form an ecosystem
  - Living organisms need different types of abiotic factors and they have different capacities to adapt with those abiotic factors. Ex. Some microbes need oxygen, while others don't. Similarly, some plants need more sunlight, while others grow well in shade
  - Each and every abiotic factor affects the biotic factors in the ecosystem. Water, air, nitrogen, minerals are the essential abiotic factor of an ecosystem
  - Plants use the light energy from the sun to produce food by the process of photosynthesis
  - This energy in the form of food is eaten by the primary consumers which in turn are eaten by the secondary and tertiary consumers
  - Thus, the sequence of transfer of energy from plants to herbivores and to carnivores forms a food chain

vii. Finally after the death of the animals and plants, the microbes carry out decaying process and return the abiotic factors back to the nature

**2** What are the effects of increased population on ecosystem?

- Ans**
- Different human activities have different side effects on functions of ecosystem and cause their diminishment
  - Humans are the consumers in an ecosystem
  - Ecosystems can provide basic needs in normal conditions, but due to increased population, man kept on snatching natural resources on large scale
  - Changing lifestyles demand 'more' than 'necessary'
  - That has increased stress on the ecosystems and has generated vast amount of wastes

**3** How is urbanization responsible for destruction of ecosystem?

- Ans**
- Different human activities have different effects on ecosystems
  - Due to continuous process of urbanization, more and more agricultural lands, marshlands, wetlands, forests and grasslands are being destroyed for building and other basic facilities
  - As a result of this human interference, ecosystems wither change or get completely destroyed
  - Point-ecosystem will either change or get

**4** What are the reasons for war?

- Ans**
- Difference and competition over land, water, mineral resources or some economic and political reasons lead to war among human races
  - Heavy bombing and mine explosions are done in wars
  - These are not only life threatening but also change or destroy natural ecosystem

