



Unit I: **Environment, Ecosystem and Biodiversity**

1. What are the functions of an eco system? [Apr/ May 2021]

The functional attributes of the ecosystem keep the components running together. Ecosystem functions are natural processes or exchange of energy that take place in various plant and animal communities of different biomes of the world.

For instance, green leaves prepare food and roots absorb nutrients from the soil, herbivores feed on the leaves and the roots and in turn serve as food for the carnivores.

2. What are the causes of threats to biodiversity? [Apr/ May 2021]

Some of the main threats to biodiversity are: 1. Human Activities and Loss of Habitat, 2. Deforestation, 3. Desertification, 4. Marine Environment, 5. Increasing Wildlife Trade and 6. Climate Change.

3. Where from the word environment is derived and what does it refer to? [Apr / May, 2019]

The word environment is derived from the French word “Environ” meaning Surrounding. Each and everything around us is called as environment.

4. What is biodiversity and what is its significance? [Apr / May, 2019]

Biodiversity is defined as the variety and variability among all group of living organisms and the ecosystem in which they occur.

Significance of Biodiversity

- Biodiversity is very important for human life, as we depend on plants, micro-organism, and earth’s animals for our food, medicine and industrial products.
- Biodiversity protects the fresh air, clean water and productive land.

5. What do you understand by “species biodiversity”? Give one example. [Apr / May, 2017]

Species Diversity: The variability found within the population of species. i.e., Diversity between the species is species diversity.

For example: Cat, Lion, Tiger, Cheetah, Panther, Jaguar, and Leopard are different but belong to the same species called cat.

6. Define “keystone species with suitable example. [Apr / May, 2018]

Each species contributes to habitat functioning to some extent, but some species do more than others in the overall scheme of things. Without the work of these key species, the habitat changes significantly. These species are called **keystone species**.



Example: **Elephants are keystone species in grassland ecosystem**

7. What are indicator species? Give example. [Apr / May, 2018]

An indicator species is an organism whose presence, absence or abundance reflects a specific environmental condition. Indicator species can signal a change in the biological condition of a particular ecosystem.

For example:

- Greasewood indicates saline soil.
- Mosses often indicate acid soil.
- Tubifex worms indicate oxygen-poor and stagnant water unfit to drink.

8. What is food chain? [Nov / Dec, 2019]

Food chain: The sequence of eating and being eaten in an ecosystem is known as food chain.

For example: (food chain in a grassland ecosystem)

Plants → rat → Snakes → Eagles

9. What is bio-diversity hotspot? Give examples. [Nov / Dec, 2018]

Bio-diversity hot spots are the geographical regions where the endemic species are present.

The main hot spots as far as India is concerned are Western Ghats and Eastern Himalayas.

10. Write the criteria to determine hotspot and name the hotspots in India. [Apr / May, 2019]

The primary criteria for recognizing a hot spot is the endemic species richness. The main hot spots as far as India is concerned are **Western Ghats** and **Eastern Himalayas**.

11. What is an endangered species? Mention with suitable examples. [Nov / Dec, 2018]

Endangered Species: A species is said to be endangered when its number has been reduced to a critical level or whose habitats, have been drastically reduced.

For example: Indian wolf, red fox, sloth bear, red panda, tiger,

12. Define ecosystem. [Apr / May, 2019, Apr / May, 2018]

A group of organisms interacting among themselves, and with the environment is known as an ecosystem.



13. Write the various adaptive features of desert plants. [Apr / May, 2018]

Desert plants have developed three main adaptive strategies: Succulence, drought



tolerance and drought avoidance.

14. How does a biome differ from an ecosystem?

A biome is a small ecosystem within an eco-system. i.e., an ecosystem within an ecosystem. **For example:** A pond in a forest ecosystem is an example of a biome. But an

ecosystem is a group of organisms interacting among themselves and with the environment.

15. “India is a mega diversity nation” – Justify your answer.

Among the biologically rich nations, India stands among the top 10 or 15 countries for its great variety of plants and animals, many of which are not found elsewhere. India has 350 different mammals 1,200 species of birds, 453 species of reptiles and 45,000 plant species. It is estimated that 18% of Indian plants are **endemic** to the country and found nowhere else in the world. That is why, India is considered as a mega-diversity nation.

Part – B

1. Explain the characteristic features, function and structure of aquatic ecosystem with respect to lakes, rivers and estuaries. [**Apr/ May 2021**]
2. Explain the structure and function of an ecosystem. [**Nov / Dec, 2019**]
3. With a neat diagram discuss the energy flow in ecosystem. [**Apr / May, 2019**]
4. Describe the types, characteristic features, structure and functions of (1) Desert & Grassland Ecosystem. [**Apr / May, 2018**]
5. Describe the types, characteristic features, structure and functions of (1) Forest Ecosystem and (2) Aquatic Ecosystem.
6. What is ecological succession? Explain the different types of ecological Succession. [**Apr / May, 2018**]
7. Substantiate the value of biodiversity with suitable illustrations and statistical evidences. [**Apr/ May 2021, Apr / May, 2018**]
8. What do you understand by hot spots of biodiversity? Name and briefly describe two hot spots of biodiversity that exist in India.
9. Discuss the endangered and endemic species in India.
10. Discuss the various threats faced by Indian biodiversity.
11. Explain any ten control measures man-wildlife conflicts in detail. [**Apr / May, 2018,**



[Nov / Dec, 2018]



12. Explain in-situ and ex-situ conservation along with their merits and limitations. [**Apr/May 2021, Apr / May, 2018 , Apr / May, 2018**]
13. Mention the role of an individual in conservation of natural resources. [**Apr / May, 2019**]