



## **Long Question and Answers**

### **IV. Long Answer Type Questions**

**Q.1** Explain biodiversity in detail.

**Ans:** Biodiversity means the variety of all living things on Earth. It includes different kinds of plants, animals, fungi, and microorganisms like bacteria. Biodiversity exists at three main levels:

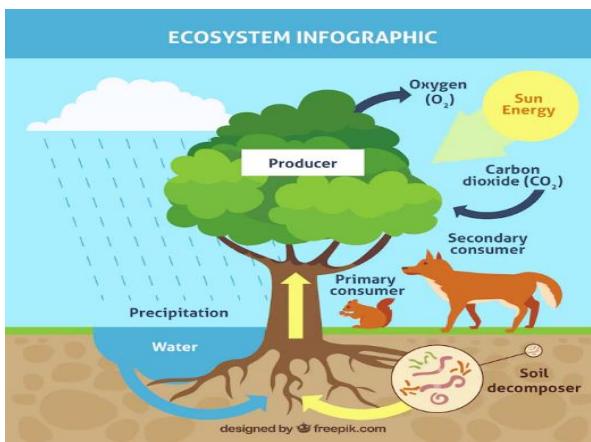
**Genetic Diversity:** Differences in genes within a species. For example, different breeds of dogs have different genes.

**Species Diversity:** The variety of different species in an area. For example, a forest may have many types of trees, birds, insects, and mammals.

**Ecosystem Diversity:** Different types of habitats like forests, deserts, oceans, and wetlands.

#### **Importance of Biodiversity:**

- It helps maintain the balance of nature and ecosystems.
- Provides us with food, medicine, and raw materials.
- Supports important processes like pollination, water purification, and climate regulation.
- Ensures survival of species by providing diverse environments.
- Loss of biodiversity affects humans and nature negatively because it weakens ecosystems and reduces resources we depend on.



**Q.2** Explain the major causes for loss of biodiversity on Earth.

**Ans:** a) **Deforestation:** Cutting down forests destroys habitats.  
 b) **Pollution:** Contaminates air, water, and soil, harming species.  
 c) **Climate change:** Alters habitats and affects species survival.  
 d) **Overexploitation:** Excessive hunting, fishing, and use of resources.  
 e) **Invasive species:** Non-native species outcompete native species.  
 f) **Urbanization:** Expanding cities reduce natural habitats.

**Q.3** Define conservation. Explain the role of NGOs in conservation of biodiversity in India.

**Ans:** Conservation is the protection, preservation, and careful management of natural resources like plants, animals, and their habitats to prevent their extinction and maintain ecological balance.

#### **Role of NGOs in Conservation of Biodiversity in India**

Non-Governmental Organizations (NGOs) play an important role in conserving biodiversity in India by:

- Creating Awareness:** They educate people about the importance of wildlife and forests through campaigns, workshops, and school programs.
- Wildlife Protection:** NGOs help in rescuing injured or endangered animals and support their rehabilitation and release into the wild.
- Running Conservation Projects:** Many NGOs work on protecting specific endangered species, such as tigers and elephants, by setting up reserves and monitoring populations.
- Community Involvement:** NGOs involve local communities in conservation efforts, encouraging sustainable use of natural resources and reducing harmful activities like poaching and deforestation.
- Policy Support:** They assist the government by conducting research and suggesting laws and policies to protect biodiversity.

**Examples of Indian NGOs:** WWF India, Wildlife Trust of India (WTI), and Bombay Natural History Society (BNHS)

Q.4 Explain with examples what we mean by extinct, endangered and vulnerable species.

Ans: Extinct, Endangered, and Vulnerable Species

**a) Extinct Species:**

These are species that no longer exist anywhere on Earth. They have completely died out and cannot be found in the wild or in captivity.

**Example:** The *Dodo* bird, which disappeared in the 17th century.

**b) Endangered Species:**

These species are at a very high risk of extinction in the near future if protective measures are not taken. Their population has decreased drastically due to habitat loss, hunting, or other reasons.

**Example:** The *Bengal tiger* is endangered because of poaching and habitat destruction.

**c) Vulnerable Species:**

These species face a high risk of becoming endangered if their situation worsens. They still have a relatively larger population than endangered species but need protection.

**Example:** The *Asian elephant* is vulnerable due to habitat fragmentation and human-animal conflicts.

Q.5 Explain briefly the different kinds of protected areas and how they have helped in conservation of biodiversity.

Ans: Different Kinds of Protected Areas

Protected areas are specific regions set aside to conserve wildlife and their habitats. The main types include:

**a) National Parks:**

Large natural areas where animals and plants are protected, and human activities like hunting and logging are strictly prohibited.

*Example:* Jim Corbett National Park.

**b) Wildlife Sanctuaries:**

Places where animals are protected but some human activities like grazing and tourism are allowed with restrictions.

*Example:* Keoladeo National Park.

**c) Biosphere Reserves:**

Large areas that include protected zones as well as buffer zones where limited human activity is allowed. They focus on conserving biodiversity and promoting sustainable development.

*Example:* Nilgiri Biosphere Reserve.

**How They Help in Conservation**

- a) They provide safe habitats for endangered and vulnerable species to live and reproduce.
- b) They protect plants and animals from hunting, poaching, and habitat destruction.
- c) They help maintain ecological balance and natural processes like pollination and water cycling.
- d) Promote research and education about wildlife conservation.
- e) Support eco-tourism, which generates awareness and funds for further conservation efforts.