

16. Biodiversity and Conservation

1. Multiple choice question

(i) Conservation of Biodiversity is important for:

- (a) Animals**
- (b) Animals and plants**
- (c) Plants**
- (d) All organisms**

Answer: (d) All organisms

(ii) Threatened species are those which:

- (a) threaten others**
- (b) Lion and tiger**
- (c) are abundant in number**
- (d) are suffering from the danger of extinction**

Answer: (d) are suffering from the danger of extinction

(iii) National parks and sanctuaries are established for the purpose of:

- (a) Recreation**
- (b) Hunting**
- (c) Pets**
- (d) Conservation.**

Answer: (d) Conservation.

(iv) Biodiversity is richer in:

- (a) Tropical Regions**

(b) Polar Regions

(c) Temperate Regions

(d) Oceans

Answer: (a) Tropical Regions

(v) In which one of the following countries, the 'Earth Summit' was held?

(a) the UK

(b) Mexico

(c) Brazil

(d) China

Answer: (c) Brazil

2. Answer the following questions in about 30 words.

(i) What is biodiversity?

Answer: Biodiversity refers to the diversity of plants, animals, and micro-organisms on earth. In simple words, biodiversity is the number and variety of organisms living in a specific geographic area.

(ii) What are the different levels of biodiversity?

Answer: Biodiversity can be discussed at three levels:

- Genetic diversity;
- Species diversity;
- Ecosystem diversity.

(iii) What do you understand by 'hotspots'?

Answer: Areas rich in the diversity of species are known as hotspots of diversity. India has two biodiversity hot spots, namely the Eastern Himalayas, and the Western Ghats.

(iv) Discuss briefly the importance of animals to human kind.

Answer: Animals capture and store energy, produce and decompose organic materials, help to cycle water and nutrients throughout the ecosystem, fix atmospheric gases, and help regulate

the climate. Functions performed by the species are useful for the continuity of ecosystem as well as for the survival of the human beings on the earth.

(v) What do you understand by 'exotic species'?

Answer: Species that are not the natural inhabitants of the local habitat, but are introduced into the system, are called exotic or alien, non-indigenous, or non-native species. Some species, such as the brown rat, house sparrow, etc., have been introduced widely.

3. Answer the following questions in about 150 words

(i) What are the roles played by biodiversity in the shaping of nature?

Answer: Biodiversity plays three major roles namely ecological, economic, and scientific.

Ecological Role of Biodiversity: Every organism extracts its needs from the ecosystem and at the same time contributes something useful for other organisms. An ecosystem with high diversity has greater chances of adapting to changes in the environmental conditions. Therefore, an ecosystem with greater variety has more chance of stability.

Economic Role of Biodiversity: Biodiversity is an important resource in their day-to-day life. Crop diversity or food diversity is an important part of Biodiversity, which provides food to the human beings. Some of the important economic commodities provided by Biodiversity are food crops, livestock, fish, medicinal resources, etc.

Scientific Role of Biodiversity: Biodiversity plays an important role in scientific studies as it helps us to understand, how the life evolved on the earth. Biodiversity also helps in understanding the role of each species in sustaining ecosystems.

(ii) What are the major factors that are responsible for the loss of biodiversity? What steps are needed to prevent them?

Answer: With rapid increase in the world population, there has been increased the rate of consumption of natural resources. This trend of exploration of natural resources has resulted in the loss of species and habitation in different parts of the world. Tropical rain forests in Asia, Africa, and South America, which contain about 50 percent of the species on the earth, face the greatest danger of deforestation by men today. Natural calamities like earthquakes, landslides, volcanic eruptions, forest fires, floods, droughts, etc., destroy the biodiversity of different regions. Use of pesticides, hydrocarbons and other toxic heavy metals are destroying the weak and sensitive species. Introduction of exotic species has caused widespread damage to natural biotic community in several parts of the world. Tigers, elephants, rhinoceros, crocodiles, minks, birds, etc., are killed by poachers for their hides, tusks, horns, etc.

The world conservation strategy has suggested the following steps for the conservation of biodiversity:

1. Preserve endangered species
2. Identification and protection of habitats of wild animals
3. Planning and management for prevention of extinct
4. Preservation of varieties of plants, trees, and animals
5. International trade in wild plants and animals should be regulated