

2. Biological diversity

Exercises

1 A. Question

Write answers to the following questions:

What is meant by bio-diversity?

Answer

The existence of wide variety of plant and animals on the earth is called biodiversity.



Biodiversity means using lots of plants & animals together

1 B. Question

Write answers to the following questions:

What is the importance of bio-diversity?

Answer

Biodiversity is important for all living things including humans as we all get our basic necessities of food, cloth, and medicine and shelter etc. all because of biodiversity. Environmental balance is maintained by the biodiversity. If the balance between the no. of plants which are producers and the number of herbivores, carnivores, decomposers is maintained to continue the nature's chain is only due to biodiversity.

1 C. Question

Write answers to the following questions:

In which respects do living things differ?

Answer

The living things differ in their sizes, shapes, eating habits, body parts and life cycles etc.

1 D. Question

Write answers to the following questions:

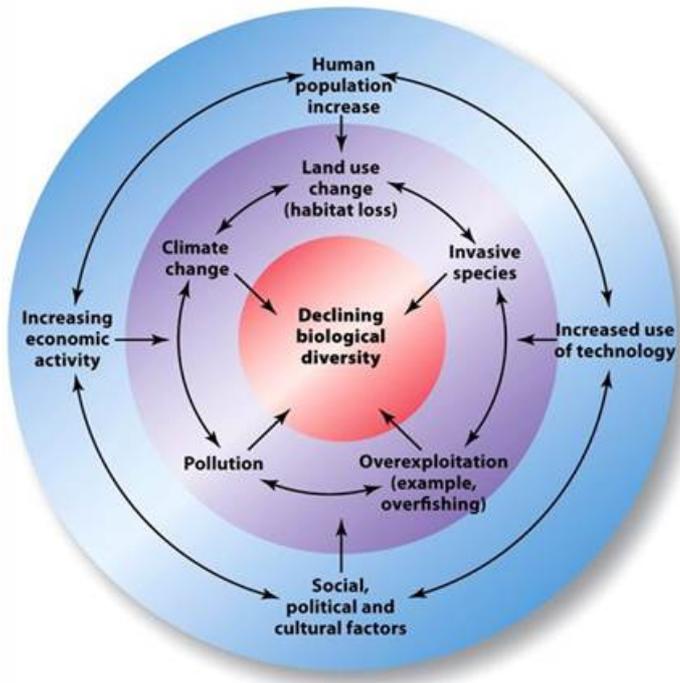
What are the different reasons for the reduction of bio-diversity?

Answer

The different reasons for the reduction of diversity are:

1. Population: The demand for food grain has increased due to huge growth of population. Multiple crop farming is replaced by single crop farming which has declined the biodiversity in the plant kingdom.
2. Huge constructions of dam, buildings, roads and factories, mining has destroyed the natural resources and habitats of animals.
3. Pollution is one of the reason for declining biodiversity. Due to changes in the climate, some sensitive species of animals and plants cannot survive.

The following diagrams shows the reasons responsible for declining diversity:



1 E. Question

Write answers to the following questions:

List the various efforts being made to protect endangered species.

Answer

Efforts made to protect endangered species are:-

1. Laws have been made to protect endangered species of plants and animals.
2. National parks and sanctuaries are being made.
3. Some areas are being declared as Reserved Biodiversity Zones.
4. Special projects are being undertaken to nurture specific species.
5. Some species of animals and plants are being grown in botanical and zoological gardens respectively.
6. Traditional knowledge is being conserved, compiled and documented.

2. Question

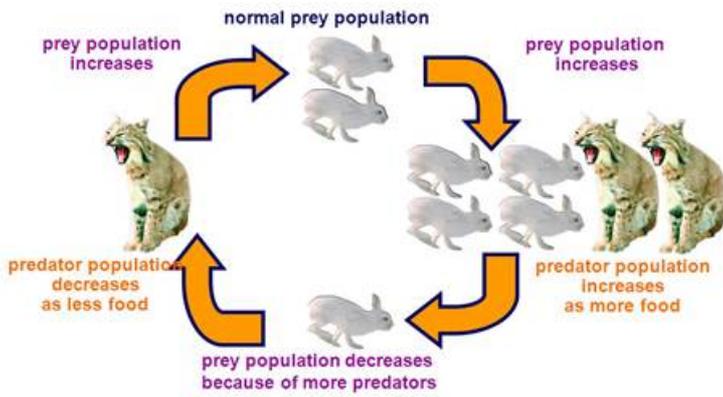
Give reasons.

- (a) It is very important to preserve the prey-predator chains.
- (b) The single crop method can prove harmful.

Answer

(a) It is very important to preserve the prey predator chains as in a forest, tiger alone cannot survive. Herbivores are needed for the survival of carnivores. Predators cannot survive in the absence of prey. Hence, it is necessary to continue the prey-predator cycle. The example of prey-predator cycle is shown below:

Predator–prey cycle



(b) Single crop method is used by farmers to get large harvest and high prices but the biodiversity in the plant kingdom is endangered. The traditional multi crop farming is helpful in maintaining biodiversity.

3. Question

Write notes.

- (a) Importance of the environment
- (b) Biotechnology
- (c) Reserved Biodiversity Zones.

Answer

(a) To maintain the biodiversity, the environment plays an important role. For the survival of carnivores in the forest, presence of herbivores is necessary and for the survival of herbivores, plants are necessary. To maintain the nature's chain producers, decomposers, herbivores and carnivores all have to survive.

(b) Biodiversity is an advanced technology by which genes of local varieties are preserved in the gene bank. These genes are preserved to cross with the new species to get their characteristics such as disease resistance, survival in adverse conditions and shorter life cycles.

(c) Reserved bio diversity zones are the areas where the wildlife is protected but the local people are permitted to carry on with their daily life and work. To protect plants and wild animals which are in danger of extinction, a treaty came into force in 1975. This regulates the import and export of all kinds of wildlife. At the earth summit held at Rio-de-Janeiro in Brazil in 1992, a treaty was adopted to protect and nature biodiversity.

Activities

1. Question

Collect pictures of different varieties of the same flower. (Rose, hibiscus, oleander)

Answer

Different varieties of same flower:

Rose:



Hibiscus (China rose):



Oleander:



2. Question

Collect pictures of butterflies, paste them in a scrapbook and observe the diversity.

Answer

Different butterfly:



3. Question

Go to the fish market and observe the diversity in fish.

Answer

In the fish market I observed the following fish.

Rohu, Catla (Indian Carp), Hilsa, Pulasa Fish, and Tengra

4. Question

Find out what precautions must be taken when using the new type of cotton seeds (BT cotton) available in the market, for planting cotton.

Answer

Precautions taken while using the new type of cotton seeds (BT cotton). It is a type of genetically modified cotton. It contain poisonous bacteria. Hands must be immediately wash after using seeds. Many bacteria living on plant materials may cause serious infections when cuts are left uncleaned and untreated.

5. Question

List the measures that can be undertaken for preserving the disappearing bio-diversity.

Answer

The following measures can be undertaken to preserve biodiversity:

- Creating more National Parks and Sanctuaries.
- Notify some areas as Reserved Bio-diversity Zones.
- Some specific species of plants and animals should be looked after properly.

- Traditional knowledge on plants and animals should be shared.