

CBSE Test Paper 05
Ch-15 Biodiversity and Conservation

1. Out of the following which one will not represent an alternative way to categories ecosystem diversity:
 - a. population diversity
 - b. community diversity
 - c. landscape diversity
 - d. habitat diversity
2. To qualify as a biodiversity hotspot, as per Myers hotspot map:
 - a. it must contain at least 0.5% or 1,500 species of vascular plants as endemics.
 - b. it has to have lost at least 70% of its primary vegetation.
 - a. both statements are correct.
 - b. Statement a) is correct but b) is wrong.
 - c. both statements are wrong.
 - d. Statement b) is correct but a) is wrong.

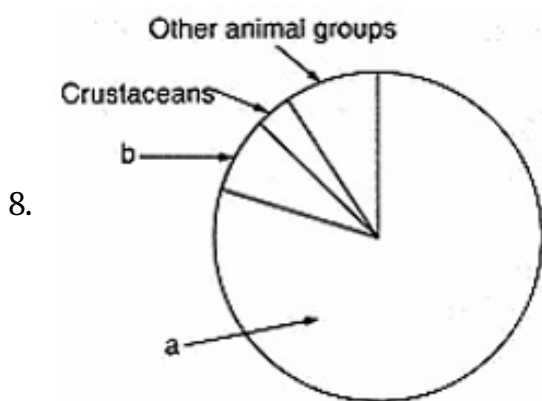
3. Match the following:

State	Biosphere reserve
a) Tamil Nadu	i) Nandadevi
b) Himachal Pradesh	ii) Agasthyamalai
c) Kerala & Tamil Nadu	iii) cold desert
d) Uttarakhand	iv) gulf of Mannar

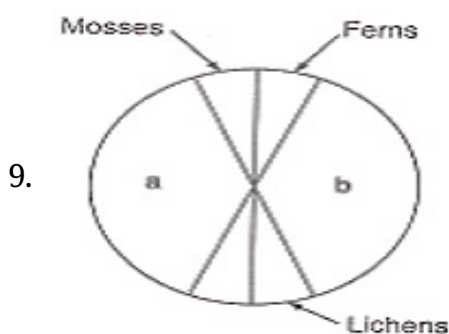
- a. a)-ii, b)-i, c)-iv, d)-iii
 - b. a)-iv, b)-i, c)-ii, d)-iii
 - c. a)-iv, b)-iii, c)-ii, d)-i
 - d. a)-ii, b)-iii, c)-ii, d)-iv
4. Alpha diversity will describe
 - a. diversity within biomes
 - b. diversity within a species population
 - c. intra community diversity
 - d. inter community diversity
5. Which of the following statement/s is/are incorrect about IFA1927?

- a. over a protected forest, the government doesn't have any property rights.
- b. defines the procedure to be followed for declaring an area to be a reserved forest.
- c. Hunting of wild animal is prohibited
- d. It defines what is a forest offence.

6. In which year Biodiversity Act of India was passed by the Parliament?
7. If we uncover half of the forest covering of the earth what crisis will be produced at most and at first?

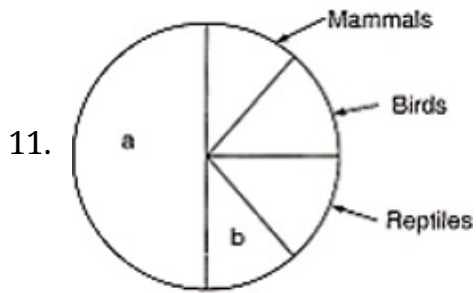


Name the unlabelled areas 'a' and 'b' of the pie chart (given above) representing the global biodiversity of invertebrates showing their proportionate number of species of major taxa.



Name the unlabelled areas 'a' and 'b' of the pie chart representing the biodiversity of plants showing their proportionate number of species of major taxa.

10. What are the major causes of species losses in a geographical region?



Name the unlabelled areas 'a' and 'b' of the pie chart representing biodiversity of vertebrates showing the proportionate number of species of major taxa.

12. In your opinion, which is the most effective way to conserve the plant diversity of an area?
13. How is biodiversity important for ecosystem functioning?
14. Saptarshi entered into a quarrel with some farmers who were spraying DDT in their field. Many people gathered at the spot to see and enjoy the incident. The angry mob demanded that Saptarshi should not interfere in the farmers' job. Saptarshi tried to explain his point and finally succeeded. The farmers gave up spraying DDT.
- What did Saptarshi explain to the farmers?
 - What is Bio-magnification? Explain with an example.
 - What values did Saptarshi promote?
15. What are biosphere reserves? Mention the importance of setting up of biosphere reserves.

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Answer

1. a. population diversity, **Explanation:** Biodiversity includes not only the world's species with their unique evolutionary histories, but also genetic variability within and among populations of species and the distribution of species across local habitats, ecosystems, landscapes, and whole continents or oceans. Biodiversity can be classified on the basis of community, habitat and landscape but not on the basis of population of particular species in the biosphere.
2. a. both statements are correct, **Explanation:** A biodiversity hotspot is a biogeographic region that is both a significant reservoir of biodiversity and is threatened with destruction.
To qualify as a biodiversity hotspot, a region must meet two strict criteria: Contain at least 1,500 species of vascular plants (> 0.5 percent of the world's total) as endemics (species found nowhere else on Earth). Have lost at least 70 percent of its original habitat.
3. c. a)-iv, b)-iii, c)-ii, d)-i, **Explanation:**
 - In 1986, a group of 21 islets lying off the Tamil Nadu coast between Thoothukudi and Dhanushkodi was declared the Gulf of Mannar Marine National Park. The park and its 10 km buffer zone were declared a Biosphere Reserve in 1989.
 - Cold Desert Biosphere Reserve is a biosphere reserve located in the western Himalayas region, within Himachal Pradesh state in North India.
 - The Agasthyamalai Biosphere Reserve was Established in 2001 and includes 3,500.36 km² of which 1828 km² is in Kerala and 1672.36 km² is in Tamil Nadu.
 - The Nanda Devi National Park, established in 1982, is a national park situated around the peak of Nanda Devi in the state of Uttarakhand in northern India.
4. c. intra community diversity, **Explanation:** Alpha iversity refers to the diversity

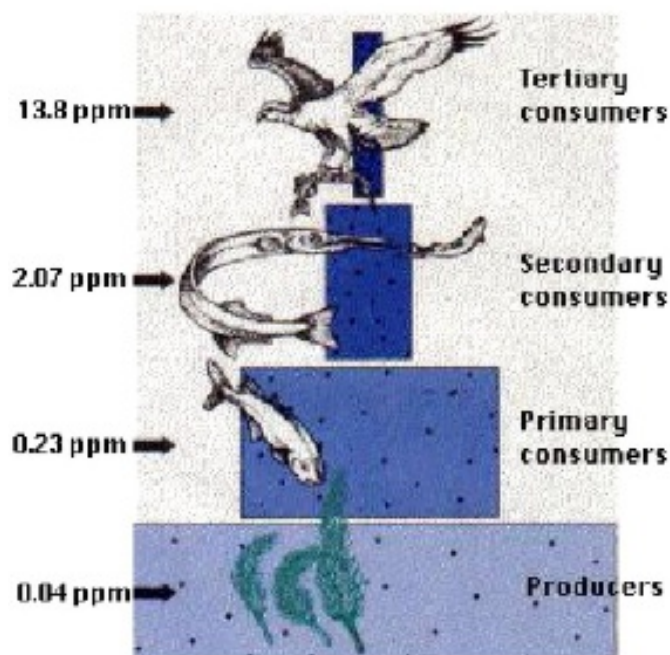
within a particular area of ecosystem and usually expressed by the number of species in that ecosystem.

5. a. over a protected forest, the government doesn't have any property rights. **Explanation:** Indian forest act 1927 defines the procedure to be followed for declaring an area to be reserved forest and also defines about the forest offences but this law do not say about government does not have any property rights.
6. The Biodiversity Act of India was passed in the year 2002
7. Some species will be extinct leading to ecological imbalance.
8. a. Insects
b. Molluscs
9. The unlabelled areas are:

a. Fungi
b. Angiosperms.
10. The major causes of species losses in a geographical region are
 1. Habitat loss and fragmentation
 2. Over exploitation of natural resources
 3. Alien species invasions or introduction of exotic species
 4. Co-extinctions of related species
11. The unlabelled areas are:

a. Fishes
b. Amphibians
12. The most effective way to conserve the plant diversity of an area is to create biosphere reserve. This helps to protect an entire area and also preserve the plant species. Natural resources are used in sustainable manner which prevents damage to ecosystem.
- 13.

- i. Biodiversity is essential for the stability of an ecosystem. Communities having more species tend to be more stable than those with less species. It is able to resist occasional disturbance.
 - ii. Productivity of an ecosystem is directly influenced by its species richness. Ecosystem with higher biodiversity are more productive than ecosystem with lower biodiversity. For example, tropical forests are more productive than temperate forests.
 - iii. More variety of food chain and complex food web is found in an area with rich biodiversity. This is essential for survival and continuation of species.
 - iv. Biodiversity is essential for maintenance and health of ecosystem.
14. Saptarshi explained how DDT spraying damages the health of farmers and others.
- a. He informed that:
 - i. DDT was a Non Biodegradable substance.
 - ii. DDT could enter into the food chain and in course of time everyone associated would be affected due to its accumulation in the blood. Animals may die and humans may fall ill due to spraying of DDT.
 - b.



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- Biomagnification refers to an increase in the concentration of the toxicant at successive trophic levels.
 - This happens because a toxic substance accumulated by an organism cannot be metabolised or excreted, and is thus passed on to the next higher trophic level
 - Follow the diagram for an example.

c.

- Health awareness
- Respect and concern for nature
- Sympathy for others
- Courage to fight for the right cause

15. A biosphere reserve is a specified area in which multiple use of land is permitted by dividing it into several zones and each zone is specified for a particular activity. UNESCO initiated the creation of biosphere reserve under the programme MAB (Man and Biosphere) in the year 1975

Importance

- i. They are a means of conserving genetic resources, species, ecosystems and landscapes without disturbing the local people.
- ii. It helps in restoration of degraded ecosystems and habitats.
- iii. It helps in research, monitoring and education related to conservation of biodiversity.
- iv. Allows sustainable development leading to human and economic growth.