

NATURAL VEGETATION AND WILD LIFE

1. Write a short note on the bio diversity in India.

Our country India is one of the twelve mega bio-diversity countries of the world. With about 47,000 plant species India occupies tenth place in the world and fourth in Asia in plant diversity.

There are about 15,000 flowering plants in India which account for 6 per cent in the world's total number of flowering plants.

The country has many non-flowering plants such as ferns, algae and fungi. India also has 89,000 species of animals as well as a rich variety of fish in its fresh and marine waters.

2. What meant by natural vegetation or virgin vegetation?

Natural vegetation refers to a plant community which has grown naturally without human aid and has been left undisturbed by humans for a long time.

This is termed as virgin **vegetation**. Thus, cultivated crops and fruits, orchards form part of vegetation but not natural vegetation.

3. Differentiate between flora and fauna.

The term **flora** is used to denote plants of a particular region or period. All the flowering and non-flowering plants from a tiny fungus to a creeper to a big tree is called flora.

The species of animals are referred to as **fauna**. All the animal species starting from a tiny bacteria to a big elephant is called fauna.

4. What are the factors that affect (distribution of plants and animals) biodiversity in India?

A. RELIEF

i) Land: Land affects the natural vegetation directly and indirectly. The nature of land influences the type of vegetation. The fertile level land is generally devoted to agriculture. The undulating and rough terrains are areas where grassland and woodlands develop and give shelter to a variety of wild life.

ii) Soil: The soils also vary over space. Different types of soils provide basis for different types of vegetation. The sandy soils of the desert support cactus and thorny bushes while wet, marshy, deltaic soils support mangroves and deltaic vegetation. The hill slopes with some depth of soil have conical trees.

B. CLIMATE

i) **Temperature**: The character and extent of vegetation are mainly determined by temperature along with humidity in the air, precipitation and soil. On the slopes of the Himalayas and the hills of the Peninsula above the height of 915 metres, the fall in the temperature affects the types of vegetation and its growth, and changes it from tropical to subtropical temperate and alpine vegetation.

ii) **Photoperiod (Sunlight)**: The variation in duration of sunlight at different places is due to differences in latitude, altitude, season and duration of the day. Due to longer duration of sunlight, trees grow faster in summer.

iii) Precipitation: In India almost the entire rainfall is brought in by the advancing southwest monsoon (June to September) and retreating northeast monsoons. Areas of heavy rainfall have more dense vegetation as compared to other areas of less rainfall.

5. How are forests useful to human being?

Forests are renewable resources and play a major role in enhancing the quality of environment. They modify local climate, control soil erosion, regulate stream flow, support a variety of industries, provide livelihood for many communities and offer panoramic or scenic view for recreation. It controls wind force and temperature and causes rainfall. It provides humus to the soil and shelter to the wild life.

6. What are the factors that brought changes to natural vegetation in India?

India's natural vegetation has undergone many changes due to several factors such as the growing demand for cultivated land, development of industries and mining, urbanisation and over-grazing of pastures.

7. Why is natural vegetation in large part of India no more natural?

The vegetation covers of India in large parts are no more natural in the real sense. Except some inaccessible regions like the Himalayas the hilly region of central India and the *Marusthali*, (desert) the vegetation of most of the areas has been modified at some places, or replaced or degraded by human occupancy.

8. What is meant by ecosystem?

All the plants and animals in an area are interdependent and interrelated to each other in their physical environment, thus, forming an ecosystem. Human beings are also an integral part of the ecosystem.

9. How do the human beings influence the ecology of a region?

They utilise the vegetation and wild life. The greed of human beings leads over utilisation of these resources. They cut the trees and kill the animals creating ecological imbalance. As a result some of the plants and animals have reached the verge of extinction.

10. Define biome and vegetation.

A very large ecosystem on land having distinct types of vegetation and animal life is called a **biome**. The biomes are identified on the basis of plants. The assemblage of plant species living in association with each other in given environmental framework is termed as **vegetation**.

11. Name the different types of vegetation in India.

The following major types of vegetation may be identified in India.

- (i) Tropical Rain Forests
- (ii) Tropical Deciduous Forests
- (iii) Tropical Thorn Forests and Scrubs
- (iv) Montane Forests
- (v) Mangrove Forests

12. What are the features of tropical rain forests?

These forests are restricted to heavy rainfall areas of the Western Ghats and the island groups of Lakshadweep, Andaman and Nicobar, upper parts of Assam and Tamil Nadu coast.

They are at their best in areas having more than 200 cm of rainfall with a short dry season. The trees reach great heights up to 60 meters or even above.

Since the region is warm and wet throughout the year, it has a luxuriant vegetation of all kinds – trees, shrubs, and creepers giving it a multilayered structure.

There is no definite time for trees to shed their leaves. As such, these forests appear green all the year round.

Some of the commercially important trees of this forest are ebony, mahogany, rosewood, rubber and cinchona.

The common animals found in these forests are elephants, monkey, lemur and deer.

13. What are the features of tropical deciduous forest?

These are the most wide spread forests in India.

They are also called the monsoon forests and spread over the region receiving rainfall between 200 cm and 70 cm. Trees of this forest-type shed their leaves for about six to eight weeks in dry summer.

On the basis of the availability of water, these forests are further divided into moist and dry deciduous.

The moist deciduous forests are found in areas receiving rainfall between 200 and 100 cm. These forests exist, therefore, mostly in the eastern part of the country – north eastern states, along the foothills of the Himalayas, Jharkhand, West Orissa and Chhattisgarh, and on the eastern slopes of the Western Ghats. Teak is the most dominant species of this forest. *Bamboos, Sal, Shisham, sandalwood, khair, kusum, arjun* and mulberry are other commercially important species.

The dry deciduous forests are found in areas having rainfall between 100 cm and 70 cm. These forests are found in the rainier parts of the peninsular plateau and the plains of Bihar and Uttar Pradesh. There are open stretches in which Teak, Sal, *Peepal, Neem* grow. A large part of this region has been cleared for cultivation and some parts are used for grazing.

In these forests, the common animals found are lion, tiger, pig, deer and elephant. A huge variety of birds, lizards, snakes, and tortoises are also found here.

14. What are the features of thorn forests and scrubs?

In regions with less than 70 cm of rainfall, the natural vegetation consists of thorny trees and bushes. This type of vegetation is found in the north-western part of the country including semi-arid areas of Gujarat, Rajasthan, Madhya Pradesh, Chhattisgarh, Uttar Pradesh and Haryana.

Acacias, palms, euphorbia and cacti are the main plant species. Trees are scattered and have long roots penetrating deep into the soil in order to get moisture.

The stems are succulent to conserve water. Leaves are mostly thick and small to minimize evaporation.

These forests give way to thorn forests and scrubs in arid areas.

The common animals are rats, mice, rabbits, fox, wolf, tiger, lion, wild ass, horses and camels.

15. Describe the succession of natural vegetation belt in mountainous region. (Describe the vegetation of high altitudes)

The **wet temperate types of forests** are found between a height of 1000 and 2000 meters. Evergreen broad-leaf trees such as oaks and chestnuts predominate.

Between 1500 and 3000 meters, **temperate forests** containing coniferous trees like pine, deodar, silver fir, spruce and cedar, are found.

At higher elevations, **temperate grasslands** are common. At high altitudes, generally more than 3,600 meters above sea-level, temperate forests and grasslands give way to the **Alpine vegetation**. Silver fir, junipers, pines and birches are the common trees of these forests.

Ultimately through shrubs and scrubs, they merge into the Alpine grasslands.

At higher altitudes, mosses and lichens form part of **tundra vegetation**.

16. Where are mangrove forests found?

Mangrove tidal forests are found in the areas of coasts influenced by tides. The deltas of the Ganga, the Mahanadi, the Krishna, the Godavari and the Kaveri are covered by such vegetation. In the Ganga- Brahmaputra delta, sundari trees are found, which provide durable hard timber. Palm, coconut, keora, agar, also grow in some parts of the delta. Contd..

17. Which are the animals found in mangrove forests?

Royal Bengal Tiger is the famous animal in these forests. Turtles, crocodiles, gharials and snakes are also found in these forests.

18. Write a short note on wild life in India.

- India has more than 89,000 of animal species. The country has more than 1200 species of birds. They constitute 13% of the world's total.
- There are 2500 species of fish, which account for nearly 12% of the world's stock. It also shares between 5 and 8 per cent of the world's amphibians, reptiles and mammals.
- The elephants are the most majestic animals among the mammals. They are found in the hot wet forests of Assam, Karnataka and Kerala.
- One-horned rhinoceroses are the other animals, which live in swampy and marshy lands of Assam and West Bengal. Arid areas of the Rann of Kachchh and the Thar Desert are the habitat for wild ass and camels respectively.
- Indian bison, *nilgai* (blue bull), *chousingha* (four horned antelope), gazel and different species of deer are some other animals found in India. It also has several species of monkeys.
- India is the only country in the world that has both tigers and lions. The natural habitat of the Indian lion is the Gir forest in Gujarat.
- Tigers are found in the forests of Madhya Pradesh the Sundarbans of West Bengal and the Himalayan region.
- Leopards too are members of the cat family. They are important among animals of prey.
- The Himalayas have a hardy range of animals, which survive in extreme cold. Ladhak's freezing high altitudes are a home to yak, the shaggy horned wild ox weighing around one tonne, the Tibetan antelope, the bharal (blue sheep), wild sheep, and the *kiang* (Tibetan wild ass). Further more, the ibex, bear, snow-leopard and very rare red panda are found in certain pockets.
- In the rivers, lakes and coastal areas turtles, crocodiles and gharials are found. The latter is the only representative of a variety of crocodile, found in the world today.
- Bird life in India is colourful. Peacocks, peasannts, ducks, parakeets, cranes and pigeons are some of the birds inhabiting the forests and wetlands of the country.

19. What are the measures taken to protect the flora and fauna by government of India?

- The Wild life Protection Act was passed in 1972.
- Fourteen biosphere reserves have been set up in the country to protect flora and fauna.
- Four out of these, the Sunderbans in the West Bengal, Nanda Devi in Uttaranchal, the Gulf of Mannar in Tamil Nadu and the Nilgiris (Kerala, Karnataka and Tami Nadu) have been included in the world network of Biosphere reserves.
- Financial and technical assistance is provided to many Botanical Gardens by the government since 1992.
- Project Tiger, Project Rhino, Project Great Indian Bustard and many other eco developmental projects have been introduced.

- 89 National Parks, 490 Wildlife sanctuaries and many Zoological gardens are set up to take care of Natural heritage.

20. Quite a few species of plants and animals are endangered in India. Why?

- The main causes for this major threat to nature are hunting by greedy hunters for commercial purposes.
- Pollution due to chemical and industrial waste, acid deposits, introduction of alien species.
- Reckless cutting of the forests to bring land under cultivation.
- Inhabitation is also responsible for the imbalance.

21. Name two animals having habitat in tropical and montane type of vegetation.

Deers, sheeps and goats are found in these regions.

22. What are endangered species? Give two examples.

Animals that are at the verge of extinction are called endangered species. Rhinoceros, Indian bustard and tigers are some examples of endangered species of animals.

23. Define Biosphere Reserves. Name any two biosphere reserves of the country.

Biospheres are multipurpose protected areas, where every plant and animal species are protected in its natural habitats. Eg. Nilgiri and Nanda Devi.

24. What is the need for conserving wildlife?

Continuous and excessive exploitation of the plant and animal resources of the country has damaged the ecosystem badly. Many plant and animal species have become extinct. Some plant and animal species are on the verge of extinction. Natural ecosystem must be maintained to ensure our own survival