

Q1. (i) What is an ecosystem?

Organism and environment are closely related with each other life develops only in the suitable and favourable environment. All the organisms and the physical environment of a given region together form the natural ecosystem. Plants and organism sustain themselves on the physical environment and provide it something. Thus there is a system between the interdependence and interrelationship among the plants and organism and their physical environment. Thus interdependence and interrelationship constitute the Natural Ecosystem. Man as a dominant constituent of this ecosystem.

Measures for maintaining Natural Ecosystem by Human-beings:

- (i) Planned utilization of natural resources of human beings.
- (ii) Ruthless cutting of forests should be stopped
- (iii) Wild-life is to be conserved
- (iv) Natural environment should be utilized in a judicious manner
- (v) Human – beings should curtail their consumption

(ii) What factors determine the distribution of plants and animals?

Distribution of plants and animals on the earth is determined primarily by climate the other factors are soil. Relief and drainage though most of them are also interrelated.

(iii) What are the major vegetation types of India?

The following are major types of vegetation

- (i) Tropical Rain Forest.
- (ii) Tropical Deciduous Forest.
- (iii) Temperate Forests with Grasslands.
- (iv) Alpine and Tundra vegetation

(iv) Name the natural habitat of the Indian lion.

The natural habitat of the Indian lion is the Gir forest in Gujarat.

(v) What is bio-reserve?

Wild life in India is very varied it is very important to us. Wild animals not only help us in providing food but also directly help us in our day to day economic and cultural lives. We have learned from them how to adjust or adapt ourselves to various natural conditions. In present times on wild life is depleting because of depletion in forest areas, hunting and poaching. Now we are feeling the need for their conservation. Biosphere reserves are those forest areas where wildlife is protected and kept in their natural environment without imposing any restriction on them. Two biosphere reserves are the Nilgiri and the Nokrek.

Q2. Distinguish between :**(i) Flora and Fauna**

FLORA	FAUNA
1. The automatically on naturally grown greenery of a region of an area is called flora.	1. Fauna includes all types of organism ranging from tiny bacteria to the giant elephant.
2. Flora consists of grass, plants, and creepers and trees. Forests, bushes, shrubs and grassland make the flora cover on the earth.	2. The fauna are of three types those moving on earth those living in water (reptiles) and those flying in the air.
3. 45000 species of flora are found in India out of these 5000 are found only in India.	3. India is proud of this 7500 species of animals. Besides these there are 2000 species of birds and 2500 species of fish in the country.
4. There are two types of flora – flowering plants and non-flowering plants.	4. The animals are sub grouped into two on the basis of their food habits herbivores and carnivores.

(ii) Evergreen and Deciduous Forests:-

TROPICAL RAIN FOREST	TROPICAL DECIDUOUS FOREST
<ol style="list-style-type: none"> 1. The regions having tropical climate throughout the year are the cover tropical rain forest with an average annual rainfall of more than 200 cm. 2. Tropical evergreen forest is divided into two groups. The moist evergreen and the dry evergreen forests. 3. These forests are evergreen .they do not shed their leaves in any season of the year. 4. These forests exceed 60 metres in height. 5. Tropical evergreen forests are dense forests and one species is not found in one place.' 6. Western slopes of Western Ghats, Plateaus of W.Bengal, Orissa and N.E India are the major regions of these forests. 7. They are of little importance as their wood is hard and unusable in economic activities. 8. Abnus, Mahogani, Ebony, Rosewood, Cincona are representative trees of their forests. 	<ol style="list-style-type: none"> 1. Tropical deciduous forest are spread over the areas where two distinct season, rainy and dry are found with an average annual rainfall of 75-200 cm. 2. These forest are of two types the moist deciduous and the dry deciduous forests. 3. They shed their leaves once a year to minimize evaporation during dry season. 4. They are less than 50 metres in height. 5. These forests are less dense. Trees of one species are found at one place. 6. These forests are spread almost all over India .Moist forest are found on the Chotanagar plateau and Shivaliks. Dry forest is found in the Central and western parts of Ventral India. 7. Their wood is doft and drable. Hence they are economicallly important forests. The wood is used as timber. 8. Sal, teak, and sandalwood represent these forests.

(iii). Moist and dry deciduous forests.

- a) Moist deciduous and the dry deciduous forests are two major categories off tropical deciduous forests. Plateau, the North-east Deccan Plateau and North-south strip, to the east of the Western Ghats.
- i) Moist deciduous forest are found on Shiwalik foot-hills, Bhabar, Tari, Chhota Nagpur Plateau, the North-eastern Deccan Plateau and North-south strip, to the east of the Western Ghats.
- ii) Teak is found in the moist forests.
- b) The dry deciduous forests are grown in the Central India where rainfall is comparatively less.
- i) Sal is found in dry deciduous forests.

Q2. What is meant by vegetation? How much natural is the natural vegetation of India today?

The assemblage of plant species living in association with each other in a given environmental framework is termed vegetation.

With about 47,000 plant species, India is tenth in the world and fourth in Asia in plant diversity. There are about 15,000 flowering plants in India, which constitute 6% of the world's total. Our country is also rich in non-flowering plants such as ferns, algae and fungi. The vegetal cover of India. In large parts, is no more natural in a real sense.

Except some inaccessible regions like the Himalayas and the interior of the Thar Desert, the vegetation has been destroyed in some places or replaced or degraded by human occupancy. As such when we are using the term natural vegetation, we only mean a plant community that has been left undisturbed over a long period so that individual species could adjust themselves to climate and soil conditions as far as possible.

Q4. What is biome? State the number of biomes into which the land ecosystem is divided and also the basis for the grouping.

A very large ecosystem on land having distinct types of vegetation and animal life is called a biome. The assemblage of plant species living in association with each other in a given environmental framework is termed vegetation. Though animals are included in the biomes, mainly plant formations are used as the basis of their grouping. Accordingly, five principle biomes of the world, listed in order of availability of soil, water and heat are : forests, savanna, grassland, desert and tundra. Within a biome, much variation may be found in the assemblage of plant and animal species. As such, biomes are useful for studying the world patterns of vegetal cover. But on a small scale patterns of natural vegetation are most suitable to understand the distributional patterns of the patterns cover.

Q5. Describe the major vegetation zones of the Himalayan region.

In Himalayan region, the decrease in temperature with increasing altitude leads to the corresponding change in natural vegetation. As such, there is a succession of natural vegetation belts in the same order as we see from the tropical to the tundra region. We have already read that the tropical deciduous forests between a height of 1000 and 2000 metres, evergreen broad-leaf trees such as oaks and chestnuts predominate. Between 1500 and 3000 metres. Temperate forest containing coniferous trees like pine, deodar, silver fir, spruce and cedar, are found. At higher elevations, temperate grasslands are common.

Q6. Give a brief account of the wild life in India.

India has more than 89,000 species of animals, 1200 species of birds and 2500 species of fish. Besides, there are large varieties of amphibians, reptiles, mammals, insects and worms. The elephant, a typical animal of the hot wet equatorial forest is found in the jungles of Assam, Kerala and Karnataka. The one-horned rhinoceroses live in the swampy and marshy land of Assam and West Bengal. Camels and wild asses are found in the hot and deserts of the Thar and the Rann of Kachch. Indian bison, buffalo and nilgai are found in a variety of habitats. Deer of different types inhabit different parts of the country. The Gir lions and the Bengal tigers are well known animals of the prey. The Himalayan ranges are the home of several interesting animals. Important among them are wild sheep, mountain goat, lesser panda and snow leopard.

India is the home of several species of monkey of whom the langur is the most common one. Bird life is equally rich and colourful.

Q7. Write short notes on the following:-

- (1) **Indian flora:-** The automatically or naturally grown greenery of a region or area is called flora. It consists of grass, plants, creepers and trees. Forests, shrubs, grassland make the flora cover on the earth in India about 45,000 species of flora are found in India out of these 5000 are found only in India. There are two types of flora-flowering plants and non-flowering plants. All types of natural vegetation from tropical rain forests to Alpine vegetation are found spread in India. Due to excessive use of natural vegetation its cover is depleting fast. We have to conserve them if the existence of life is to be maintained all over the globe.
- (2) **Tropical rain forest:-** These forests are found in areas where annual rainfall is more than 200 cm. and the mean temperature is more than 24°C. These forests are found in western Ghats, plains of West Bengal, Orissa, Eastern Himalayas, and Andaman

Islands. These forests grow rapidly due to high temperatures and high rainfall. Sometimes these trees reach a height of 60 metres these are hard wood trees like equatorial forests. These are evergreen trees because they do not shed their leaves.

Economic Importance:- These forests include the trees like Rubber, Mahogany, Iron wood, Rose wood, Gurjan and Bamboos. These trees are used for furniture, railway sleepers, house building and ship building. These forests cannot be exploited commercially because the number of species is too large and too mixed.

- (3) **Conserving bio-diversity:-** Depletion of forests has endangered plant and wildlife. Several species have already become extinct. In order to preserve natural habitat and protect them from becoming extinct, the country has developed a network of 86 national parks, 480 sanctuaries and 13 biosphere reserve.

Under project Tiger, 16 tiger reserves have been set up in 14 states and under project Elephant, financial, technical and scientific assistances are provided for population of elephants in natural habitats there are also programmes for conservation of wet land, mangroves and coral reefs under the preservation of special ecosystem. There are 20 wetlands in the country. Most of them are directly or indirectly linked with major river system like the Ganga, Brahmaputra, Narmada, Tapti, Godavari, Krishna and Kaveri, there are 15 mangrove areas already identified for intensive conservation and management purpose. Coral reefs are characterized by high biomass production and rich floral and faunal diversity. Four coral reefs have been identified for conservation and management.

All these projects and programmes will go a way in conserving and protecting wildlife and biodiversity in the country.

Q8. Give a brief account of the vegetative cover of J&K State.

- 1. Dry savanna and Srubs:** it is confined to jammu plains and kandi areas. Important locations are:

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| (1) Kikar | (2) Phulai | (3) Ber | (4) Shishum |
| (5). Banyan | (6) Mango | (7) Palm | (8) Bamboo |

2. Sub-tropical Forest:- These forests are confined to siwalik foot hills Chir (pinus Longfolia) is the main tree species in these forests, it is a valuable source of timber , the important locations are Reasi, Udhampur, Poonch, Rajouri, Billawar, Ramban and jammu.

3. Temperate forests:- These forests are dominated by coniferous trees which include Deidarm Kairoo (pine), silver fir or Budul, Kachil and Burza. The Kashmir valley and the Doda district is home of these forests.

4. Alpine vegetation:- The alpine vegetation comprises the Pastures (Margs) where Brich and Junipers are common. Above the trees lie the vast grassy expanses. The famous Margs are Gulmarg, Yousmarg, Tangmarg, Sonamarg etc.

5. Xerophytes vegetation:- Xerophytes vegetation is very Common in he Ladakh region of our state because the area receives scanty rainfall which does not support vegetative cover .

6. Alpine and Tundra vegetation:- At high altitudes, generally more than 3,600 metres above level , temperature forests and grasslands give way to the Alpine vegetation. At higher altitudes, mosses and lichens form part of tundra vegetation.

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