



<b>Class 9</b>	<b>Geography</b>	<b>Ch 5: Natural Vegetation and Wildlife</b>
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**1. How many plant and animal species are approximately found in India?**

**Answer:** India there are 47,000 plant species and 89,000 species of animals found in India.

**2. What does 'Natural Vegetation' mean?**

**Answer:** 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.

**3. What is 'Virgin Vegetation'?**

**Answer:** The natural vegetation which has been left undisturbed by the humans for a long time is called Virgin Vegetation.

**4. What do 'Flora' and 'Fauna' refer to?**

**Answer:** Flora: is the term used to denote plants of a particular region or period.

Fauna: The species of animals found in a particular region is reflected as fauna.

**5. What kind of land is suitable for natural vegetation?**

**Answer:** The undulating and rough terrains are areas where grasslands and woodlands develop and give shelter to a variety of wild life.

**6. What kinds of soils are needed for natural vegetation?**

**Answer:** The sandy soils of deserts support cactus and thorny bushes while wet, marshy deltaic regions support mangroves and deltaic vegetation and hill slopes with some depth soil have conical trees.

**7. Why are the western slopes of the western Ghats concerned with thick forests and not the eastern slopes?**

**Answer:** On the western rainy slopes of the western Ghats, forests really appear as wet evergreen forests and thick as compared to eastern Ghats because eastern Ghats remain in rain shadow.

**8. Which factors are responsible for changes in India's natural vegetation?**

**Answer:** Factors responsible for changes in India's natural vegetation are: growing demand for cultivated land, development of industries and mining, urbanization and for grazing of pasture.

**9. How is an ecosystem formed?**

**Answer:** All the plants and animals in an area are interdependent and interrelated to each other in their physical environment thus form an ecosystem.

**10. What are biomes?**

**Answer:** 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.

**11. What are the major types of vegetation found in India?**

**Answer:** (i) Tropical Rain forests (ii) Tropical Deciduous forests (iii) Tropical Thorn Forests and Shrubs (iv) Montane Forests (v) Mangrove Forests.

**12. Which animals are found in Tropical Rain Forests?**

**Answer:** Common animals found in these forests are elephants, monkeys, and deer and One-horned rhinoceros.

**13. Name the commercially important trees of Tropical Rain Forests.**

**Answer:** Ebony, mahogany, rosewood, rubber and cinchona are some of the commercially important trees of tropical rain forests.

**14. Give one important characteristic of Tropical deciduous forests.**

**Answer:** Trees of these forest type shed their leaves for about six to eight weeks in dry summers.

**15. In which regions are moist deciduous forests found?**

**Answer:** They are found in north eastern states, along the foothills of the Himalayas, Jharkhand, West Orissa, Chhattisgarh and on the eastern slopes of Western Ghats.

**16. What are the important species of moist deciduous forests?**

**Answer:** Teak, bamboos, sal, shisham, sandal wood, khair, kusum, arjun and mulberry are some of the important species of moist deciduous forests.

**17. In which regions are dry deciduous forests found?**

**Answer:** They are found in the rainy parts of the peninsular plateau and plains of Bihar and Uttar Pradesh.

**18. Name the important dry deciduous species.**

**Answer:** Teak, sal, peepal, neem, are some important dry deciduous species.

**19. Name the important coniferous trees of temperate forests.**

**Answer:** In temperate forests coniferous trees like pine, deodar, silver tree, spruce and cedar are found.

**20. Name the common animals found in Montane forests.**

**Answer:** Kashmir stag, spotted deer, wild sheep, Jack rabbit, Tibetan antelope, yak, snow leopard, squirrels, bear, rare red panda, sheep and goats with thick hair.

**21. In which regions are Mangrove forests found?**

**Answer:** They are found in the deltas of the Ganga, the Mahanadi, the Krishna, the Godavari and the Kaveri.

**22. What is the chief characteristic of Mangrove trees?**

**Answer:** The chief characteristic is that Mangrove trees can survive both in salt water as well as fresh river water.

**23. In which regions is majestic elephant found?**

**Answer:** They are found in the hot wet forests of Assam, Karnataka, and Kerala.

**24. In which regions are horned rhinoceros are found?**

**Answer:** One-horned Rhinoceros live in swampy and marshy lands of Assam and West Bengal.

**25. What are the natural habitats of lion and tiger in India?**

**Answer:** Gir Forests are the habitat of Indian lion and tigers live in Madhya Pradesh, Sunderbans of West Bengal and the Himalayan Regions.

**26. Name some important birds found in India.**

**Answer:** Some of the important birds of India are peacocks, pheasants, ducks, parakeets, cranes and pigeons.

**27. Name some of the important biosphere reserves of India.**

**Answer:** Sundrabans in the West: Bengal, Nanda Devi in Uttranchal the Gulf of Mannar, in Tamil Nadu and Nilgiris at the injunction of Kerala, Karnataka and Tamil Nadu.

**28. How many National Parks and Wild Life Sanctuaries are there in India?**

**Answer:** There are 89 National Parks and 49 wild life sanctuaries in India.

**29. Which wild life projects are set up to save endangered species?**

**Answer:** Project Tiger, Project Rhino and Project Great Indian Bustard are set up to save these endangered species.

**30. Which plants out of algae, fungi, ferns and orchids are flowering plants?**

**Answer:** Only orchids are flowering plants, while the remaining are non-flowering.

**31. Which Union Territory has the maximum percentage of its area under forest cover?**

**Answer:** Andaman and Nicobar Islands is the Union Territory which has the maximum percentage of its area under forest cover, which is 86%.

**32. What kind of vegetation is usually found in fertile level land?**

**Answer:** The vegetation usually found in fertile level land consists of cultivated crops.

**33. How do forests affect the soil?**

**Answer:** They give humus to it, control soil erosion and regulate the flow of water.

**34. Which state of India has the maximum percentage of its area covered by forests?**

**Answer:** Nagaland is the state which has the maximum percentage of its area (more than 80%) covered by forests.

**35. What are the climatic conditions of Tropical Evergreen forests?**

**Answer:** The climatic conditions are high temperature and heavy rainfall (above 200 cm per year).

**36. What kinds of forests are found in the areas with less than 70 cm annual rainfall?**

**Answer:** Thorn and scrub type of forests are found in areas with less than 70 cm annual rainfall.

**37. What kinds of forests are found in the areas with annual rainfall between 100 and 200cm?**

**Answer:** Tropical Moist Deciduous type of forests are found in areas with annual rainfall between 100 and 200 cm.

**38. To which type of vegetation does rubber belong to?**

**Answer:** Rubber belongs to tropical evergreen vegetation.

**39. Sal trees are found in forests with what amount of annual rainfall?**

**Answer:** Sal trees are found in Deciduous forests of both types, moist and dry. Thus, they will be found in forests with annual rainfall between 70 and 200 cm.

**40. Which are the most widespread forests in India?**

**Answer:** They are Tropical Deciduous forests, which cover 64% of India's forest area (Dry 30% and Moist 34%), as per a survey carried out in 2009.

**41. Why are migratory birds from the Northern part of Asia mostly found in winter in the wetlands of India?**

**Answer:** Migratory birds from the Northern part of Asia are mostly found in winter in the wetlands of India because the wetlands provide adequate food and water for the birds, besides having an equable climate.

**42. Which medicinal plant has both anti-bacterial and anti-biotic properties?**

**Answer:** The neem plant has both anti-bacterial and anti-biotic properties.

**43. What are the common animals found in thorn and scrub forests?**

**Answer:** In thorn and scrub forests, the common animals found are rats, mice, rabbits, foxes, wolves, tigers, lions, wild ass, horses and camels.

**44. How will you define a sanctuary?**

**Answer:** A sanctuary is an area designated for the protection of wild animals.

**45. If a species introduced to another environment, it is called as?**

**Answer:** Exotic species are natural vegetation which has originally from foreign countries, as the word 'exotic' refers to species which are not indigenous.

**46. What is the main medicinal use of the Sarpagandha plant?**

**Answer:** The main medicinal use of the Sarpagandha plant is to treat high blood pressure.

**47. In which of the states of Odisha, Uttar Pradesh, Assam and Rajasthan are tropical evergreen forests found?**

**Answer:** Tropical evergreen forests are found in the state of Assam.

**48. Are mangrove forests found in the regions where the Narmada and Tapi rivers flow into the Arabian Sea?**

**Answer:** No, they are not, as mangrove forests are found in the delta regions of the East coast, not on the estuaries of the Narmada and Tapi.

**49. In which of the states of Odisha, Chhattisgarh, Jharkhand and Rajasthan are tropical deciduous forests found?**

**Answer:** Tropical deciduous forests are found in the states of Odisha, Chhattisgarh and Jharkhand. Rajasthan has only tropical thorn and scrub forests.

**50. Which trees out of coconut, cactus, acacia and cinchona are found in mangrove forests?**

**Answer:** Only the coconut tree is found in mangrove forests. Cactus and acacia are found in thorn forests, while cinchona trees are found in tropical evergreen forests.

**51. Which wetland of India is very popular with flamingoes which are nesting?**

**Answer:** The Rann of Kachchh is the wetland most popular with flamingoes which are nesting.

**52. What kinds of commercially important trees are found in tropical evergreen forests?**

**Answer:** Some of the commercially important trees found in tropical evergreen forests are ebony, mahogany, rosewood, rubber and cinchona.

Short Answer Type Questions

**1. What is a bio-reserve? Give two examples.**

**Answer:** Bio-reserves are sites established by countries and recognised under UNESCO's Man and the Biosphere (MAB) Programme to promote sustainable development based on local community efforts and sound scientific principles. Examples of bio-reserves are the Nilgiris and Nanda Devi.

**2. Define an ecosystem.**

**Answer:** An ecosystem is a life-supporting system comprising the physical environment i.e., non-living components like climate, soil, rivers, etc along with all organisms living therein.

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

**Answer:** Animals having habitat in tropical type of vegetation are elephants, monkeys, rats, etc. Animals having habitat in montane type of vegetation are spotted deer, Kashmir stag, antelope, etc.

**4. Which major animals are preserved in the Kaziranga, Sunderban, Gir and Simlipal Sanctuary/Reserve?**



**Answer:** Kaziranga National Park is the preserve of the rhinoceros, Sunderban is the home of the Royal Bengal Tiger, Gir is famous as the last home of the Asiatic Lion in India and Simlipal is well-known as a sanctuary for elephants.

**5. Define the following terms: (i) Virgin Vegetation (ii) Flora (iii) Fauna**

**Answer:**(i) 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 called Virgin Vegetation.

(ii) Floras/This term is used for natural vegetation of a particular region or period.

(iii) Fauna: Various species of animals of wildlife is termed as fauna.

**6. Which animals are found in the Montane Forests?**

**Answer:** The common animals found in these forests -are, the Kashmir stag, spotted deer, wild sheep, jack rabbit, Tibetan antelope, yak, snow leopard, squirrels, shaggy horn wild ibex, bear and rare red panda, sheep and goats with thick hair,

**7. State the main causes which are a threat to the ecosystem.**

**Answer:**

(i) Hunting and poaching by greedy hunters for commercial purpose and their profits.

(ii) Pollution due to chemical and industrial waste and acid deposits.

(iii) Introduction of alien species and reckless cutting of forests to bring land under cultivation.

(iv) People have inhabited the areas by clearing the forests. They are also responsible for the imbalance.

**8. How is India one of the twelve mega biodiversity countries of the world?**

**Answer:** (i) With about 47,000 plant species, India occupies the tenth place in the world and fourth place in Asia in plant diversity.

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

(iii) India also has 89,000 species of animals and a rich variety of fish in its fresh and marine waters.

### **9. How does soil factor affect the type of vegetation of a region?**

**Answer:**(i) Soils also vary over space. Different types of soil provide basis for different types of vegetation.

(ii) The sandy soils of the desert support cactus and thorny bushes while wet, marshy, deltaic soils support mangroves and deltaic vegetation.

(iii) The hill slopes with some depth of soil have conical trees.

### **10. What type of flora and fauna do we have in Tropical Rain forests?**

**Answer:** (i) Some of the commercially important trees of this forest are ebony, mahogany, rosewood, rubber and cinchona.

(ii) The common animals found in these forests are elephants, monkey, lemur and deer. (iii) The one-horned rhinoceroses are found in the jungles of Assam and West Bengal.

(iv) Besides these animals, plenty of birds, bats, sloth, scorpions and snails are also found in these jungles.

### **11. Where are elephants and one-horned rhinoceros mainly found and why?**

**Answer:** (i) The elephants are the most majestic animals among the mammals. They are found in the hot wet forests of Assam, Karnataka and Kerala. They prefer forested hilly areas, providing plenty of food and water for them throughout the year.

(ii) One-horned rhinoceroses live in swampy and marshy lands of Assam and West Bengal.

### **12. Name any two endangered species of Indian wildlife and write one point each on Project Tiger and Project Rhino.**

**Answer:** (i) Two endangered species are tiger and rhino.

(ii) Project Tiger has been a great success and is observed in Jim Corbett Park and West Bengal. With the help of this project, Indian wildlife department is able to save the number of tigers in India.

(iii) Project Rhino reserves are at Kaziranga and Manas National Park respectively. This one-horned rhino prefers to live in marshy lands of Assam and North-west Bengal.

**13. Which are the most widespread forests of India? Mention any two characteristic features of these forests.**

**Answer:** The Tropical Deciduous forests are the most widespread forests in India- found in areas receiving 70 to 200 cms of rainfall.

(i) Trees of this type of forests shed their leaves for about six to eight weeks during the dry season.

(ii) The forests are further subdivided into moist and dry deciduous depending on the availability of water.

**14. How do human beings influence the ecology of a region? Explain.**

**Answer:** Due to the excessive exploitation of the plant and animal resources by human beings, the ecosystem has been disturbed. The greed of human beings leads to over-utilisation of natural resources. They cut the trees and kill animals, creating ecological imbalance. As a result, some of the plants and animals have reached the verge of extinction.

**15. 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 a virgin vegetation. Thus, cultivated crops and fruits, orchards form part of vegetation but not natural vegetation. Read the above passage and answer the following questions (a) What do you mean by virgin vegetation? (b) How agricultural crops are different from virgin vegetation? (c) What values you have learnt from the given passage?**

**Answer:** (a) Virgin vegetation is a vegetation that grows naturally without any human effort. It is left undisturbed by human beings for a long time.

(b) Agricultural crops are grown by human beings, so they are entirely different from virgin vegetation.

(c) From this passage, I have learnt that the natural vegetation is our living heritage. We should preserve it.

**16. Distinguish between flora and fauna.**

**Answer:** Differences between flora and fauna are (i) The term flora is used to denote plants of a particular region or period. The species of animals are referred to as fauna.

(ii) Flora remains at one place but fauna moves from one place to another.

(iii) About 47,000 plant species and 89,000 species of animals are found in India.

**17. Explain any three characteristics of Tropical evergreen forest.**

**Answer:** Three characteristics of tropical evergreen forests are

(i) The trees reach great height upto 60 metres or even above. Trees are tall, thick and have vigorous growth.

(ii) As 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.

(iii) There is no definite time for trees to shed their leaves, as such forests appear green all the year round.

**18. What are bio-reserves? Why are they created? Or What is biosphere reserve? Mention any two uses of biosphere reserve.**

**Answer:** In the bio-reserves, plant and animal species are protected so that this natural heritage can be transmitted to future generations.

(i) In each biosphere reserve the core will preserve wildlife, the flora and the fauna in their natural forms.

(ii) The surrounding zone would be utilised for research and experimentation in developing forests and other products.

**19. In which part of India, Mangrove forests are found? Mention two characteristics of these forests. Or Explain any three features of Mangrove forests.**

**Answer:** Mangrove forests are found in Ganga-Brahmaputra delta, Krishna, Kaveri, Godavari and Mahanadi delta. Characteristics of these forests are as follows

(i) Roots of these plants remain submerged under water.

(ii) Sundari is the most important tree in these forests.

(iii) Royal Bengal Tiger is famous animal in these forests.

**20. A great variety of flora is found in India. Give three geographical factors responsible for this diversification of flora.**

**Answer:** About 47,000 plant species and 89,000 species of animals are found in India. Following are the factors responsible for a great variety of flora found in India

- (i) Varied relief features
- (ii) Varied landforms
- (iii) Terrains and soils
- (iv) Range of daily and annual temperature.

**21. In which region are the thorny forests and scrubs found in India? Mention any two characteristics of such type of vegetation. Or Explain any three features of the thorn forests and scrubs.**

**Answer:** Thorny forests and scrubs are found in the North-Western part of the country including semi-arid areas of Gujarat, Rajasthan, Madhya Pradesh, Chhattisgarh, Uttar Pradesh and Haryana. Characteristics of the thorn forests and scrubs are as follows

- (i) Trees are scattered and have long roots penetrating deep into the soil in order to get moisture.
- (ii) The stems are succulent to conserve water.
- (iii) Leaves are mostly thick and small to minimize evaporation.

Long answer Type Questions

**1. Why-are forests important for human beings?**

**Answer:**(i) Forests are renewable resources and play a major role in enhancing the quality of the environment.

(ii) They modify the local climate and control soil erosion.

(iii) They regulate the flow of streams and support a variety of industries like the rubber industry.

(iv) Forests also provide a livelihood for many communities.

(v) They also offer panoramic or scenic view for recreation.

(vi) They control the wind force and temperature and cause rainfall.

(vii) They provide humus to the soil and shelter to wildlife.

**2. What is an ecosystem? How do human beings influence the ecology of a region?**

**Answer:** All plants and animals in an area are interdependent and interrelated to each other and their dependence on the environment is called an

ecosystem. Human beings influence the ecology of a region in the following ways:

- (i) They utilise the vegetation and wildlife.
- (ii) The greed of human beings leads to over utilisation of these resources.
- (iii) They cut trees and kill animals, thereby creating an ecological imbalance.
- (iv) As a result, some of the plants and animals have reached on the verge of extinction.

### **3. Give a brief description of the Tropical Rainforests.**

- Answer:**
- (i) They are found in areas having more than 200 cm of rainfall.
  - (ii) Since the region is warm and wet throughout the year, it has luxuriant vegetation of all kinds of trees, shrubs and creepers.
  - (iii) There is no definite time for trees to shed their leaves and forests remain green all the year round.
  - (iv) Some of the commercially important trees found here are - ebony, mahogany, rosewood, rubber and cinchona.
  - (v) Common animals found in these forests are elephants, monkeys, lemur and deer.

### **4. What are the main characteristics of the Thorn Forests and Scrubs?**

- Answer:**
- (i) In regions which receive less than 70 cm of rainfall, the natural vegetation consists of thorny trees.
  - (ii) This type of vegetation is found in the north-western part of the country including semi-arid areas of Gujarat, Rajasthan, Madhya Pradesh, Chhattisgarh, UP and Haryana
  - (iii) Acacia, palms, euphorbia and cacti are the main plant species.
  - (iv) Trees are scattered and have long roots penetrating deep into the soil in order to get moisture,
  - (v) Leaves are mostly thick and small to minimise evaporation.
  - (vi) These forests give way to thorn forests and scrubs in arid areas.
  - (vii) In these forests, the common animals are rats, mice, rabbits, fox, the wolf, tiger, lion, wild ass, horses and camels.

### **5. Give a brief description of the Mangrove Forests.**

- Answer:**
- (i) The mangrove tidal forests are found in the areas of coasts influenced by tides.
  - (ii) Dense mangroves are the common varieties with roots of plants submerged

under water.

(iii) The deltas of the Ganga the Mahanadi, the Kaveri and the Krishna are covered with such vegetation..

(iv) In the Ganga- Brahmaputra delta, Sundari trees are found which provide durable hard timber.

(v) Palm, coconut, keora, agar also grow in some parts of the delta.

(vi) The Royal Bengal Tiger is the most famous animal in these forests. Turtles, crocodiles, gharials and snakes are also found here.

## **6. Give description of any five medicinal plants.**

**Answer:**(i) Jamun: The juice from ripe fruit is used to prepare vinegar and it also has digestive properties. The powder of the seed is used for controlling diabetes.

(ii) Arjun: The fresh juice of leaves is a cure for ear-ache. It is also used to regulate blood pressure.

(iii) Babool: Its leaves are used as a cure for eyesores. Its gum is used as a tonic.

(iv) Neem: It tins high antibiotic and anti-bacterial properties.

(v) Tuisi Plant: It is used to cure cough and cold.

## **7. Why does India have a rich heritage of flora and fauna?**

**Answer:**(i) India has a large latitudinal and longitudinal extent. The larger the area, the more is the variety.

(ii) It has a great variety in its relief features. It has mountains, plateaus, valleys, plains, deserts, coastal areas, etc. They all have different types of flora and fauna.

(iii) There is variation in annual range of temperature as well as annual rainfall.

(iv) Climate ranges from equable to hot and wet, hot and dry, cold and dry, etc. Each climatic region has its own vegetation.

(v) There are also various types of soils found in India. It has variety of soils like alluvial, black, laterite, arid, red and yellow, and mountain soils, etc. As a result, we find different types of flora as well as fauna.

## **8. What steps have been taken by the government to protect the flora and fauna of the country?**

**Answer:** Steps taken by the government to protect the flora and fauna are as follows:

(i) About fourteen biosphere reserves have been set up in the country to

protect both flora and fauna. Four out of these: Sunderbans (West Bengal), Nanda Devi (Uttarakhand), Gulf of Mannar (Tamil Nadu) and Nilgiris (Kerala, Karnataka and Tamil Nadu) have been included in the world network of Biosphere Reserves.

(ii) 'Since 1992, financial and technical assistance is being provided to many botanical gardens by the government.

(iii) Project Tiger, Project Rhino, Project Great Indian Bustard and many other eco-developmental projects have been introduced.

(iv) About 89 national parks, 49 wildlife sanctuaries and zoological gardens have been set up to take care of the natural heritage.

### **9. Why does India have a rich heritage of flora and fauna?**

**Answer:** (i) India has a large latitudinal and longitudinal extent. Larger the area, more is the variety.

(ii) It has a great variety in its relief features. It has mountains, plateaus, valleys, plains, deserts, coastal areas, etc. They all have different types of flora and fauna.

(iii) There is a variation in annual range of temperature as well as annual rainfall.

(iv) Climate ranges from equitable to hot and not so hot and dry, cold and dry etc. Each climatic region has its own vegetation.

(v) There are also various types of soils found in India. It has a variety of soils like alluvial, black, laterite, arid, red and yellow, mountain soils, etc. With the result, we find different types of flora as well as fauna.

### **10. What is the importance of various species in the ecosystem?**

**Answer:**(i) We have selected various crops from the reserve of edible plants from a bio diverse environment.

(ii) We have also experimented and selected many medicinal plants.

(iii) There are animals who are milch animals. They provide us milk along with other milk products prepared by us.

(iv) They also provide us help during drought-prone season in cultivating and ploughing the fields. (v) The fish is nutritive and provides rich proteins.

(vi) Many insects help in pollination of crops and fruit trees. So, every species has a role to play in the ecosystem.

### **11. Which relief factors affect the flora and fauna of India?**



**Answer:** Relief factors that affect the flora and fauna of India are the following:

**1. Land**

- (i)The nature of land influences the type of vegetation.
- (ii)The fertile land is generally used for agriculture.
- (iii)The undulating and rough terrains are areas where grassland and woodlands develop and give shelter to a variety of wildlife.

**2. Soil**

- (i)Different types of soils provide a basis for different types of vegetation.
- (ii)The sandy soils of the desert support cactus and thorny bushes; while wet, marshy deltaic soils support mangroves and deltaic vegetation.
- (iii)The hill slopes with some depth of soil have conical trees.

**12. Describe how climatic factors influence the vegetation cover of India.**

**Answer:**

**1. Temperature**

- (i)The temperature along with humidity in the air and precipitation affects the vegetation.
- (ii)The fall in temperature affects the types of vegetation and its growth.

**2. Photoperiod (Sunlight)**

- (i)The variation in duration of sunlight at different places is due to differences in Latitude, altitude, season and duration of the day.
- (ii) Due to longer duration of sunlight trees grow faster in summer.

**3. Precipitation**

- (i) In India, the entire rainfall is brought in by the advancing southwest monsoon and retreating northeast monsoon.
- (ii) Areas of heavy rainfall have more dense vegetation as compared to other areas of less rainfall.

**13. Distinguish between Moist Deciduous arid Dry Deciduous Forests.**

<b>Moist Deciduous Forests</b>	<b>Dry Deciduous Forests</b>
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They are found in areas where rainfall is between 100 to 200 cm.	They are found in areas of lower rainfall i.e., 70 to 100 cm.
They cover the eastern slopes of the Western Ghats, Shiwalik, Chotanagpur plateau, etc.	They cover rainier parts of the Deccan plateau and the western Ganga plains.
They provide better and more valuable timber.	They are less important for commercial exploitation.
Examples: Teak and sal trees and bamboo, shisham and sandalwood	Examples: Sal is the most important ' tree in arid others are peepal arid neem.

**Answer:**

#### **14. Give the altitudinal distribution of Montane Forests.**

**Answer:** In mountainous areas, the decrease in temperature with increasing altitude leads to the corresponding change in natural vegetation,

(i) The foothills of the Himalayas, Shiwaliks have tropical moist deciduous flora.

Sal and bamboo are important, trees up to 1,000 m in height,

(ii) They are followed by the wet hill forests. They lie between about 1,000 to 2,000 mts. Important trees are oak, chestnut, ash, birch, etc.

(iii) Between 1,500 and 3,300 m above sea level, there occur the well-known coniferous forests. Pine, deodar, silver fir, spruce, etc., are some dominant trees.

(iv) Above the coniferous forests lie the alpine forests at an altitude of about 3,600m. Important trees are silver fir, pine, birch, etc.

#### **15. What is the importance of various species in the ecosystem?**

**Answer:** (i) We have selected our crops from the reserve of edible plants from a biodiverse environment.

(ii) We have also experimented and selected many medicinal plants.

(iii) The animals were selected from large stocks to serve as milch animals.

(iv) They also provided us draught power, transportation, meat and eggs.

(v) The fish provide nutritive food.

(vi) Many insects help in pollination of crops and fruit trees. Every species has a role to play in the ecosystem.

**16. What is a bio reserve? Give any two examples.**

**Answer:** (i) A bio reserve is a scheme or programme for the protection and conservation of the great biological diversity of our land.  
(ii) It preserves wild land, flora and fauna in their natural forms.  
(iii) Its surrounding zone is utilised for research and experimentation in developing forests and other products. Examples: Nilgiri Biosphere Reserve set up at the bi-junction of Tamil Nadu, Karnataka and Kerala.  
(ii) Nanda Devi Biosphere Reserve set up in UP, the first one in Himalayas.

**17. In which region are the tropical thorn forests and scrubs found in India? Mention any four characteristics of such type of vegetation.**

**Answer:** Such forests are found in semi-arid areas of Gujarat, Rajasthan, Madhya Pradesh, Andhra Pradesh, Karnataka, Uttar Pradesh and Haryana. Their characteristics are  
(i) Trees are scattered and have long roots penetrating deep into the soil in order to get moisture.  
(ii) The stems are succulent to conserve water.  
(iii) Leaves are mostly thick and small to minimize evaporation.  
(iv) Acacias, palms, euphorbias and cacti are the main plant species found in these forests.

**18. Explain why forests are important for human beings.**

**Answer:** Forests are important for human beings because they are renewable resources that enhance the quality of the environment. They help in modifying local climate, control soil erosion, regulate stream flow, support wood based industries, support the livelihood of many communities and also offer a scenic view for recreation. They also reduce the force of wind and thus reduce effects of storms, maintain temperature and cause rainfall. They also provide humus to the soil and shelter to wildlife, thus preserving biodiversity

**19. Explain any three measures taken by the government to protect the flora and fauna of the country.**

<b>Moist Deciduous Forests</b>	<b>Dry Deciduous Forests</b>
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Found in areas with annual rainfall between 100 and 200 cm.	Found in areas with annual rainfall between 70 and 100cm.
Teak, bamboo, sal, shisham sandalwood, khair, kusum, arjun and mulberry trees are found.	Teak, sal, neem and peepal trees are found.
Not many have been cleared.	Large areas have been cleared for cultivation and grazing.
Cover about 34% of India's forested area.	Cover about 30% of India's forested area.

**Answer:** To protect the flora and fauna of the country, the government has taken the steps which include

(i) 89 National Parks, 49 Wildlife Sanctuaries and many Zoological Gardens have been set up to take care of our natural heritage.

(ii) 18 Biosphere Reserves have been set up in the country to protect flora and fauna.

(iii) Project Tiger, Project Rhino, Project Great Indian Bustard and many other eco-developmental projects have been introduced by the government to protect endangered species of wildlife.

## 20. What are the differences between moist deciduous and dry deciduous forests?

**Answer:**

## 21. How are thorn forests different from mangrove forests?

Thorn Forests	Mangrove Forests
Found in areas with annual rainfall less than 70 cm.	Found in the delta regions of rivers and are not dependent on amount of rainfall.

Babool, kikar, palm, cactus and acacia trees / bushes are found.	Sundari, palm, coconut keora and agar trees are found
Found in most of Rajasthan, Northern part of Gujarat and in some areas of Uttar Pradesh, Haryana and Deccan Plateau.	Found in the coastal delta regions (delta areas of rivers on the East coast of India).

**Answer:**

**22. Identify some medicinal plants in your area. Which plants are used as medicines by local people to cure diseases?**

**Answer:** Some medicinal plants found in our area with diseases they can cure are given below

- (i) Bel Fruit The ripe fruit cures gastro intestinal problems.
- (ii) Iswarmula Root Its decoction cures constipation.
- (iii) Satawari Tuber It cures gastro intestinal problems.
- (iv) Dimiri Leaf and Stem Fresh juice (50-100 mL) of leaves is given with water for about 10 days to treat gastro intestinal problems.

**23. Why are forests very important to human beings and the environment around them? Explain.**

**Answer:** For the following reasons, forests are very important to human beings and the environment around them

- (i) Forests modify local climate, control soil erosion and regulate stream flow.
- (ii) Forests support a variety of industries, provide livelihood for many communities and offer panoramic or scenic view for recreation,
- (iii) Forests control wind force and temperature and cause rainfall.
- (iv) They provide humus to the soil and shelter to the wildlife.
- (v) Forests help us to keep our environment clean and pollution free by preventing dust from entering into the air, absorbing carbon dioxide and releasing fresh oxygen.
- (vi) Forests stop rainwater from flowing fast and hold it so that it could percolate down to enrich the ground water level (water table).

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

**Answer:** 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. Today natural vegetation has not been left natural anymore because of the following reasons

- (i) Various new species of plants are raised in laboratories and they are planted to have better results.
- (ii) Human interference is continuously increasing day by day which is deteriorating the quality of nature and is harmful for humans too.

**25. “In mountainous area, there is change in natural vegetation due to decrease in temperature”. Justify giving examples from different zones.**

**Answer:** The following examples justify the given statement

- (i) Between the heights of 1,000 and 2,000 metres, wet temperate type of forests are found. Evergreen broad-leafy trees such as oaks and chestnuts predominate.
- (ii) Between 1,500 and 3,000 metres, temperate forests containing coniferous trees like pine, deodar, silver fir, spruce and cedar are found.
- (iii) At high altitudes, generally more than 3,600 metres above the 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.
- (iv) At higher altitudes, mosses and lichens form part of Tundra vegetation.

**26. (a) What will happen if plants and animals disappear from the Earth’s surface? (b) Can human beings survive under such a situation? (c) Why is biodiversity necessary and why should it be conserved?**

Tropical Evergreen Forests	Tropical Deciduous Forests
They grow in areas of heavy rainfall 200 cm and above.	They grow in areas receiving rainfall between 200 cm and 70cm.
There is no definite time for trees to shed their leaves.	The trees shed their leaves for about 6 to 8 weeks in the dry summer.

Ebony, mahogany, rosewood, rubber and cinchona are the important	Teak, Bamboo, Sal, Shisham, Sandalwood, Khair Kusum, Arjun, Peepal and Neem are the important trees of these,
Common animals found in these forests are elephants, monkeys, lemur, deer and the one horned rhinoceros.	Common animals found in these forests are lion, tiger, deer and elephant.
Plenty of birds, bats sloth, scorpions and snails are also found in these jungles.	A huge variety of birds, lizards, snakes and tortoises are found in these forests.
These forests are found in areas of the Western Ghats and the island group of Lakshadweep, Andaman and Nicobar, upper parts of Assam and the Tamil Nadu coast	These forests are found mostly in the Eastern part of India, North-Eastern states along the foothills, the Himalayas, Jharkhand, Odisha, Chhattisgarh, on the Western slopes of Western Ghats, Madhya Pradesh, Bihar and Uttar Pradesh.

**Answer:** (a) If the plants and animals disappear from the Earth's surface, then the ecological balance will be disturbed. Without plants there will be no oxygen available for breathing after some time and everybody will die.

(b) Biodiversity means biological diversity i.e., there are many animal and plant species on our planet spread all over the world. These animal and plant species, including humans, are all interdependent.

(c) Each species has its own place and role to play in the environment and help in the maintaining the ecological balance. That's why it should be conserved.

## 27. Distinguish between tropical evergreen and deciduous forests.

**Answer:**

## 28. "Every species has a role to play in the ecosystem". Elaborate the statement.

**Answer:** An ecosystem comprises the physical environment. It is an interlinked system with the plants and animals living therein linked to each other.

Ecosystems have evolved over a period of thousands of years. Some examples of interlinking are

- (i) Insects help in pollination of crops and fruit trees. Some insects also exert biological control on harmful insects.
- (ii) Carnivorous animals kill herbivorous animals for food and herbivorous animals consume plants for food.
- (iii) Decomposers like fungi and bacteria fertilise the soil with humus by decomposing dead animals and plants to enable plants to grow. There are many such examples of interlinking to show that every species has a role to play in the ecosystem.

### **29. Which values do the national parks of our country promote?**

**Answer:** Our national parks promote the values given below

- (i) They promote the rebuilding of our forest wealth, as the forest cover in India is just over 20%, whereas it should be about 33% for balancing the ecosystem.
- (ii) They promote safety of animals, which is required for many species which are endangered. If these species become extinct, the ecosystem will be unbalanced, leading to more problems in future.
- (iii) They promote the utilisation of herbs and plants as an occupation for the tribal and local communities living in or around the areas where the national parks are located. The methods of making these traditional medicines should not be lost to the world, as such medicines are free from the side effects which are caused by antibiotics.
- (iv) Reviving the ecology system is an important value which will make the world a better place to live in for future generations.

### **30. Why should we conserve both flora and fauna? Explain with some examples.**

**Answer:** We can understand why flora and fauna should be conserved by understanding their use with the examples given below

- (i) Among flora, trees provide us their wood to serve our various requirements, besides providing shelter from the hot sun in summer.
- (ii) Crops provide our food including cereals, vegetables and fruits.
- (iii) Many plant extracts are used for making medicines to cure and prevent diseases.
- (iv) Among fauna, milch animals provide milk products as food.
- (v) Poultry animals provide eggs and other animals as well as fish are also providing us food articles.
- (vi) Insects help in pollination of crops and biologically control other harmful insects. All these maintain a balanced ecosystem and so should be conserved.



### 31. What is the importance of biosphere reserves?

**Answer:** Bio-reserves achieve three interconnected functions, i.e., conservation, development and logistic support. To fulfil these functions, they contain three interconnected zones.

(i) Core zone It is a securely protected site for conserving biological diversity, monitoring minimally disturbed ecosystems and undertaking non-destructive research and other low-impact uses like education.

(ii) Buffer zone It surrounds or adjoins the core area and is used for cooperative activities compatible with sound ecological practices, including environmental education, recreation, ecotourism and applied and basic research.

(iii) Transition/development zone It may contain a diversity of agricultural activities, settlements and other uses and in which local communities, management agencies, scientists, NGOs, cultural groups, economic interests and other stakeholders work together to manage and sustainably develop the area's resources. Thus, properly managed biosphere reserves are important for preserving biological diversity.

### 32 Name different types of vegetation found in India and describe the vegetation of high altitudes.

**Answer:** The different types of vegetation found in India are

- (i) Tropical Evergreen or Rainforests
- (ii) Tropical Deciduous Forests
- (iii) Tropical Thorn Forests and Scrubs
- (iv) Montane Forests
- (v) Mangrove Forests (Tidal Forests)

The type of vegetation found at the high altitudes is Montane forest type. Its features are found at high altitudes in mountainous areas.

- (a) There is a succession of natural vegetation belts
  - (b) They vary with altitude as follows
    - (i) 1000m-2000m Wet temperate forests. Evergreen broad leaf trees like oaks and chestnuts predominate here.
    - (ii) 1500m-3000m Temperate forests containing coniferous trees like Pine, Deodar, Silver Fir, Spruce and Cedar. These cover mostly the Southern slopes of the Himalayas.
    - (iii) 3000m-3600m These are temperate grasslands.
    - (iv) Above 3600m Here we find Alpine vegetation. Silver fir, junipers,

pinus and birches are common. At even higher altitudes and with the approach of the snowline, the vegetation changes from shrubs and scrubs to alpine and grasslands. Only mosses, lichens and very small shrubs grow during the very short summer, which is called Tundra type of vegetation.

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