



NATURAL VEGETATION  
AND WILDLIFE  
SOCIAL STUDIES  
GEOGRAPHY

STUDY MODULE





Human life on earth is possible because of the bounties of nature. We obtain a variety of substances from nature. The most precious among the gifts of nature are soil, water, wildlife and vegetation. Besides these, the nature has provided us with the hidden wealth of minerals and power sources such as solar and wind energy. All these gifts of nature are together called the **Natural Resources**. Among the natural resources, flora and fauna are perhaps the most important for human beings.

India is one of the twelve mega bio-diverse countries of the world. India has a variety of plant diversity. It has about 47,000 plant species. Due to this diversity it has been ranked tenth in the world and fourth in Asia. The country has a great variety of flowering as well as non-flowering plants.

The huge diversity in flora and fauna kingdom is due to the following factors:

1. Land
2. Temperature
3. Sunlight
4. Soil
5. Relief
6. Precipitation

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

**2. Temperature:** Temperature and humidity are the important factors which determine the character and extent of vegetation. On the slopes of the Himalayas and the hills of the Peninsula above the height of 900 metres, the fall in the temperature affects the types of vegetation and its growth and changes it from tropical to sub-tropical, temperate and alpine.



**Natural Resources:** Natural Resources are naturally occurring substances that are considered valuable in their relatively unmodified (natural) form.

**3. Sunlight:** The variation in sun's radiant energy at different places is due to difference in latitude, altitude, season and duration of the day. Due to the abundance of sunlight, trees grow faster in summer.

**TEMPERATURE CHARACTERISTICS OF THE VEGETATION ZONES**

Table No. 5.1

| Vegetation Zones | Mean Average Temp. (in degree) | Mean Temp. Jan. °C | Remarks         |
|------------------|--------------------------------|--------------------|-----------------|
| Tropical         | Above 24°C                     | Above 18°C         | No Frost        |
| Sub-tropical     | 17°C to 24°C                   | 10°C to 18°C       | Frost is rare   |
| Temperate        | 7°C to 17°C                    | -1°C to (-10)°C    | Frost some snow |
| Alpine           | Below 7°C                      | Below -1°C         | Snow            |

**4. Precipitation:** Precipitation determines the density of vegetation. Areas of heavy rainfall have more dense vegetation as compared to other areas.

**5. Soil:** Soil is one of the most important factors affecting vegetation. Different types of soil have different vegetation. Changes in soil conditions have given rise to peculiar types of vegetation in many areas such as mangrove forests, swamps and sandy coastal forests.

**6. Relief:** It is another important factor affecting vegetation—plains, plateaus and mountains have different types of vegetation.

**Importance of forests:**

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



**Renewable Resources:** Resources which can be used continuously as they are created continuously.

**NATURAL VEGETATION**

**Natural vegetation** refers to a plant community which has been grown naturally without human aid and has been left undisturbed by human being for a long time. Vegetation of an area is an important component of the natural environment. Plants provide us a lot of products including food and fibres. Besides this they provide shelter and food to wildlife. The natural

**MEDICINAL PLANTS**

The Ayurvedic system of medicine has a long tradition. This system originated in India and is still in use. Some 2,000 plants have been described in Ayurveda and atleast 500 are in regular use. The World Conservation Union's Red list has named about 352 medicinal plants of which 52 are critically threatened and 49 endangered.

**1. The Rauvolfia Serpentina (Sarpagandha):** It is used to treat blood pressure and many other heart ailments.

**Jamun:**

- (i) The juice from unripe fruit is used to prepare vinegar which is carminative and diuretic and has digestive properties.
- (ii) The powder of the seed is a cure for diabetes.
- (iii) The bark is good for cough, asthma and dysentery.

**2. Datura or Brugmansia:**

- (i) It helps in relieving asthma and bronchitis.
- (ii) It is used as a pain killer.

**3. Babool:**

- (i) Leaves of the plant are used as a tonic and a cure for eye sores.
- (ii) It is used as a tonic and a medicine for cough.

**4. Neem:**

- (i) The leaves and bark are used in treating malaria and skin disorder.
- (ii) It has high antibacterial effect.

**5. Tulsi Plants:** It is used to cure cough and cold.

**6. Kachnar:**

- (i) It is used to cure asthma and ulcers.
- (ii) The buds and roots are good for digestive problems.
- (iii) The root is used as cure for snake-bite.

vegetation in an area is an index of the climatic conditions. Although the vegetation cover from a large part of our country has been removed for obtaining cultivable land, in many parts, the natural vegetation still survives. A variety of climatic and relief conditions make India suitable for a variety of plants. Himalayas are an important area where the natural vegetation still survives. It forms a vegetation region distinct from the rest of the country. India lying outside the Himalayan region is divided into five vegetation regions:

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

**1. The Tropical Rain-Forests or Tropical Evergreen Forests:**

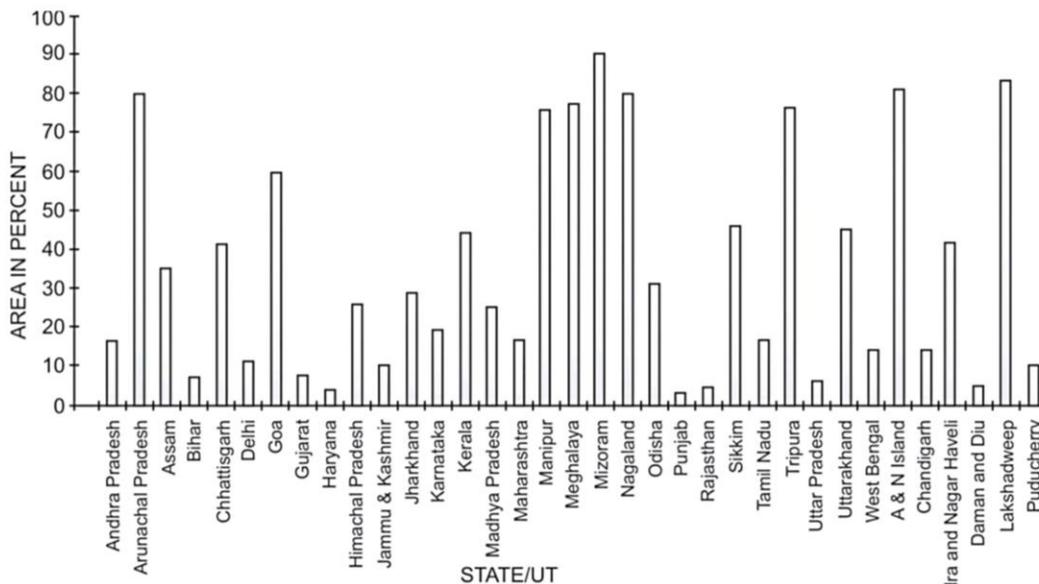
- (i) These forests grow in the areas of high temperature and high rainfall.
- (ii) These forests are found in areas with an annual rainfall of about 200 centimetres or more.
- (iii) Since these are found in the regions with warm and wet climate throughout the year, it has a luxuriant vegetation of all kinds – trees, shrubs, and creepers – giving it a multi-layered structure.
- (iv) There is no definite time for trees to shed their leaves. So these forests appear green all the year around.
- (v) In these forests, trees grow very vigorously, reaching heights of 60 m and above.



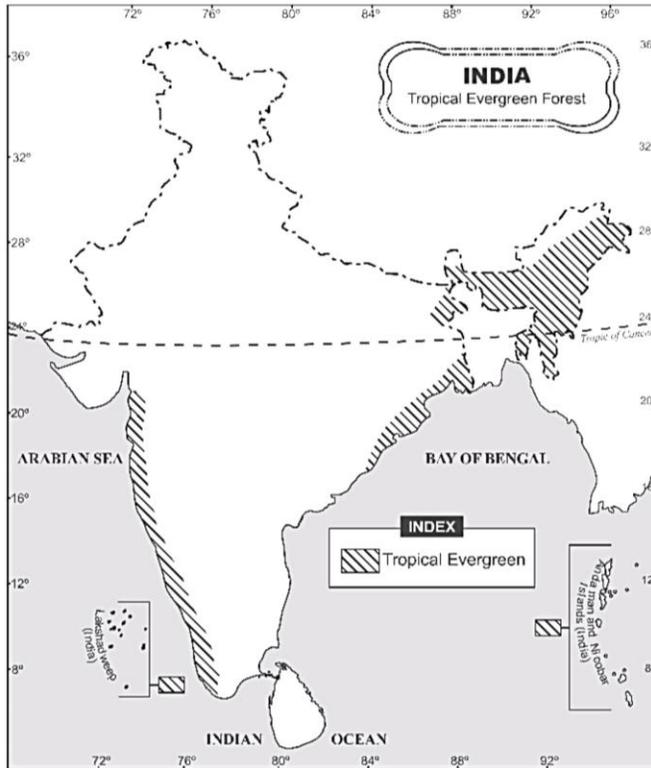
**Flora:** Plants of a particular region or period are referred to as flora.

**Fauna:** Species of animals are known as fauna.

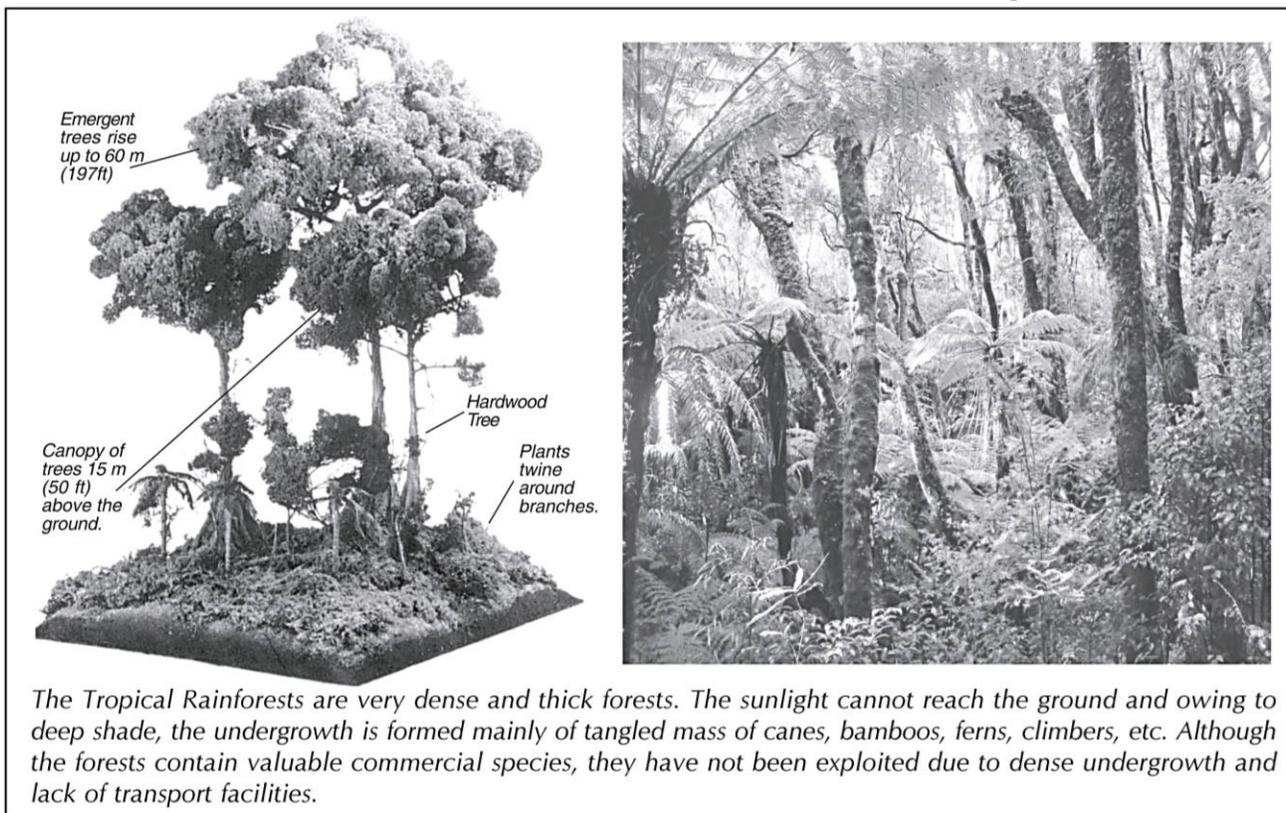
**Natural vegetation:** It refers to a plant community which has grown naturally without human aid, and has been left undisturbed by human beings for a long time.



**ACTUAL FOREST AREA**



- (vi) These forests yield hard wood trees.
- (vii) Rainy parts of Western Ghats, Assam, Bengal, island groups of Lakshadweep, Andaman and Nicobar islands, coastal region of Tamil Nadu and upper parts of Assam have this type of forests.
- (viii) Ebony, mahogany, rosewood rubber, cinchona and shisham are some of the important trees.
- (ix) An important characteristic of this forest type is that a large number of species are found together. Hence, it creates difficulty in the commercial use of any particular variety.
- (x) Tropical rainforests of India supports a diversity of animal species. The common animals found in these forests are elephants, gaur, monkey, lemur and deer. The one horned rhinoceros are found in the jungles of Assam and Bengal. Besides these animals plenty of birds, bats, sloth, scorpions and snails are also found in these jungles. A lot of animals are endangered.

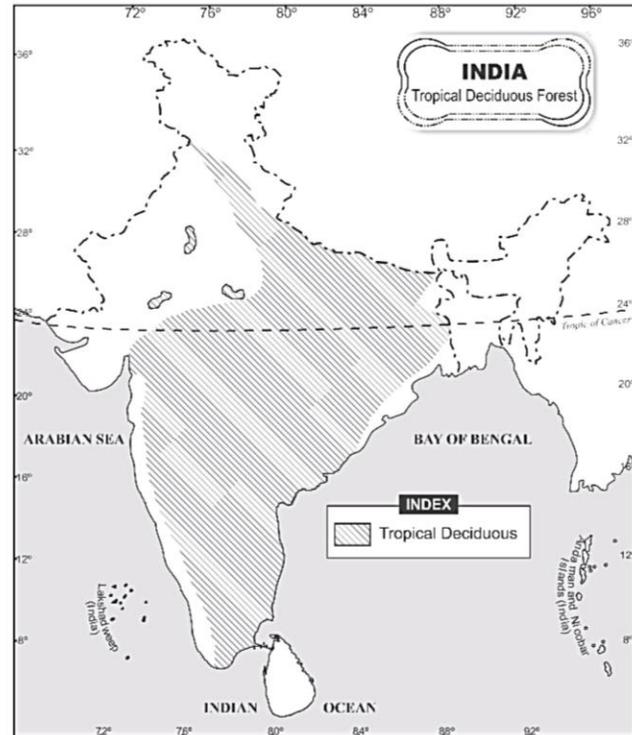


The Tropical Rainforests are very dense and thick forests. The sunlight cannot reach the ground and owing to deep shade, the undergrowth is formed mainly of tangled mass of canes, bamboos, ferns, climbers, etc. Although the forests contain valuable commercial species, they have not been exploited due to dense undergrowth and lack of transport facilities.

**2. The Tropical Deciduous Forests:** These forests are the typical type of natural vegetation of monsoon regions. They are also called the monsoon forests. These are the most widespread forests of India. On the basis of availability of water, these forests are further divided into moist and dry deciduous.

**Moist deciduous:**

- (i) These forests are found in the areas of 100 to 200 centimetres of rainfall.
- (ii) Due to a longer dry season, the trees in these forests are deciduous, i.e., they shed their leaves during the dry season. However, as each of the species has a different time of shedding leaves, the entire forest is not bare at any time.
- (iii) Shisham, sandalwood and sal are the common trees found in these forests. Other economically important trees are khair, rosewood etc. Bamboos are also very commonly found in these forests.
- (iv) This vegetation belt covers a vast area of India extending from north-eastern states, along the foothills of the Himalayas, Jharkhand, West Odisha and Chhattisgarh and on the eastern slopes of the Western Ghats.



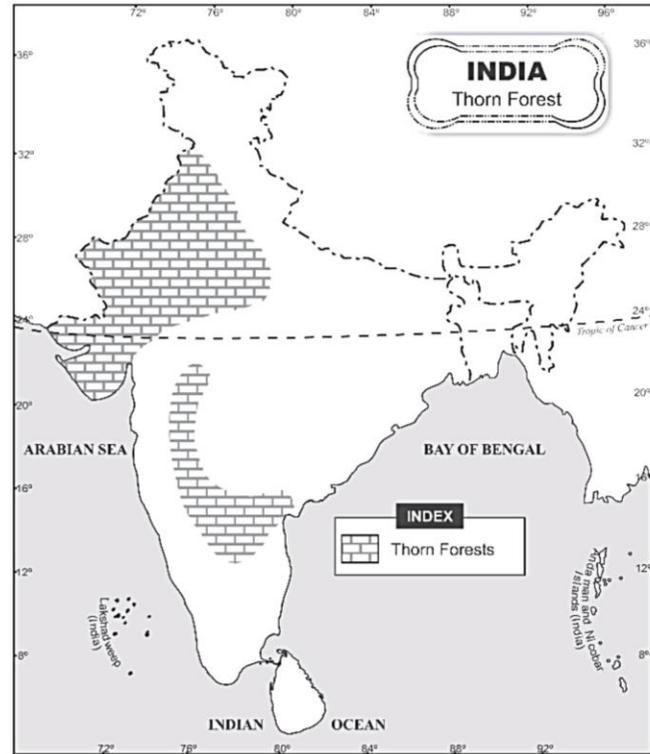
The tropical monsoon deciduous forests are found in areas receiving annual rainfall of 100 to 200 cms in India, with a distinct dry and rainy seasons and a small range of temperature. The principal trees of these forests are teak, sal, sandalwood, mahua, khair, mango, jacfruit, wattle and bamboo, semal, sisasm, myrobalan, arjun and the banyan tree. They shed their leaves for six to eight weeks during the dry season, usually from March to May, to prevent the loss of moisture through evapotranspiration.

**Dry deciduous:**

- (i) These are found in areas having rainfall between 70 cm to 100 cm.
- (ii) These are found in the wetter parts of the peninsular plateau and the plains of Bihar and Uttar Pradesh.
- (iii) These are open stretches. Teak and sal are the important trees.
- (iv) Most of these forests have been cleared for cultivation and grazing.
- (v) The region is not too rich in animal life. Lion, tiger, wild dog, pig, deer, elephant, chousingha are some of the important animals found in these forests. A huge variety of birds, lizards, snakes and tortoises are also found.

**3. The Thorn Forests:**

- (i) The areas having a rainfall of less than 70 centimetres support this type of vegetation.
- (ii) Due to lack of moisture the trees growing here have very small leaves and they support thorns. The common species found here include babul, kikar, wild palm Acacias, euphorbias and cacti in the areas of moderate rainfall. In areas of more scanty rainfall the vegetation consists of scrubs, shrubs and thorny bushes.
- (iii) The main features of thorny forests are that the trees are scattered and have long plant roots penetrating deep into the soil and spreading in a radial pattern in search of water. Leaves are small to minimize loss of water. The stem are succulent to conserve water.
- (iv) Rajasthan, Gujarat, parts of Punjab, Haryana and dry parts of Madhya Pradesh and the Deccan plateau along with the rain-shadow area have this type of vegetation.



*Thorn-Vegetation*

**4. Mangroves Forests:**

- (i) These forests occur in and around the deltas, estuaries and creeks prone to tidal influences and as such are also known as delta or tidal forests.
- (ii) While littoral (mangroves) forests occur at several places along the coast, swamp forests are confined to the deltas of the Ganga, the Mahanadi, the Godavari, the Krishna and the Cauvery.
- (iii) The most peculiar feature of these forests is that they can survive and grow both in fresh as well as brackish water.

- (iv) The most important tree is the sundari tree after which the **Sunderbans** are named. It provides hard and durable timber which is used for construction and building purposes as well as for making boats.
- (v) Palm, coconut, keora, agar are some other important trees.
- (vi) Royal Bengal Tiger is the famous animal found in these forests. Turtles, crocodiles, gharials and snakes are also found in these forests.



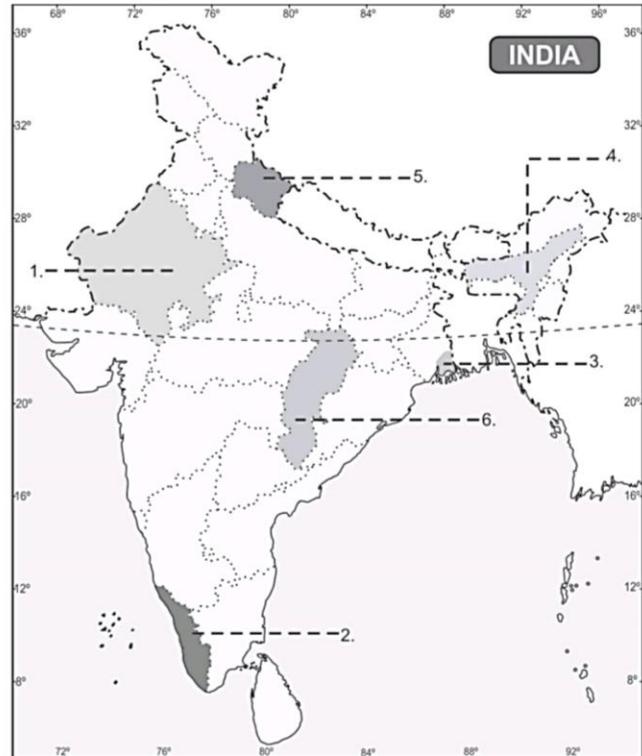
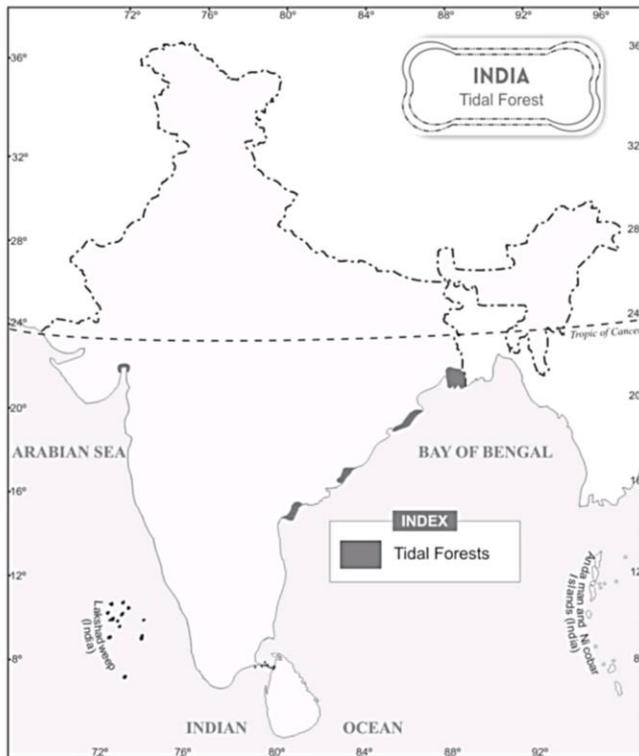
**Correlation with the environment**

Mangroves (generally) are trees and shrubs that grow in saline (brackish) coastal habitats in the tropics and subtropics. Mangroves can live in the most inundated areas, prop themselves up above the water level with stilt roots and can then take in air through pores in their bark. Prop root systems allow mangroves to take up gases directly from the atmosphere and various other nutrients, like iron, from the inhospitable soil. Gases are quite often stored directly inside the roots and processed even when the roots are submerged during high tide.

**5. Himalayan Vegetation:**

Himalayas are an area where a variety of plants grow. The climatic conditions here change with altitude and the direction of slopes in relation to sun. The southern slopes facing the sun are generally warmer than the shady northern slopes in the Himalayas. The altitude is the most important factor controlling the type of vegetation in this mountainous region.

**Check Your Progress?**



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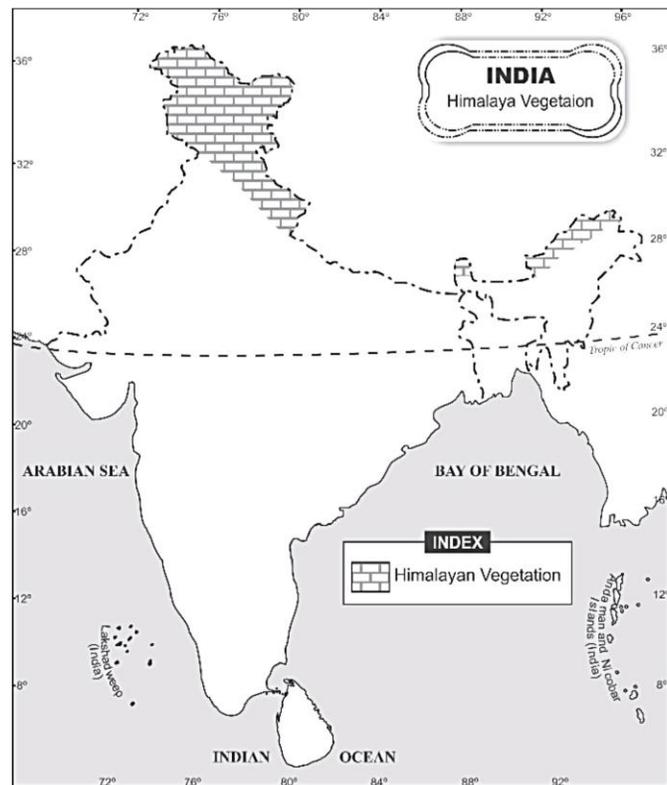
- (i) Himalayan Vegetation varies according to both altitude and climatic conditions.
- (ii) In mountainous areas, the decrease in temperature with increasing altitude leads to the corresponding change in natural vegetation. As such, there is succession of natural vegetation belts in the same order as we see from the tropical to the tundra region.

In the given political map of India six states have been marked with serial no. 1 to 6. Identify the state and also mention the type of vegetation which dominates in the state named by you.

- (iii) The wet temperate type of forests are found between a height of 1000 and 2000 metres. Evergreen broad-leaf trees such as oaks and chestnuts predominate.
- (iv) Between 1500 and 3000 metres, temperate forests containing coniferous trees like pine, deodar, silver fir, spruce and cedar are found. These forests cover mostly the southern slopes of the Himalayas, places having high altitude in southern and north-east India.
- (v) At higher elevations, temperate grasslands are common.
- (vi) At high altitudes, generally more than 3,600 metres 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. However, they get progressively stunted as they approach the snow-line. Ultimately through shrubs and scrubs, they merge into the Alpine grasslands.



Montane Forests



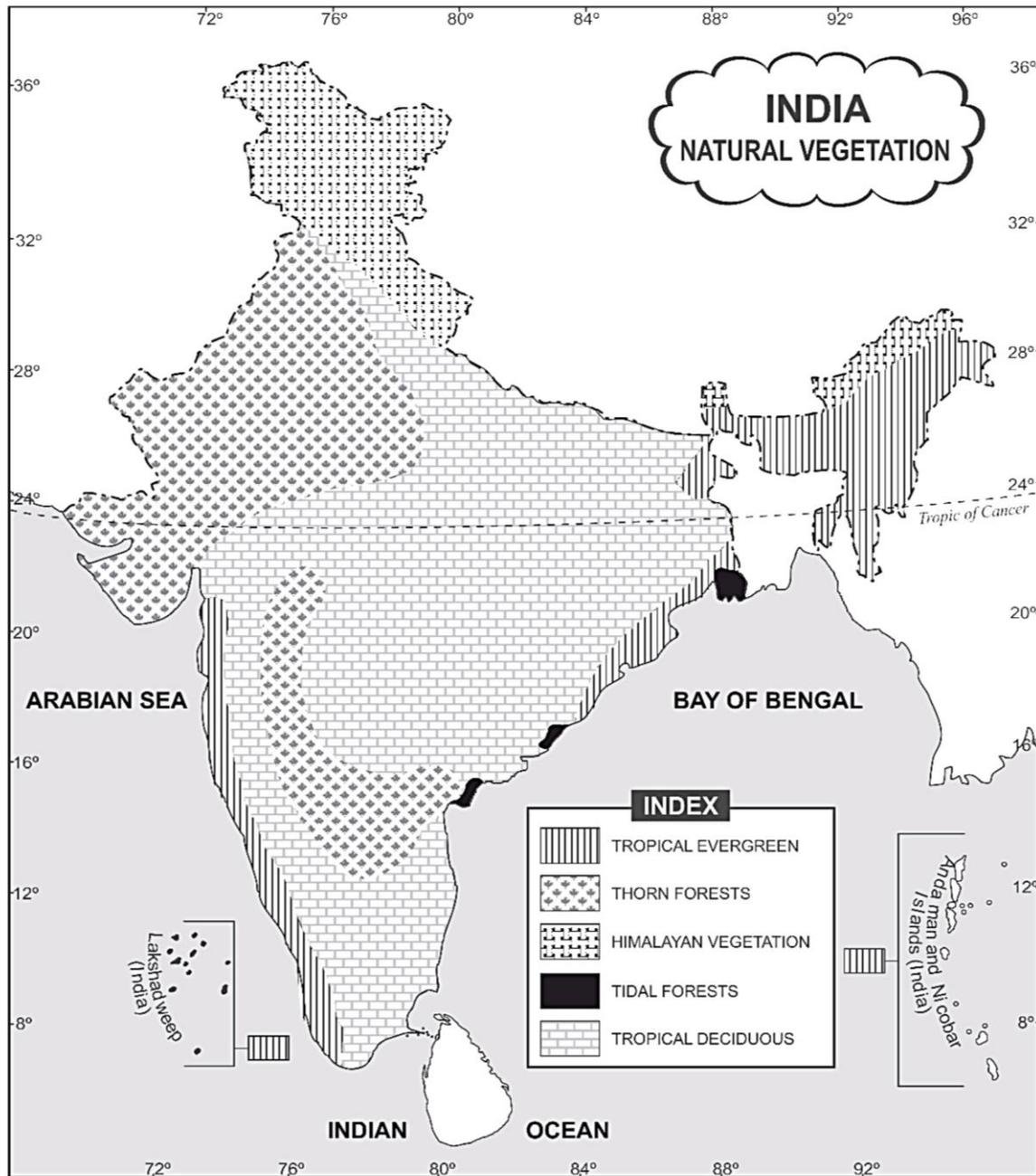
### FOREST PROBLEMS

The biggest problem of the Indian forests is the inadequate and fast dwindling forest cover. In India, at present, forest areas cover about 76.5 million hectares of land, which is about 23 per cent of the total geographical area. It is far less than the required coverage of 33 per cent. Even this low percentage of forest cover is seriously threatened by the increasing demand for major and minor forest products. These products are badly needed for fuel, building and to feed a large number of forest-based industries. Vast forest tracts have been cleared for agriculture. Shifting agriculture in different parts of the country has played havoc with forests. Overgrazing is a big factor which is responsible

for serious damage to forests. Though Government of India has taken several steps but forests can be protected and developed only with active participation of the people.

**WILDLIFE**

Like flora, India has varied fauna due to great diversity of the relief and climate. There are about 89,000 different species of fauna. The fresh water and marine species of fish amount to 2,500. It constitutes 12 per cent of the world's total fish stock. Out of the over 9,000 birds of the world, the Indian subcontinent is a home to about 1,200 species of birds which account for around 13



per cent of the world's total species of birds. Besides, India has innumerable amphibians, reptiles, mammals and small insects and worms. India has about 5 to 8 per cent of the world's amphibians, reptiles and mammals.

The elephants are the most majestic animals among the mammals. As they prefer hot wet forest so they are found in the dense rainy forests of Assam in the north-east and in Kerala and Karnataka in the south. Camels are found mainly in hot and arid Thar Desert of Rajasthan. Wild asses dominate the arid areas of Rann of Kutch. *One horned Rhinoceros* also fall in the category of mammals. They live in swampy and marshy lands of Assam and Bengal. The other animals put in the category of mammals include the Indian bison ; Indian buffalo, nilgai, chausingha (four horned antelope), black buck (Indian antelope), gazel and deer. There are several varieties of deer of which kashmir stag, swamp deer, spotted deer, musk deer and mouse deer are popular.

**1. Animals of Prey:** Among the animals of prey, lion and tiger are the most important. India is the only country in the world that has both tigers and lions. Indian lion is remarkable as the only species found outside Africa. Its natural habitat is confined to the Gir forests of Saurashtra in Gujarat. Tiger is another category of animals of prey. It is the most powerful species of our forests. The famous Bengal tiger has its natural habitat in the Sunderbans in the tidal forests occupying the edge of the Ganga delta. *Tiger is the national animal of India.* The other animals belonging to the cat family are leopards, clouded leopards and snow leopards.

**2. Animals of the Himalayan Regions:** Besides snow leopards, sheep, mountain goats, the ibex, the shrew and the tapir are other important animals of the Himalayas. They are the panda at lower altitudes. Snow leopard and lesser panda are found only in the upper reaches.

Ladakh's freezing high altitudes are a home to yak, the shaggy horned wild ox, weighing around one ton, the Tibetan antelope, the bharal (blue sheep), wild sheep and the kiang (Tibetan wild ass).

**3. Monkeys:** Indian forests are homes of several species of monkeys. The most famous is the langur.

**4. Birds:** India has a rich variety of beautiful and colourful birds. They include pheasants, geese, ducks, mynahs, parakeets, pigeons, cranes, hornbills and sun birds. Most species inhabit forests but some have their natural habitats in swamps and wetlands. The peacock, famous for its colourful plumage and rain dance, is our national bird.

There are birds which migrate from one region to other in a particular season called *migratory birds*. Some of the wetlands of India are favourite spots of migratory birds. Thousands of Siberian cranes migrate to different parts of the country after flying thousands of kilometres from Siberia and adopt the wetlands as their temporary home.

**Endangered species of India**

Endangered species of plants and animals are those which are so rare that it is likely that they will soon become extinct. The IUCN (International Union for the Conservation of Nature) keeps a watch on the number of animals and publishes **Red data Book** with details of the rarest animals and plants.



Harpy eagle



Elephant



Tiger



Peacock



Indian Crane



One Horned Rhino



### NEED FOR CONSERVATION OF WILDLIFE

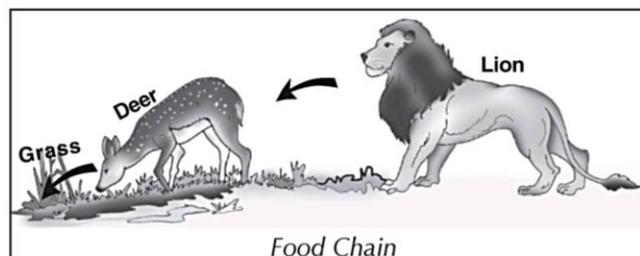
All the plants and animals in a given area are so closely related and interlinked and interdependent that they cannot survive without each other.

- Human beings have selected their crops from a biodiverse environment, *i.e.*, from the reserve of edible plants.
- Forests provide us wood, rubber, herbs, charcoal, oil, bamboo, tans, dyes, gums and many other products which are important for our survival.
- The animals were selected from large stock provided by nature as milch animal. They also provided us draught power, transportation, meat, eggs.

- (iv) The fish provide nutritive food.
- (v) Many insects help in pollination of crops and fruit trees and exert biological control on such insects, which are harmful.

Every species has a role to play in the ecosystem. Hence, conservation is essential. As has been mentioned earlier due to excessive exploitation of the plants and animal resources by human beings, the ecosystem has been disturbed. About 1,300 plant species are endangered and 20 species are extinct. Quite a few animal species are also endangered and some have become extinct. The main causes for this major threat to nature are:

- (i) Overutilization of forests.
- (ii) Hunting by greedy hunters for commercial purposes.
- (iii) Pollution due to chemical and industrial waste.
- (iv) Reckless cutting of the forests to bring land under cultivation.
- (v) Deforestation for human habitation.



Let us understand the impact of killing wildlife with the help of an example. In a forest, there is lot of grass. This grass is eaten by animals like deer. This deer is then consumed by a lion. This is an example of food chain.

Now, if all lions are removed by killing or capturing, the population of deer will increase greatly. So, an increase in deer population will lead to excessive grazing of grass. This will lead to soil erosion and ultimately lush green forest will be converted into a desert area. So, to avoid this kind of situation special efforts are required.

| Name of the Biosphere Reserve | State                            |
|-------------------------------|----------------------------------|
| Nilgiri                       | Tamil Nadu, Kerala and Karnataka |
| Nanda Devi                    | Uttarakhand                      |
| Nokrek                        | Meghalaya                        |
| Manas                         | Assam                            |
| Sunderban                     | West Bengal                      |
| Gulf of Mannar                | Tamil Nadu                       |
| Great Nicobar                 | Andaman and Nicobar Islands      |
| Similipal                     | Odisha                           |
| Dibru-Saikhova                | Assam                            |
| Dehang-Dibang                 | Arunachal Pradesh                |
| Pachmarhi                     | Madhya Pradesh                   |
| Khangchendzonga               | Sikkim                           |
| Agasthyamalai                 | Kerala                           |
| Achanakmar-Amarkantak         | Madhya Pradesh and Chattisgarh   |
| Kachchh                       | Gujarat                          |
| Cold Desert                   | Himachal Pradesh                 |
| Seshachalam                   | Andhra Pradesh                   |
| Panna                         | Madhya Pradesh                   |

### WHY BIRDS AND ANIMALS ARE ENDANGERED?

- (i) **Worldwide habitat destruction:** The greatest danger to wildlife is the destruction of habitat. The cleaning of land for homes, farmland, dams and highways destroys the habitat of wildlife.
- (ii) **Human predation:** Hunting has been another major cause of extinction. Animals and birds are killed for their skin, feathers and in some cases for museum specimen.
- (iii) **Pesticides and pollution:** The use of pesticides and the pollution of the environment threaten many bird and animal species throughout the world. During the 1960's scientific proof emerged that more than 20 bird species across Europe and North America were suffering disastrous breeding failures.

1. The major objectives of these **Biosphere** Reserves are:

- (i) to conserve and maintain diversity and integrity of the natural heritage in its full form, *i.e.*, physical environment, the flora and the fauna;
- (ii) to promote research on ecological conservation and other aspects of environmental preservation ;
- (iii) to provide facilities for education, awareness and training. The major goal of setting up such reserves is to preserve the genetic diversity in crucial natural **ecosystems**.

2. Special efforts are being made to preserve **endangered species**. Periodic census are undertaken.

3. **Project tiger** has been launched. Now, there are about 47 tiger reserves in various parts of the country.

4. In order to preserve wildlife in its natural setting, national parks and sanctuaries have been set up. **A national park** is a reserved area meant for preserving natural vegetation, wildlife and natural beauty. **A sanctuary** is a reserved area meant for the preservation and development of endangered species.

5. The National Wildlife Action Plan provides the framework of strategy as well as programme for conservation of wildlife. The first National Wildlife Action Plan (NWAP) of 1983 has been revised and the new Wildlife Action Plan (2002-2016) has been adopted. The Indian Board of Wildlife, headed by the Prime Minister, is the apex advisory body overseeing and guiding the implementation of various schemes for wildlife conservation. At present, the protected area network comprises 103 national parks, 535 sanctuaries 43 Conservation Reserves and 4 Community Reserves covering an area of 15.67 about million hectares.



**Ecosystem:** An integrated unit consisting of the community of living organisms and the physical environment.

**Biosphere:** Part of the earth which is covered by living organisms both plants and animals.

**Endangered species:** Plants and animals which are extinct or in the danger of getting extinct.

**A National Park:** It is a reserved area meant for preserving natural vegetation, wildlife and natural beauty.

### Community and Conservation

- Conservation strategies are not new in our country.
- Various states have launched Joint Forest Management.
- Many villages have been patrolling their own forests since time immemorial.
- We should contribute as much as we can in various projects like Project Tiger, Elephant etc.
- We should not harm wild animals.

Preserving and protecting the wildlife is a duty of every citizen. Each one of us must contribute to the effort of protecting the wildlife. The Wildlife Week is observed in India during the first week of October every year.

6. The Wildlife (Protection) Act, 1972 has been adopted by all states. It governs wildlife conservation and protection of endangered species. The Act prohibits trade in rare and endangered species.
7. A major initiative to include environmental education as a separate and compulsory subject in the educational curricula has been taken up by the Government at all levels of formal education, i.e., secondary, senior secondary and tertiary levels.

### RECAPITULATION

- ❖ India has been divided into five vegetation regions:
  - (i) The tropical rain forests
  - (ii) The tropical deciduous forests
  - (iii) The thorn forests
  - (iv) The mangrove forests
  - (v) Himalayan vegetation
- ❖ Forests are renewable resources and play a major role in enhancing the quality of environment.
- ❖ National parks and wildlife sanctuaries have been opened up to protect wildlife.
- ❖ All the plants and animals in a given area are closely linked with each other.
- ❖ Natural resources like vegetation and wildlife should be protected to maintain ecological balance.
- ❖ The Indian Board of Wildlife, headed by the Prime Minister, is the apex advisory body overseeing and guiding the implementation of various schemes for wildlife conservation.
- ❖ A major initiative to include environmental education as a separate and compulsory subject in the educational curricula has been taken up by the Government at all levels of formal education, i.e., secondary, senior secondary and tertiary levels.

**ASSIGNMENT**

**Q.1.** In which of the following states is the Simlipal bio-reserve located?

Options:

(a) Punjab

(b) Delhi

(c) Odisha

(d) West Bengal

**Q.2.** Which term is used to denote animal species of a particular region or period?

Options:

(a) Fauna

(b) Ferns

(c) Flora

(d) None of these

**Q.3.** Which term is used for virgin vegetation, which have come from outside India are termed as exotic plants?

Options:

(a) Indigenous plants

(b) Endemic species

(c) Exotic Plants

(d) None of these

**Q.4.** How do forests influence the climate of a place?

Options:

(a) Modify local climate

(b) Control wind force and temperature

(c) Cause rainfall

(d) All the above

**Q.5.** Name one important tree each of the Moist Deciduous and Dry deciduous Forests.

**Q.6.** Name any two biosphere reserves of India.

**Q.7.** Why are the leaves of the Thorn forests small and stems succulent?

**Q.8.** In which region of India do we find the Tropical Thorn Forests and Scrubs?

**Q.9.** What are the different types of vegetation identified in India?

**Q.10.** Which medicinal plant has both antibacterial and antibiotic properties?

**Q.11.** Mention any four characteristics of the mangrove tidal forests.

**Q.12.** Write a few steps taken by the government for the protection and conservation of great biological diversity of India.

**Q.13.** Name any three medicinal plants found in India with at least one use of each.

**Q.14.** How do the forests play both a productive and protective role?

**Q.15.** Why does India possess a great variety of flora and fauna?

**OBJECTIVE TYPE QUESTIONS (Self Practice)**

**A. Multiple Choice Questions:**

- To which one of the following types of vegetation does rubber belong to?
  - Tundra
  - Himalayan
  - Tidal
  - Tropical Evergreen
- Cinchona trees are found in the areas of rainfall more than:
  - 100 cm
  - 70 cm
  - 50 cm
  - less than 50 cm
- In which of the following states is the Simlipal bio-reserve located?
  - Punjab
  - Delhi
  - Odisha
  - Bengal
- Which one of the following bio-reserves of India is not included in the world network of bio-reserve?
  - Manas
  - Gulf of Mannar
  - Dihang-Dibang
  - Nanda devi
- Which type of vegetation can grow in areas of high salinity?
  - The Mangroves Forest
  - The Thorn Forest
  - The Tropical Deciduous
  - The Tropical Rain-Forest

**B. Fill in the blanks:**

- The Sundarbans, the Nilgiri, Great Nicobar Pachmarhi, Achanakmar, Amarkantak, etc. are the ..... set up by the government to protect flora and fauna.
- ..... is the only country in the world which has both tigers and lions.
- Cinchona trees are found in the areas of rainfall more than .....

**C. Match the columns:**

| Column A   | Column B                         |
|--|----------------------------------|
| (i) Cover mostly the southern slopes of Himalayas  | (a) The thorn forests and scrubs |
| (ii) Deltas of the Ganga, the Mahanadi, the Krishna, the Godavari                        | (b) Tropical Deciduous forests   |
| (iii) North Western parts of the country including Gujarat, Rajasthan and Madhya Pradesh | (c) Montane forests              |
| (iv) North eastern states like Jharkhand, West Odisha and Chhattisgarh.                  | (d) Mangrove forests             |

- (A) (i) (e), (ii) (d), (iii) (a), (iv) (b)      (B) (i) (d), (ii) (e), (iii) (b), (iv) (a)  
 (C) (i) (e), (ii) (a), (iii) (d), (iv) (d)      (D) (i) (b), (ii) (c), (iii) (a), (iv) (d)

**D. Assertion and Reason Based Question:**

Two statements are given-one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes, (i), (ii), (iii) and (iv) as given below:

- (i) Both A and R are true and R is correct explanation of the assertion.
- (ii) Both A and R are true but R is not the correct explanation of the assertion.
- (iii) A is true but R is false.
- (iv) A is false but R is true.

**Assertion:** Conservation is essential for ecological balance.

**Reason:** Every species has a role to play in the ecosystem.

**Options:**

(i)

(ii)

(iii)

(iv)

**E. Correct the following statement and rewrite:**

1. Cultivated crops and fruits and orchards form part of natural vegetation.
2. Northern slopes of Himalayan region are covered with thick vegetation cover.

**BOARD QUESTIONS**

1. Explain any three characteristics of Tropical Evergreen Forests. [CBSE 2011]
2. Give any three steps taken by the government of India to protect the flora and fauna. [CBSE 2011, 2012]
3. Mention any four characteristics of the mangrove tidal forests. [CBSE 2012]
4. Why are forests very important to human beings and environment? Explain. [CBSE 2012]
5. "The natural vegetation and climate control the type of animal life in a country". Justify the statement with examples. [CBSE 2014]
6. Name any three medicinal plants with their uses. [CBSE 2014]
7. How can community and government go hand in hand to protect the wildlife? Explain with examples. [CBSE 2014]
8. Describe the importance of biosphere reserves with respect to the wildlife conservation policy of India. [CBSE 2014]
9. "Forests are natural habitat of wildlife. The indiscriminate and over use of forest resource is leading to loss of wildlife". Suggest any three values that can be followed to curb the loss of wildlife. [CBSE 2014]
10. "The government of India has recognised that in order to meet the goal of forest preservation, the people who live in or near the forests must be involved". How far do you agree with this statement? Explain. [CBSE 2014]
11. What is an ecosystem? [CBSE 2015]
12. What are the major factors responsible for threat to the nature? [CBSE 2015]
13. 'Every species has a role to play in the ecosystem'. Explain. [CBSE 2015]
14. Explain the fauna of Himalayan regions. [CBSE 2016]
15. Describe how human beings influence the ecology of a region. [CBSE 2016]

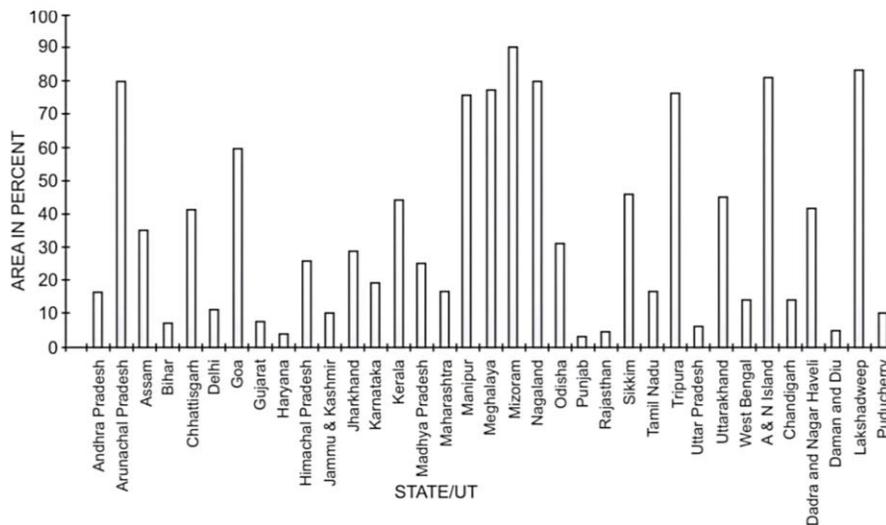
**GEOGRAPHICAL SKILLS**

1. Study the given data carefully and answer the following questions:

| Vegetation Zones | Mean Average Temp. (in degree) | Mean Temp. Jan. °C | Remarks          |
|------------------|--------------------------------|--------------------|------------------|
| Tropical         | Above 24°C                     | Above 18°C         | No Frost         |
| Sub-tropical     | 17°C to 24°C                   | 10°C to 18 °C      | Frost is rare    |
| Temperate        | 7° C to 17°C                   | -1° C to (-10)°C   | Frost, some snow |
| Alpine           | Below 7°C                      | Below -1°C         | Snow             |

- What type of vegetation is found in the zone which has mean temperature of 18°C or above?
- What type of vegetation is found in the zone which has mean average temperature of 17°C to 24°C?
- What type of vegetation is found in snow covered zone?

2. Study the given bar graph carefully and answer the following questions:



- Which state has the highest area under forests?
- Name any two states which have more than 80% of the area under forests?
- Which union territory has the highest area under forests?
- Name any two states having very low area under forests.

3. On an outline map of India locate the following:

- An area of thorny forest
- An area of mangroves forest
- An area of tropical deciduous forest
- Any two tiger reserves
- Any two national parks

**ACTIVITIES**

**Q.1. Carefully study the given three pictures and answer the following questions:**

- (i) Can you identify the type of vegetation shown in figure A? What criteria have you used to identify the vegetation?
- (ii) Name any two regions of India where such kind of vegetation is found.
- (iii) Identify the type of vegetation shown in figure B. Mention any two features of such kind of vegetation.
- (iv) Identify the given animal. Name any two states of India where the shown animal is found.



Fig. (A)



Fig. (B)



Fig. (C)

**Q.2. Match the type of natural vegetation.**



1

Himalayan Vegetation

(A)



2

Tropical Equatorial Forest

(B)



3

Deciduous Forest

(C)



4

Desert Vegetation

(D)



5

Tidal Vegetation

(E)