

Climate and Natural Vegetation

I. Choose the correct answer.

- Western disturbances cause rainfall in _____.
a) Tamilnadu b) Kerala c) **Punjab** d) Madhya Pradesh
- _____ helps in quick ripening of mangoes along the coast of Kerala and Karnataka.
a) Loo b) Norwester c) **Mango showers** d) Jet stream
- _____ is a line joining the places of equal rainfall.
a) **Isohyets** b) Isobar c) Isotherm d) Latitudes
- Climate of India is labelled as _____.
a) Tropical humid b) Equatorial Climate
c) Tropical Monsoon Climate
d) Temperate Climate
- The monsoon forests are otherwise called as _____.
a) Tropical evergreen forest
b) **Deciduous forest**
c) Mangrove forest
d) Mountain forest
- Sesahachalam hills, a Biosphere reserve is situated in
a) **Tamil Nadu** b) Andhra Pradesh
c) Madhya Pradesh d) Karnataka
- _____ is a part of the world network biosphere reserves of UNESCO
A) **Nilgiri** b) **Agasthiyamalai**
c) Great Nicobar d) Kachch

II. Match the following.

- Sundarbans — West Bengal
- Biodiversity hotspot — The Himalayas
- North east monsoon — October to December
- Tropical thorn forest — Desert and semi desert vegetation
- Coastal forests — Littoral forest

III. Consider the given statements and choose the correct option from the given below ones.

1. **Assertion(A):** The Himalayas acts as a climatic barrier.

Reason(R): The Himalayas prevents cold winds from central Asia and keep the Indian Sub-continent warm. (Give option for this questions)

a) **Both (A) and (B) are true: R explains A**

IV. Choose the inappropriate answer.

- Tidal forests are found in and around _____.
(a) **Desert**
(b) The deltas of Ganga and Brahmaputra
(c) The delta of Godavari
(d) The delta of Mahanadhi

2. Climate of India is affected by _____.
(a) Latitudinal extent
(b) Altitude
(c) Distance from the sea
(d) **Soil**

V. Answer briefly.

1. **List the factors affecting climate of India.**

Latitude, altitude, distance from the seas, monsoon wind, relief features and jet stream.

2. **What is meant by 'normal lapse rate'?**

When the altitude increases, the temperatures decreases. Temperature decreases at the rate of 6.5°C for every 1000 metres of ascent. It is called normal lapse rate.

3. **What are 'jet streams'?**

Jet streams are the fast moving winds blowing in a narrow zone in the upper atmosphere.

4. **Write a short note on 'Monsoon wind'.**

The word 'monsoon' has been derived from the Arabic word 'Mausim' which means 'season'. The word 'monsoon' was used by Arab navigators to describe a system of **seasonal reversal of winds** along the shores of the Indian Ocean, especially over the Arabian Sea. (It blows from the south-west to north-east during summer and from the north-east to south-west during winter.)

5. **Name the four distinct seasons of India.**

- January – February: Winter or cold weather season.
- March - May: Pre Monsoon or summer or hot weather season.
- June – September: Southwest monsoon or rainy season
- October – December: Northeast monsoon season

6. **What is 'burst of monsoon'?**

The sudden approach of monsoon wind over south India with lightning and thunder is termed as the 'break' or 'burst of monsoon'. It lowers the temperature of India to a large extent.

7. **Name the areas which receive heavy rainfall.**

The Western coast, Assam, South Meghalaya, Tripura, Nagaland and Arunachal Pradesh.

8. **State places of mangrove forest in India.**

The delta of the Ganga- Brahmaputra, Mahanadi, Godavari and Krishna rivers.

9. **Write any five biosphere reserves in India.**

- Gulf of Mannar (Tamilnadu),
- The Nilgiris (Tamilnadu),
- Agasthiyamalai (Kerala),
- Sundarbans (West Bengal) and
- Great Nicobar (Andaman and Nicobar Island).

VI. Distinguish between.

1. Weather and Climate

| WEATHER | CLIMATE |
|--|--|
| The day to day conditions of the atmosphere. | The average state of weather elements for a longer period of time at any place. |
| It deals with temperature, pressure, wind, humidity, and rainfall etc. of a place. | It is determined by latitude, altitude, distance from the sea, monsoon wind, relief features and Jet stream. |
| It help in forecasting day to day weather of a place. | 35 years records is necessary to obtain the climatic conditions of a place |

2. Tropical Evergreen Forest and Deciduous Forest.

| Tropical Evergreen Forest | Tropical Deciduous Forest. |
|---|--|
| Found the area of rainfall of more than 200 cm | Found the area of rainfall between 100-200 cm |
| Main regions are western slope of Western Ghats and parts of north eastern states & Andaman and Nicobarr Islands. | Found large of Northern India and Peninsular India. |
| Trees are evergreen and never shed their leaves. | Trees shed their leaves for a few weeks in earl summer. |
| Important trees: Ebony, Mahogany, Rosewood and Iron wood. | Important trees: Teak, Sandalwood, Deodar, Sal and Red wood. |

3. North East Monsoon and South West Monsoon.

| North East Monsoon | South West Monsoon |
|---|--|
| Blow from Northeast direction from Bay of Bengal. | Blow from Southwest direction from Indian ocean towards India. |
| These winds pick the moisture from Bay of Bengal and give heavy rainfall to the Coromandal coast. | These wind pick the moisture from Arabian sea and give heavy rainfall to western coastal plain and northern plain. |
| They give rain from October to December. | They give rain to from June to September. |
| India's 35% of the rainfall received from this monsoon. | India's 75% of the rainfall received from this monsoon |

VII. Give reasons for the following topics.

1. Western Coastal plain is narrow.

The west coastal plains is narrower because of the one side of this is sand and the lagoons and in another side is delta of the river, most of the place is consumed by the ghats and the deltas.

2. India has a tropical monsoon climate.

India has a tropical monsoon climate because most of India lies in the tropical belt and her climate is influenced by the Southwest winds and Northeast monsoon winds blow from Arabian Sea and Bay of Bengal due to differential heating of land and sea leads to change of seasons which determines the climate of India.

3. Mountains are cooler than the plains.

When the altitude increases, the temperatures decreases at the rate of 6.50C for every 1000 metres of ascent. It is called normal lapse rate. Hence, places in the mountains are cooler than the places on the plains.

VIII. Write in detail.

1. Write about South West Monsoon.

- The southwest monsoon is the most significant feature of the Indian climate influenced by global phenomenon like ElNino.
- The onset of the southwest monsoon takes place normally over the southern tip of the country by the first week of June, advances along the Konkan coast in early June and covers the whole country by 15th July.
- Prior to the onset of the southwest monsoon, the temperature in north India reaches upto 46°C.
- The sudden approach of monsoon wind over south India with lightning and thunder is termed as the 'break' or 'burst of monsoon'.
- The monsoon wind strikes against the southern tip of Indian land mass and gets divided into two branches. One branch starts from Arabian sea and the other from Bay of Bengal.
- The Arabian sea branch of southwest monsoon gives heavy rainfall to the west coast of India as it is located in the windward side of the Western Ghats. The other part which advances towards north is obstructed by Himalayan Mountains and results in heavy rainfall in north. As Aravalli Mountain is located parallel to the wind direction, Rajasthan and western part do not get much rainfall from this branch.

- The Bay of Bengal branch moves towards northeast India and Myanmar. This wind is trapped by a chain of mountains namely Garo, Khasi and Jaintia are mainly responsible for the heaviest rainfall caused at **Mawsynram** located in Meghalaya.
- Later on, this wind travel towards west which results in decrease in rainfall from east to west. Over all about 75% of Indian rainfall is received from this monsoon.

2. Describe the forests of India.

Natural vegetation refers to a plant community unaffected by man either directly or indirectly.

Based on the Climate, soil and natural vegetation of India, it can be divided into the following types.

1. Tropical Evergreen Forest

Characteristics: Found in areas with **200 cm** and more annual rainfall, temperature more than **22°C** and humidity above **70%**.

Places: Western Ghats in Maharashtra, Karnataka, Kerala, Andaman-Nicobar Islands, Assam, West Bengal, Nagaland, Tripura, Mizoram, Manipur and Meghalaya.

Important trees: Rubber, mahogany, ebony, rosewood, coconut, cinchona, candel, bamboo.

2. Tropical Deciduous Forest or Monsoon Forests

Characteristics: Found in areas with **100-200** annual rainfall, temperature of **27°C** and humidity of 60-70%. Trees **drop their leaves** during the spring and early summer.

Places: Sub Himalayan, Great Plains, Central India and South India.

Important trees: Teak, sal, Sandalwood, rosewood, padauk, bamboo etc..

3 Tropical Dry Forest or Transitional type of forests

Characteristics: Found in areas of **50 to 100 cm**.

Places: Rajasthan, Haryana, Punjab, Western Uttar Pradesh, Madhya Pradesh, Eastern Maharashtra, Telangana, West Karnataka and East Tamilnadu

Important trees: Mahua, banyan, amaltas, bamboo, babool etc.,

Desert and Semi-desert Vegetation or Tropical thorn forests

Characteristics: Found in the areas less than 50 cm with low humidity and high temperature.

Places: West Rajasthan, south-west Haryana, north Gujarat and south-west Punjab.

Important trees: Babul, kikar and wild palms.

4 Mountain or Montane Forest

Classified into two types on the basis of altitude and rainfall.

Eastern Himalayas Forests(North eastern states): Evergreen forests found in slopes of the mountains with more than 200cm rainfall.

Between 1200-2400 m: Sal, oak, chestnut and cinnamon are found.

Between 2400-3600 m: Silver, fir, pine and juniper

(ii) Western Himalayan Forest: Found in the states of Jammu and Kashmir, Himachal Pradesh and Uttarakhand with moderate rainfall.

Upto 900 m: Semi desert vegetation of bushes and small trees.

900 to 1800 m: Chir and sal, amun and jujube.

1800 to 3000m: Chir, blue pine and poplar trees.

5 Alpine Forest

This **coniferous** trees found in Himalayas with above 2400 m altitude. Eg: Oak, silver fir, pine and juniper.

6. Tidal Forest or Delta or Swamp forests or Mangrove forest

Found in deltas of Ganga- Brahmaputra, Mahanadi, Godavari and Krishna rivers estuaries and creeks under tidal influences.