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Unit 2

## Climate and Natural Vegetation of India

I] Choose the correct answer.

1. Western disturbances cause rainfall in _____
a) Tamil Nadu b) Kerala c) Punjab d) Madhya Pradesh.

Ans → c) Punjab

2. _____ helps in quick ripening of mangoes along the coast of Kerala and Karnataka.
a) LOO b) Norwester c) Mango showers d) Jet stream.

Ans → c) Mango showers

3. _____ is a line joining the places of equal rainfall.
a) Isohyets b) Isobars c) Isotherm d) Latitudes.

Ans → a) Isohyets

4. Climate of India is labelled as _____.
a) Tropical humid b) Equitorial Climate
c) Tropical monsoon Climate d) Temperate Climate.

Ans → c) Tropical monsoon Climate.

5. The monsoon forests are otherwise called as _____
a) Tropical evergreen forests b) Deidious forest
c) Mangroove forest d) Mountain forest.

Ans → b) Decidious forest.

6. Sea Sesahachalam hills, a biosphere reserve is situated in,
a) Tamil Nadu b) Andhra Pradesh
c) Madhya Pradesh d) Karnataka.

Ans → b) Andhra Pradesh

7. _____ is a part of world network biosphere reserves of UNESCO.

a) Nilgiri b) Agasthiyamalai c) Great Nicobar d) Kachch.

Ans → a) Nilgiri

II] Match the following.

| | | |
|---|---|---|
| 1. | Sunderbans | a) Desert & semi desert vegetation |
| 2. | Biodiversity hotspot | b) October - December |
| 3. | North east monsoon | c) Littoral forest. |
| 4. | Tropical thorn forest | d) West Bengal. |
| 5. | Coastal forests | e) The Himalayas. |

Ans → 1 → d ; 2 → e ; 3 → b ; 4 → a ; 5 → c

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.

a) Both (A) and (R) are true, R explains A.
b) Both (A) and (R) are true, R does not explain A.
c) (A) is true (R) is false.
d) (A) is false (R) is true.

Ans → a) Both (A) and (R) are true, R explains A.

IV] choose the appropriate answer.

1. Tidal forests are found in and around _____.
a) Desert b) The deltas of Ganga & Brahmaputra
c) The Delta of Godavari d) The delta of Mahanadi.

Ans → a) Desert

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

Ans → d) soil.

V] Answer briefly.

1. List the factors affecting the climate of India.
→ Climate of India is affected by: latitude, altitude, distance from sea, monsoon winds, relief features and jet stream.

2. What is meant by 'normal lapse rate'?
→ Temperature decreases at the rate of 6.5°c for every 1000 meters of ascent. It is called normal lapse rate.

3. What are 'jet streams'?
→ Jet streams are the fast to moving winds blowing in a narrow zone in the upper layer of the atmosphere.

4. Write a short note on 'Monsoon wind'.
→ • The word 'monsoon' is derived from the Arabic word 'Mausim' which means 'season'.
• These winds appear to blow from southwest for 6 months & from northeast for another 6 months.

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- In India, it is used to refer to the winds which reverse their directions in summer and winter.

5. Name the 4 distinct seasons of India.

→ 4 distinct seasons of India are -:

a) Winter or cold weather season (January - February)
b) Summer or hot weather season (march - may)
c) southwest monsoon or Rainy season (June - September)
d) Northeast monsoon season (October - November)

6. What is 'burst of monsoon'?

→ • The southwest monsoon winds are moisture laden winds because they originate from the Indian ocean.
• When they approach the southern part of Kerala they give rain with violent thunderstorm including the onset of monsoon and lightening. This is known as 'burst of the monsoon'.

7. Name the areas which receive heavy rainfall.

→ The areas which receive heavy rainfall (200cm and above) are -: Meghalaya, Tripura, Nagaland and Arunachal Pradesh.

8. State the places of mangroove forests in India.

→ Places of mangrove forests in India are:
• The deltas of Ganga, the mahanadi, the Krishna, the Godavari and the Kaveri.

9. Write any 5 biosphere reserves in India.

→ Biosphere reserves in India are: • Gulf of Mannar
• the Nilgiris
• Great Nicobar
• Kanjanjunga
• Sundarbans.

vi] Distinguish between:

1. Weather and Climate.

| WEATHER | CLIMATE |
|---|---|
| • Weather is a day to day conditions of atmosphere of any place in regard to temperature, pressure, wind, humidity and rainfall. | • Climate is the average of weather for a longer period of time at any place. |
| • It is calculated for a day or a short period of time. | • To get reliable average of climate, a minimum of 35 years records of weather are necessary. |

2. Tropical Evergreen Forest and Deciduous Forest.

| Tropical Evergreen Forest | Deciduous Forest. |
|---|---|
| • These forests are located in regions of ~~heavy~~ heavy rainfall more than 200 cm of rainfall. | • These forests are located in regions of rainfall between 70 - 200cm. |
| • The trees in these forests are evergreen. | • These trees shed their leaves due to dryness during spring & early summer. |
| • These forests are very dense and composed of tall trees reaching up to height of above 60m. | • These forests are commercially important as they yield valuable timber and other forest products. |
| • Important trees -: Rosewood, ebony, mahogany and Chinchona, bamboo. | • Important trees: Teak, sal, sisam, sandalwood, wattle and neem. |

3. North East monsoon and south-west monsoon.

| North East monsoon | South-west monsoon |
|---|---|
| • It blows during Oct to Nov. | • It blows from June to sept. |
| • Blows from land to seashore area. | • It blows from sea to land |
| • It is a dry wind | • It is a moisture bearing wind. |
| • It gives 15% of the rainfall | • It gives 85% of the rainfall to India. |

VII] Give reasons.

1. Western coastal Plain is narrow.

→ The western coastal plain is narrowly located in between the Arabian sea coast and western ghats in a gap having 50 km width only.

2. India has a tropical monsoon climate.

→ India has a tropical monsoon type of climate because it lies between the latitudes 20°N to 20°S where monsoons are experienced. In this the wind changes direction with the change in season. The monsoon winds prevail mainly in Indian ocean. The conditions are made in such a way that the wind blows from the south-west from April to October & from opposite direction, the north-east from October to April.

3. Mountains are cooler than the plains.

→ As per the Normal lapse rate phenomena temperature decreases with increasing altitudes at the rate of 6.5°c for every 1000 mts of ascent. Thus mountains are cooler than the plains.

VIII] Answer in detail.

1. Write about south west monsoon.

→
- The southwest monsoon is the most significant feature of the Indian Climate.
- 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.
- The monsoon is influenced by global phenomenon like El Nino.
- Prior to the onset of 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'.
- It lowers the temperature of India to a large extent.
- The monsoon wind strikes against the southern tip of Indian land mass and gets divided into two branches.
- One branch starts from Arabian sea & 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 parts 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 wind from Bay of Bengal branch moves towards northeast India and Myanmar
- This wind is trapped by a chain of mountain 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.
- Tamil Nadu which is located in leeward side receives only a meagre rainfall.

2. Describe the forests of India.

→ Based on climate, soil and land natural vegetation of India is divided into

- Tropical Evergreen forest
- Tropical Deciduous forest
- Tropical dry forest
- Desert & Semi-desert vegetation
- Mountain or Himalayan forests. < Eastern Himalayan forest / Western Himalayan forest
- Alpine forests
- Tidal forests
- Coastal forests
- Riverine forests.

a) Tropical Evergreen forest :-

- These forests are found in areas with 200 cm or more annual rainfall.
- Western Ghats in Maharashtra, Karnataka, Kerala, Andaman & Nicobar islands, Assam, West Bengal, Nagaland, Mizoram & Manipur and Meghalaya states have Tropical Evergreen forests.
- Important trees : Rubber, Mahogany, Ebony, Cedar etc.

b) Tropical Decidious forest :-

- These forests are found in areas with 100 to 200 cm annual rainfall.
- Areas : Region of Punjab, Assam, Great Plains, ~~Punjab~~ Haryana, Uttar Pradesh, Bihar, West Bengal, Madhya Pradesh, Chattisgarh, Andhra Pradesh, Telegana, Karnataka, Tamil Nadu & Kerala.
- Important trees : Teak, sal, bamboo, sandalwood, rosewood.
- These forests are economically valuable as they provide timber wood and essential raw materials for industries.

c) Tropical dry forest :-

- These forests are found in the areas with 50 to 100 cm rainfall.
- Areas : East Rajasthan, western UP, Madhya Pradesh, West Karnataka & East Tamil Nadu.
- Important trees : Bamboo, Kirkar, Khair, Babool.

d) Desert and semi desert vegetation

- These forests are also called as Tropical thorn forests.
- found in areas ~~wit~~ of less than 50 cm annual rainfall.
- Areas : North west India, Rajasthan, Haryana, Gujrat & dry parts of deccan plateau.
- Important trees : Babul, Khair and wild palms.

e) Mountain or Himalayan forests :-
Classified on basis of altitude and amount of rainfall.

| | Eastern Himalayan forest | Western Himalayan forest. |
|---|---|---|
| Areas: | found on slopes of mountains in north east states. | found in states of Jammu & Kashmir, Himachal Pradesh & Uttarakhand. |
| Rainfall: | Receive more than 200 cm rainfall, vegetation is of evergreen type. | Rainfall is moderate. |
| | Altitude<br>· 1200 – 2400m → Sal, Oak, laurel, cinnamon, chestnut.<br>· 2400-3600 m → oak, silver fir, pine, spruce, Juniper. | Altitude<br>900 m – semi desert vegetation.<br>900m – 1800m · Chirtree.<br>1800 – 3000m · semi temperate coniferous forest.<br>Deodar, Poplar & birch are main trees. |

f) Alpine forests :-
- It occurs all along the Himalayas above 2400 m altitude.
- These forest have mainly coniferous trees. Oak, silver fir, pine, juniper are main trees.

g) Tidal forest :-
- These forests are also known as Mangrove forests.
- found in and around deltas, estuaries and creek prone to tidal influence.
- They are swampy in nature.
- Areas: Delta of Ganga – Brahmaputra, Delta of Mahanadi, Godavari, Krishna.

h) Coastal forests

- These are littoral forests generally found in coastal areas.
- Important trees: ~~Cutch~~ Casuarina, Palm & coconut are main trees.
- Areas: Eastern & western coasts especially Kerala and Goa coasts are known for these forests.

h) Riverine forests.

- These forests are known for tamarisk and tamarind trees.
- Riverines of Great plains have this ~~type~~ type of vegetation.
- These forests are found along the rivers on Khader areas.