

Class 7 Social Science

Chapter 3: Climates of India — Questions & Answers

PART 1: IN-TEXT QUESTIONS & ANSWERS

The Big Questions (Page 45)

Q1. What makes India's climate so diverse?

Answer: India's climate is diverse because of its vast size, different landforms, and location near the Tropic of Cancer. It has many climate types, including tropical, desert, and mountainous. The Himalayas block cold winds, while the monsoons bring seasonal rainfall, making the climate diverse.

Q2. What are the monsoons? How are they formed? (Page 45)

Answer: Monsoons are seasonal winds that bring heavy rainfall to India. They are formed due to the heating of land and water. In summer, the land heats up quickly, drawing in moist winds from the Indian Ocean, causing rainfall. In winter, the land cools, and dry winds blow from land to sea, bringing little rain.

Q3. What is the effect of climate on economy, culture and society? (Page 45)

Answer: The effect of climate on economy, culture, and society are as follows:

- **(i) Economy:** Climate affects farming, fishing, tourism, and other jobs. For example, in warm and sunny places, people can grow crops like rice and cotton. But in very cold or dry areas, farming is harder, and people may do other jobs like herding animals or working in factories.
- **(ii) Culture:** Climate influences what people wear, eat, and how they live. In cold places, people wear thick clothes and build warm houses. In hot areas, clothes are light and houses are made to stay cool. Local festivals and traditions also depend on the weather and seasons.
- **(iii) Society:** Climate affects where people live and how they interact. In harsh climates, fewer people live there. In comfortable climates, more people settle. Natural disasters like floods or droughts can make people move to safer places and change their way of life.

Q4. How can understanding the climate help us to prepare for natural disasters? (Page 45)

Answer: Understanding the climate helps us prepare for natural disasters like floods, droughts, and cyclones. It allows people to plan farming, build strong houses, and set up early warning systems. Knowing weather patterns helps in reducing damage and saving lives.

Q5. What is climate change? What are its consequences? (Page 45)

Answer: Climate change means a big change in the Earth's normal weather over a long time. It is mostly caused by pollution from cars, factories, cutting down trees, and burning fuels like coal and oil. This adds more gases (like carbon dioxide) to the air, which makes the Earth warmer.

Consequences of Climate Change:

1. **Rising temperatures:** The Earth is getting hotter, which can cause heatwaves.
2. **Melting ice:** Ice in the polar regions is melting, causing sea levels to rise.
3. **More natural disasters:** There are more floods, storms, and droughts.
4. **Harm to animals:** Some animals lose their homes and food, like polar bears.
5. **Effect on people:** Farmers may not grow enough food, and some people may have to leave their homes.

Let's Explore (Pages 47, 51 & 56)

Q3. Do you know which trees in your area change colours before the onset of winter? Are there trees that shed their leaves around this time? Why do you think this happens? Find out and document the local names of these trees. (Page 47)

Answer: Some trees change the colour of their leaves before winter, while others shed their leaves completely. In many regions of India, trees like Peepal, Neem, and Gulmohar shed their leaves in winter. This happens because trees prepare for the cold and dry season by reducing water loss. Shedding leaves helps them survive harsh weather by conserving energy and moisture.

Local names of trees that shed their leaves:

- **Peepal:** Known as Arasa Maram in Tamil, Pippal in Hindi
- **Neem:** Called Veppa Maram in Tamil, Nimba in Marathi
- **Gulmohar:** Known as Mayflower tree in English, Krishna Chura in Bengali

Nature follows this cycle to help trees rest during unfavourable conditions and grow fresh leaves when the climate improves.

Q4. Udhagamandalam (Ooty) and Coimbatore are almost at the same latitude. The range of summer temperatures in Ooty is 10-25°C while that in Coimbatore is 25-38°C. Why do you think there is such a difference in temperature between these two places? (Page 51)

Answer: Even though Ooty and Coimbatore are at almost the same latitude, their temperatures differ due to altitude.

1. Ooty is located at a higher altitude (about 2,240 meters above sea level) in the Nilgiri Hills, leading to a cooler climate throughout the year.
2. Coimbatore is at a much lower altitude (about 400 meters above sea level) in the plains, resulting in hotter summers.
3. As altitude increases, the temperature decreases. This is because the air at higher altitudes is less dense and holds less heat.
4. In general, temperature drops by about 6.5°C for every 1,000 meters of elevation gain. Thus, even though they are at the same latitude, Ooty is much cooler than Coimbatore due to its higher elevation.

Q5. Make a list of local knowledge about rain, fog, snow or hail in your area. (Page 56)

Answer: Here are some examples of traditional local knowledge:

- **Ants coming out in large numbers:** It is believed that when ants come out in large groups, it may rain soon.
- **Frogs croaking loudly:** If frogs are very noisy, it is often a sign that rain is coming.
- **Clouds around the moon at night:** A ring around the moon is said to be a sign of coming rain.

- **Very red sky during sunset:** It is sometimes believed that this means there may be no rain the next day.
- **Chirping of birds early in the morning:** Clear and loud bird calls can mean clear weather.
- **Sudden drop in temperature in the morning:** People say it may mean fog or dew will appear soon.
- **Black butterflies flying around:** Some believe this is a sign that it will rain soon.

Think About It (Page 59)

Q1. What are clouds? and what are they made of? (Page 59)

Answer: Clouds look like white or grey lumps in the sky, but they are made of water! They consist of tiny water droplets or ice crystals that float high up in the sky. These droplets are so small and light that they stay in the air and form clouds.

PART 2: CHAPTER EXERCISES

Q1. Match the climatic factors with their effects:

Column A (Climatic Factor)	Column B (Effect)
1. Latitude	(c) Keeps higher places cooler
2. Altitude	(d) Moderates the temperature
3. Proximity to the ocean	(a) Brings wet air to India during summer
4. Monsoon winds	(d) Moderates the temperature

Q2. Short Answer Questions:

(i) What is the difference between weather and climate?

Answer: Weather refers to the short-term atmospheric conditions of a place, while climate is the long-term average of weather patterns over many years.

(ii) Why do places near the ocean have milder temperatures than places far away from it?

Answer: Places near the ocean have milder temperatures because the ocean moderates the temperature, preventing extreme heat in summer and severe cold in winter.

(iii) What role do monsoon winds play in affecting India's climate?

Answer: Monsoon winds bring wet air to India during summer, causing heavy rainfall and influencing the overall climate of the region.

(iv) Why is Chennai warm or hot throughout the year, while Leh is cold?

Answer: Chennai remains hot throughout the year because of its proximity to the ocean, which keeps temperatures stable, while Leh is cold because it is at a high altitude, making it cooler.

Q3. Look at a map of India. Identify the climate for these cities: Leh, Chennai, Delhi, Panaji and Jaipur. Explain how location affects their climate.

City	Location Type	Climate	Effect of Factors
Leh	Near Himalayas (High altitude)	Cold and dry	High altitude keeps it cold throughout the year with very little rainfall.
Chennai	Coastal (Bay of Bengal)	Hot and humid	The ocean moderates temperature, keeping summers very hot but winters mild with high humidity.
Delhi	Inland (Northern plains)	Extreme (Hot summers, Cold winters)	Being far from the sea causes large temperature variations between seasons.
Panaji	Coastal (Arabian Sea)	Moderate, warm, humid	Sea breeze keeps temperatures moderate with heavy monsoon rains in summer.
Jaipur	Inland (Near Thar Desert)	Hot and dry	The desert causes extremely hot summers and dry winters with little rainfall.

Q6. Imagine you are a farmer in India. Write a short diary entry about how you would prepare for the rainy season.

Diary Entry – Preparing for the Rainy Season

June 10, 2024

Dear Diary,

The monsoon clouds are gathering, and I must start preparing my fields for the rainy season. First, I will plow the land to loosen the soil so that it can absorb water well. I have selected seeds for paddy and maize, as they grow best with plenty of rain. I must also clean the irrigation channels to prevent waterlogging and ensure the rainwater flows properly. My cattle need shelter, so I will reinforce the shed to keep them dry. I will also store food and firewood in case of heavy rains. I pray for good rains this year so that my crops grow well and bring a good harvest.

Q7. Identify a natural disaster and write a short essay that includes the causes and impacts. Suggest actions that individuals, communities and the government can take to reduce the impact.

Short Essay on Natural Disaster: Floods

Causes: Floods are one of the most common natural disasters, occurring when excessive water overflows onto land that is usually dry. They are caused by heavy rainfall, river overflow, dam failure, or melting glaciers. In coastal areas, floods can also be triggered by storms and tsunamis.

Impacts: Floods have severe impacts on people, property, and the environment. They destroy homes, roads, and farmlands, leaving many people homeless. Floodwaters contaminate drinking water, leading to diseases. The loss of crops and livestock affects food supply and the economy. Sometimes, floods also result in loss of lives and displacement of communities.

Mitigation & Actions: To reduce the impact of floods:

- **Individuals:** Avoid building houses in flood-prone areas and keep emergency supplies ready.
- **Communities:** Build embankments, plant trees, and clean drainage systems to prevent waterlogging.
- **Government:** Construct strong dams, improve weather forecasting systems, and provide immediate relief to affected people. Proper planning and awareness can significantly reduce flood destruction.

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