

Theme: India and the world
Name of Teacher:

Chapter: India: Diverse Geographies

Lesson Module
Class:

Lesson Objectives	Curricular Goals	Competency Code and Description
1. Describe the main physical features of India, and identify and mark them on a map of India	CG-7: Appreciates the importance and meaning of being Indian by understanding geographical diversity	C-7.2: Discovers the topographical diversity of the Indian landmass – from the semi-arid west to the snow-clad mountains in the north
2. Explain how India's geographical diversity affects our lives	CG-6: Understands the spatial distribution of resources, interdependence between natural phenomena and human life	C-6.4: Correlates different patterns of livelihoods with landforms, resources and climatic conditions
3. Analyse the role played by these geographical features in shaping our civilisation	CG-3: Draws connections between causes and effects of social and historical events	C-3.1: Analyses the effect of geographical changes on settlement, lifestyle and culture
4. Identify major physical regions (Northern Mountains, Northern Plains, Peninsular Plateau, Thar Desert, Coastal Plains and Island Groups)	CG-7: Appreciates India's diversity and its integrating factors	C-7.2: Identifies major physical regions and their biodiversity
5. Interpret maps and diagrams showing physical features	CG-1: Comprehends and interprets sources related to human life	C-1.2: Represents and analyses data in the form of maps, diagrams and charts
6. Demonstrate how physical features influence occupations and culture	CG-6: Understands interdependence of natural phenomena and human life	C-6.4: Correlates landforms and resources with patterns of livelihoods
7. Analyse traditional water conservation practices (taankas, baolis, etc) and their relevance today	CG-6: Conservation and sustainability	C-6.3: Analyses Indian perspectives on conservation and advocates sustainability
8. Discuss India's unity in diversity in the context of geographical diversity	CG-7: Appreciates India's unity in diversity	C-7.1: Explains India's cultural and geographical diversity as a unifying factor

DETAILED LESSON PLAN

SESSION 1: INTRODUCTION TO INDIA'S GEO-DIVERSITY AND NORTHERN MOUNTAINS

(30 minutes)

Topic: India: Diverse Geographies, The Main Physical Regions of India, The Northern Mountains (Karakoram Range)

Teaching Techniques: Interactive storytelling, Map orientation, Lecture, Discussion.

SESSION PLAN

1. *Introduction* (5 minutes)
 - Begin by engaging students with the Let's begin! story. Read out Gajji and Amuda's proposed adventure. Use this as a hook to introduce the vastness and beauty of India.
 - **NEP/ NCF Tag Rationale:** 21st Century Skills: Critical thinking; Discovery-based learning; Multiple Intelligences: Visual-spatial. Encourages students to visualise the journey and think critically about the diverse landscapes Amuda would see, fostering an inquiry-based approach from the start.
2. *India's Overview & Physical Regions* (10 minutes)
 - Explain India's position in Asia, its size by population and land area, and its boundaries (Himalayas, Indian Ocean, Arabian Sea, Bay of Bengal).
 - Introduce the six major physical regions of India: The Northern Mountains, The Northern Plains, The Peninsular Plateau, The Thar Desert, The Coastal Plains and The Island Groups.
3. *The Northern Mountains (Karakoram)* (10 minutes)
 - Begin discussing The Northern Mountains as a series of towering ranges running east-west, separating India from Asia. Highlight their role as a natural barrier and their influence on climate (blocking monsoon, protecting from cold winds). Mention the significance of mountain passes like the Khyber Pass for historical migration and trade.
 - Focus on the Karakoram range: Describe it as the northernmost range, cutting through Ladakh. Mention the Siachen Glacier (largest in India) and K2 (highest peak of this range).
4. *Concept-based Classroom Activity: Visualising the Journey* (5 minutes)
 - Activity: Students trace Gajji's route on a blank map of India, marking the cities mentioned.
 - Teacher Guidance: Provide students with a blank outline map of India. As you describe Gajji's journey (Kanniyakumari to Hyderabad, Jaipur, Varanasi, Manali, back to Kanniyakumari), have students roughly trace the route on their maps. This reinforces geographical locations and the idea of diverse landscapes.

End-of-Session Test

1. **Oral quiz:** What are the four natural boundaries of India?
2. **Short Answer:** Name any two of the six major physical regions of India.

SESSION 2: THE NORTHERN MOUNTAINS (continued)

(30 minutes)

Topic: The Northern Mountains (Himalayas: Himadri), Formation of the Himalayas, Ladakh Case Study

Teaching Techniques: Descriptive Lecture, Discussion, Visual Interpretation.

SESSION PLAN

1. *Introduction: The Himalayas* (10 minutes)
 - Introduce the Himalayas as the highest mountain ranges globally, lying south of Karakoram. Mention important rivers originating here (Ganga, Yamuna, Brahmaputra).
 - Explain the three main parts: **Himadri, Himachal and Shiwaliks**.
 - Describe **the Himadri** as the northernmost and highest part, always snow-covered, with some of the tallest mountains like Mount Everest and Kanchenjunga. Discuss low population here due to height and cold climate. Highlight rivers originating from its glaciers.

- **Question Guidance:** Address the exercise: “Now, arrange the following in the order in which Amuda would have seen them: the Himalayas, the Western Coastal Plain, the Thar Desert, the Peninsular Plateau, the Northern Plains.”. Guide students to re-trace Gajji’s journey mentally (Kanniyakumari (south), Hyderabad (Plateau), Jaipur (Thar), Varanasi (Northern Plains), Manali (Himalayas) and then order the regions. This requires recalling the route and associating cities with regions.

2. *Formation of the Himalayas* (10 minutes)

- Explain the “Formation of the Himalayas” using the concept of tectonic plates. Describe the Indian and Eurasian plates, the Tethys Sea, and how their collision caused land to squeeze and uplift, forming the mountains from folded rocks and sediments.
- **Visual Aid:** Play the Audio-visual from the smart book, that visually describes the formation of the Himalayas.

3. *“Let’s do it” & “India connect!”* (5 minutes)

- For “Let’s do it”, instruct students to study Fig. 1.2 (map) and identify states through which the Tropic of Cancer passes. Then, ask them to infer the two climatic zones the line divides India into. **HOTS Guidance:** This requires visual interpretation and linking geographical lines to climatic effects. Prompt them to consider the general climate north and south of the Tropic.
- Discuss “India connect!” focusing on the Himalayas’ cultural role: pilgrimage sites (Amarnath, Badrinath), monasteries (Hemis Monastery), and their reverence as ‘abode of the gods’.

4. *Case Study: Ladakh* (5 minutes)

- Introduce Ladakh as the highest plateau in India, a cold desert between Karakoram and Greater Himalayas, with very low rainfall and cold temperatures.
- Discuss the significance of marine life fossils found in Ladakh as evidence of its original position beneath the Tethys Sea.
- **Question Guidance:** Address the questions from the Case study: “1. Why is Ladakh called a cold desert? How is it similar or different from the Thar Desert?” and “2. Why is the presence of marine fossils evidence that Ladakh originally lay below the Tethys sea?”. Guide students to use textual evidence for the first part (low rainfall, cold temperature) and then compare/contrast with the Thar (hot desert). For the second, prompt them to connect marine fossils to ancient ocean environments.

End-of-Session Test

1. **Multiple Choice:** Which of these rivers originates from the Himalayas? a) Narmada b) Kaveri c) Ganga d) Luni
2. **Short Answer:** Briefly explain how the Himalayas were formed according to the tectonic plate theory.

SESSION 3: THE NORTHERN MOUNTAINS (continued)

(30 minutes)

Topic: The Northern Mountains (Himachal, Shiwaliks, Purvanchal Himalayas), The Northern Plains (Formation, Major Divisions)

Teaching Techniques: Comparative analysis, Descriptive lecture, Visual interpretation, Diagram.

SESSION PLAN

1. *Introduction: The Himachal* (5 minutes)
 - Describe “The Himachal” (Lesser Himalayas) as lying between Himadri and Shiwaliks. Highlight its beautiful valleys, hills, forests, and popular hill stations (Shimla, Mussoorie, Manali, Dharamshala, Nainital). Discuss its moderate climate, winter snowfall, and the lives and occupations of its inhabitants.
2. *The Shiwaliks & Purvanchal Himalayas* (5 minutes)
 - Explain “The Shiwaliks” (Outer Himalayas) as the southernmost and lowest range of the Himalayas. Note their composition (soft rocks, soil leading to landslides), rivers bringing stones and sand, and the presence of ‘duns’ (like Dehradun). Mention their dense forests and rich wildlife, and agriculture as the main occupation in valleys.
 - Describe “The Purvanchal Himalayas” (Eastern Hills) as the easternmost extension, covering parts of Arunachal Pradesh, Nagaland, Manipur, Mizoram. Characterise them by lower hills and dense forests, naming major ranges like Mishmi, Patkai, Naga, Mizo, and Manipur Hills.
 - **Question Guidance:** For “Let’s do it”: “Compare the nature of the landscape in Figures 1.8 and 1.9. How are they different? What can you infer about the different ranges of the Himalayas based on these pictures?” Guide students to observe the snow cover and ruggedness in Fig 1.8 (Manali, Himadri/Himachal) versus the greener, less extreme landscape in Fig 1.9 (Mussoorie, Himachal). This helps them infer the varying altitudes and climates across the ranges.
3. *Himalayan Snippets* (5 minutes)
 - Show the picture of and highlight the Himalayan brown bear as an impressive specimen of wildlife of the region. Connect its thick fur to the climate of the region.
 - Show the picture of and discuss Kath Khuni architecture and its relevance to the region.
 - Discuss why certain tourism activities (trekking, rafting) are popular in the region.
 - Discuss the “Niblet” section. Briefly cover the Garo, Khasi, and Jaintia Hills in Meghalaya and their unique agricultural practices.
4. *The Northern Plains* (10 minutes)
 - Introduce “The Northern Plains” as lying between the Himalayas and Peninsular Plateau, stretching from Punjab to Assam. Emphasise its historical significance as the “cradle of many ancient civilisations” (Harappan, Maurya, Gupta).
 - Explain their formation by alluvial soil deposited by Himalayan rivers (Ganga, Yamuna, Brahmaputra, Indus) over millions of years, forming flat, fertile land.
 - Detail the three main parts: Indus or Punjab Plains, Ganga Plains, and Brahmaputra Plains. Highlight their collective importance as one of India’s most fertile regions.
5. *Ganga-Brahmaputra Delta & Sundarbans* (10 minutes)
 - Explain the merger of Ganga and Brahmaputra with Meghna in Bangladesh, forming the Ganga–Brahmaputra Delta (largest in the world) as sediments are deposited into the Bay of Bengal.
 - Describe the Sundarbans as the world’s largest mangrove forest covering the southern part of this delta.

End-of-Session Test

1. **Fill in the Blanks:** The valleys between the Shiwalik hills are called ‘_____’ (e.g., Dehradun).
2. **Short Answer:** Name the three main parts of the Northern Plains.

SESSION 4: NORTHERN PLAINS (continued) AND THAR DESERT

(30 minutes)

Topic: Northern Plains (Wildlife, Architecture, Economy, Density) and The Thar Desert (Introduction)

Teaching Techniques: Information recall, Reasoning, Discussion, Real-world application.

SESSION PLAN

1. Northern Plains (continued) (10 minutes)

- Detail the specific rivers forming the Brahmaputra Plains, Ganga Plains, and Indus/Punjab Plains.
- Address “Let’s think”: “A person has two plots of land: one in the Northern Mountains and another in the Northern Plains. Which plot of land would be more suitable for farming. Support your answer with at least two reasons.” **HOTS Guidance:** Guide students to recall characteristics of both regions from previous sessions (fertile soil, flat land, water availability in plains vs. rugged terrain, cold climate in mountains). This requires comparative analysis and application of knowledge.
- Explain the reasons for the Northern Plains being one of the most densely populated places: fertile soil, flat land (easy infrastructure), abundant water, and suitable climate.

2. The Sundarbans (5 minutes)

- Reinforce the importance of the Sundarbans as a UNESCO World Heritage Site and Ramsar site. Explain the ecosystem (wet, marshy, brackish water) and mangroves (salt-tolerant, special breathing roots). Mention wildlife like the Bengal tiger and saltwater crocodile.
- Discuss rivers as important transportation routes, using the Ganga and NW-1 as examples for bulky cargo.
- **HOTS Question Guidance:** For “Let’s think”: “Consider the location of NW-1 and suggest at least 5 other bulky items it could transport as cargo.” Guide students to brainstorm agricultural products (e.g., grains, sugar), minerals, or manufactured goods common to the Ganga hinterland. This is a real-life application of geographical knowledge.
- **NEP / NCF Tag Rationale:** “21C: Critical thinking, Logical reasoning; Real-life connect, Discovery-based learning” encourages students to connect their learning to practical applications and engage in problem-solving.

3. The Thar Desert: Introduction (10 minutes)

- Introduce the Thar Desert (Great Indian Desert), located mainly in Rajasthan, extending to Gujarat, Punjab, Haryana. Describe it as a hot desert with very little rainfall (less than 25 cm/year) mainly because it lies in the rain-shadow area of the Aravalli Mountains. Discuss extreme temperatures (hot summers, cooler dry winters) and landforms (sand dunes, rocks), and water scarcity (seasonal streams, Luni as only river).
- Mention adaptations of plants (cactus, thorny bushes) and animals (camels, desert foxes, reptiles).
- India connect!: Briefly discuss the Ganga river dolphin, its unique echolocation, endangered status and Project Dolphin.

End-of-Session Test

1. **Real-world Application:** Why are the Northern Plains ideal for building roads and railways?
2. **Give reasons for:** The Thar Desert receives very little rainfall annually.

Topic: The Thar Desert (Livelihood, Water Conservation, Aravalli Hills) and The Peninsular Plateau (Introduction, Central Highlands, Water Conservation Case Study)

Teaching Techniques: Case study analysis, Problem-solving, Discussion, Lecture.

SESSION PLAN

1. *Thar Desert Livelihoods and Water Conservation* (10 minutes)

- Discuss livelihoods in the Thar: crops (millets, pulses with irrigation), livestock (camels, goats, sheep), and tourism.
- Emphasise the highly effective traditional methods of water conservation developed by people living in the Thar. Introduce Orans (sacred groves), Baolis and Jhalras (stepwells), and Taankas (underground tanks), explaining how each works.
- **NEP / NCF Tag Rationale:** 21st Century Skills: Critical thinking, Communication, Logical reasoning; Multiple Intelligences: Visual-spatial, Interpersonal” encourages students to think critically about applying traditional solutions to modern problems.
- **HOTS Question Guidance:** For “Case study”: “As a result of climate change, cloudbursts and the resultant flooding have become common in many parts of the country. Do you think any of these traditional methods could be adapted and applied to solve flooding? Discuss in groups and come up with a possible plan or design.” Guide students to consider how structures designed to collect/store water might be adapted for flood management (for example, rainwater harvesting for rapid absorption, increased water storage capacity). This is a research-based problem-solving task.

2. *Aravalli Hills and Peninsular Plateau: Introduction* (5 minutes)

- Explain the location of the Aravalli Hills (south-eastern border of Thar) and their dual role: blocking monsoon winds (contributing to Thar’s formation) and hindering desert expansion. Mention their ancient origin and low height due to erosion, and Palaeolithic sites.
- Introduce “The Peninsular Plateau of India” as a large, raised area south of the Northern Plains, covering central and southern India. Highlight its composition of some of the oldest volcanic rocks.
- **HOTS Question Guidance:** For “Let’s do it”: “Look at the map in Fig. 1.2. List the names of the states and union territories that lie in the Peninsular Plateau region. Is there any state that lies completely within this region?” Guide students to carefully examine the map and identify states/UTs (Telangana, Karnataka, Maharashtra, MP, Jharkhand, Odisha, Chhattisgarh and others). This is a visual awareness and discovery-based learning task.

3. *The Central Highlands* (15 minutes)

- Explain that the Narmada River divides the Peninsular Plateau into the Central Highlands (north) and the Deccan Plateau (south).
- Detail the Central Highlands:
 - **Malwa Plateau:** Located in western Madhya Pradesh, extending into southern Rajasthan. Bordered by the Aravalli, Vindhya, Satpura ranges. Rivers Narmada and Tapti originate here and flow west into the Arabian Sea.
 - **Chotanagpur Plateau:** Covers Jharkhand, parts of Bihar, West Bengal, Odisha. Rich in mineral resources (coal, iron ore, manganese, bauxite, copper), making mining an important occupation and the plateau a key industrial hub with steel plants (Jamshedpur, Bokaro).

End-of-Session Test

1. **Matching:** Match the traditional water conservation method with its description: a) Taanka (i) Stepwells for water collection and social gatherings b) Baoli (ii) Underground tank for drinking water c) Oran (iii) Sacred groves for groundwater recharge
2. **Short Answer:** Name two mineral resources found in the Chotanagpur Plateau.

SESSION 6: PENINSULAR PLATEAU (continued) AND COASTAL PLAINS

(30 minutes)

Topic: The Peninsular Plateau (Deccan Plateau, Eastern and Western Ghats) and The Coastal Plains: Introduction

Teaching Techniques: Descriptive lecture, Comparative analysis, Visual interpretation.

SESSION PLAN

1. *The Deccan Plateau* (10 minutes)
 - Explain the Deccan Plateau's borders: Satpura and Vindhya ranges to the north, Western Ghats to the west, Eastern Ghats to the east.
 - Describe its formation from ancient volcanic rocks, leading to a rugged terrain.
 - Identify major rivers (Mahanadi, Godavari, Krishna, Kaveri) originating in the Western Ghats and flowing eastward into the Bay of Bengal, due to the plateau's gentle slope.
 - Mention its richness in minerals (iron, coal, manganese) supporting industries.
 - Highlight the commonality of waterfalls (e.g., Shivasanamudra, Hundru Falls) and their importance for hydroelectric power.
 - Discuss agriculture as the main occupation: crops like rice, cotton, sugarcane, millets, oilseeds, pulses. Emphasise black soil (from lava breakdown) being suited for cotton cultivation.
 - Mention the numerous tribal groups (Gond, Bhil, Santhal, Munda) and their distinct cultures.
2. *The Eastern and Western Ghats* (10 minutes)
 - Describe the Eastern and Western Ghats as mountain ranges forming the edges of the Deccan Plateau.
 - **Western Ghats (Sahyadri):** Stretch continuously from Gujarat to Tamil Nadu, with high peaks, lush forests, unique wildlife/plants. Ideal for plantation crops (coffee, tea, spices).
 - **Eastern Ghats:** Extend from Odisha to Tamil Nadu, lower and more discontinuous than Western Ghats.
 - Explain their convergence at the Nilgiri Mountains.
3. **The Coastal Plains (Introduction & Divisions)** (10 minutes)
 - Introduce "The Coastal Plains" as narrow strips of flat land between the Ghats and the coast.
 - **Western Coastal Plains:** Narrow and rocky, divided into Konkan, Canara, and Malabar coasts.
 - **Eastern Coastal Plains:** Broader than Western Coastal Plains. Several major rivers (Mahanadi, Krishna, Godavari, Kaveri) form deltas here, making them highly productive for agriculture. Divided into Northern Circars and Coromandel Coast.
 - Point out that the two Coastal Plains join at **Kanniyakumari** (southernmost tip of mainland India).

End-of-Session Test

1. **Fill in the Blanks:** The _____ soil in the Deccan Plateau is particularly suited for the cultivation of cotton.
2. **Short Answer:** Name two plantation crops grown in the Western Ghats.

SESSION 7: COASTAL PLAINS (continued) AND ISLAND GROUPS

(30 minutes)

Topic: Coastal Plains (Ports, Lagoons, Coral Reefs, Occupations) and The Islands of India (Lakshadweep, Andaman & Nicobar)

Teaching Techniques: Visual analysis, Definition explanation, Comparison, Discussion.

SESSION PLAN

1. *Coastal Plains (Continued)* (15 minutes)
 - Discuss the importance of large ports along the Coastal Plains (Mumbai, Chennai, among others) for internal and international trade and coastal development.
 - **HOTS Question Guidance:** For “Let’s do it”: “Look at this picture. Identify the landform marked by the two boxes. Why do you think such regions are highly suitable for agriculture?” Guide students to identify the deltas on the Eastern Coastal Plain. Then prompt them to recall reasons for fertility: alluvial soil from rivers, abundant water, flat land. This links visual evidence to previously learned concepts.
 - Explain lagoons, using Chilika Lake (largest in Asia) and Vembanad Lake as examples, highlighting their separation from the ocean by a barrier but narrow channel connection, and their importance for migratory birds.
 - Define coral reefs (skeletons of coral polyps) and their vital importance as ecosystems (food, habitat for fish, coastline protection). Mention their presence around Andaman & Nicobar and Lakshadweep.
 - List main occupations in Coastal Plains: agriculture, fishing, trade, tourism.
2. *The Islands of India* (15 minutes)
 - **Teacher Guidance:** Introduce the two main island groups: Lakshadweep and the Andaman and Nicobar Islands.
 - **Lakshadweep:** India’s smallest Union Territory, in the Arabian Sea. Made entirely of **corals**, with flat, sandy, low-lying, ring-shaped atolls.
 - **Andaman and Nicobar Islands:** In the Bay of Bengal. Volcanic in origin, unlike Lakshadweep. Mention Barren Island (India’s only active volcano). Note dense forests and rich wildlife.
 - Introduce indigenous tribal groups (Onge, Jarawa, Nicobarese).
 - Highlight the vital importance of both island groups for trade and defence (proximity to trading routes) and the emergence of tourism.

End-of-Session Test

1. **Oral Quiz:** What is the main difference in origin between the Lakshadweep and the Andaman and Nicobar Islands?
2. **Short Answer:** Name two major ports located along India’s coastline.

SESSION 8: IMPACT OF INDIA'S GEO-DIVERSITY

(30 minutes)

Topic: How India's Geo-diversity Impacts Our Lives, The Role Played by Geographical Features in Shaping Our Civilisation, Keywords, Let's Recap, Exercises, A Step Further.

Teaching Techniques: Synthesis, Discussion, Self-assessment, Formative assessment, Debate preparation.

SESSION PLAN

1. *Impact of Geo-diversity* (10 minutes)

- Discuss "How India's geo diversity impacts our lives". Break it down into categories:
 - **Climate and lifestyle:** (Woollens in mountains, water conservation in desert, cotton/seafood in coasts).
 - **Agriculture, industry, and economy:** (Fertile plains for water-intensive crops, Deccan black soil for cotton, Thar for millets/pulses/livestock, NE hilly areas for shifting/terraced farming, Coastal/Islands for trade/fishing/marine industries).
 - **Transport:** (Air in mountains, rail/road in plains, boats/ferries/air for islands/coastal areas).
 - **Natural disasters:** (Earthquakes/landslides in mountains, cyclones/flooding in coastal plains, flooding in northern plains, droughts in Thar/Peninsular Plateau).

2. *Role in Shaping Civilisation and Review* (10 minutes)

- Initiate discussion on 'THE ROLE PLAYED BY THE GEOGRAPHICAL FEATURES IN SHAPING OUR CIVILISATION'. Guide students using the provided points:
 - Fertile plains: early agriculture, ancient civilizations
 - Northern Mountains: natural barrier, preserved unique culture
 - Thar Desert: natural barrier, trade route
 - Peninsular Plateau: shaped regional cultures
 - Long coastline: international trade, cultural exchanges
 - Go over the "Keywords" and "Let's Recap" sections as a quick review. This reinforces core concepts and vocabulary.

3. *Formative Assessment and "A Step Further"* (10 minutes)

- **Teacher Guidance:** Help students complete questions from the "Exercises" section. Refer to Answer key section for suggested answers. Assign worksheet as home assignment.

Suggested Differentiated Teaching Methods

1. **Visual-Spatial & Map-Based Learning**

- Use of physical and topographical maps, diagrams, pictures, and videos to help students visualize concepts (e.g., tracing journeys, identifying regions, comparing landscapes).

2. **Auditory & Discussion-Based Learning**

- Storytelling, peer discussions, oral quizzes, debates, and listening to audio/voice resources to engage auditory learners and develop communication skills.

3. **Kinesthetic & Experiential Learning**

- Hands-on activities like tracing maps, drawing diagrams, marking routes, or role-playing scenarios that help students learn by doing.

4. Collaborative & Research-Based Learning

- Group activities, case study analysis, brainstorming solutions, small research tasks, and debate preparation to encourage teamwork, inquiry, and independent exploration.

QUESTION BANK

A. Fill in the blanks.

1. The highest plateau in India, known for being one of the highest cold deserts, is _____. *Remember*
2. The Purvanchal Himalayas, also known as the _____, cover parts of Arunachal Pradesh, Nagaland, Manipur, and Mizoram. *Remember*
3. The _____ Delta in India and Bangladesh is the largest delta in the world. *Remember*
4. Traditional huts in the _____ are often built of mud with roofs made of hay, featuring small, high windows to keep the houses cool. *Remember*
5. The rivers Narmada and Tapti, originating in the _____, flow westwards and drain into the Arabian Sea. *Remember*

B. Complete the pairs.

1. Himalayas: Himadri:: Karakoram: _____
2. Ganga: Northern Plains:: Luni: _____
3. Konkan Coast: Western Coastal Plains:: _____: Eastern Coastal Plains
4. Lakshadweep: Coral Islands:: Andaman and Nicobar: _____
5. _____: Stepwell:: Taanka: Underground Rainwater Tank

C. Answer the following in two or three sentences.

1. Why do the rivers of the Northern Plains make the land very fertile?
2. What evidence shows that Ladakh was once under the Tethys Sea?
3. Why is the Western Ghats suitable for growing plantation crops like tea and coffee?
4. What kind of houses do people build in the Thar Desert, and why?
5. If you had to establish a new industrial hub in India, primarily focusing on mineral resources, which physical region would you recommend and why?

D. Answer the following in five or six sentences.

1. Explain how the Himalayas influence the climate, rivers, and human life in India.
2. Describe the main features of the Peninsular Plateau and name its two parts.
3. How do the geographical features of the Coastal Plains support trade and agriculture?
4. Discuss the lifestyle and occupations of people living in the Thar Desert and how they adapt to its conditions.
5. Describe two unique features of the Sundarbans and explain their ecological or environmental significance as mentioned in the text.

ANSWER KEY FOR QUESTION BANK

A. Fill in the blanks.

- | | | |
|----------------|----------------------|----------------------|
| 1. Ladakh | 2. Eastern Hills | 3. Ganga–Brahmaputra |
| 4. Thar Desert | 5. Central Highlands | |

B. Complete the pairs.

- | | | |
|---------------------|----------------|---------------------|
| 1. K2 | 2. Thar Desert | 3. Coromandel Coast |
| 4. Volcanic Islands | 5. Baoli | |

C. Answer the following in two or three sentences.

1. The rivers of the Northern Plains bring alluvial soil from the Himalayas and deposit it over the plains. This makes the land flat, fertile, and ideal for farming.
2. Fossils of marine life found in Ladakh show that it was once under the Tethys Sea. These fossils provide evidence that the region was covered by water in ancient times.
3. The Western Ghats have a wet climate and fertile soil due to heavy rainfall. These conditions are suitable for growing plantation crops like tea and coffee.
4. People in the Thar Desert build houses with thick mud walls and small, high windows. These features help keep the houses cool in the hot and dry climate.
5. The Chotanagpur Plateau in the Central Highlands is ideal for setting up an industrial hub. It has rich mineral resources like coal, iron ore, and bauxite, which support industries.

D. Answer the following in five or six sentences.

1. The Himalayas act as a barrier, protecting India from cold winds and foreign invasions. They block the southwest monsoon winds, causing heavy rainfall in northern India. Many rivers such as the Ganga and Brahmaputra originate from glaciers here, providing water for farming. The mountains also influence culture with many pilgrimage sites. They support tourism and adventure activities. Few people live in higher ranges due to the cold climate.
2. The Peninsular Plateau is an old rocky region formed by volcanic activity. It lies south of the Northern Plains and covers central and southern India. It is divided into two parts: the Central Highlands and the Deccan Plateau. The Central Highlands include the Malwa and Chotanagpur Plateaus, rich in minerals. The Deccan Plateau slopes east and has rivers like the Godavari and Krishna. Agriculture and mining are the main occupations here.
3. The Coastal Plains lie along the sea between the Ghats and the coastline. The Eastern Plains are wider and fertile because rivers form deltas here. The Western Plains are narrow and rocky, with good ports like Mumbai. The long coastline helps trade and fishing. Fertile deltas make farming possible, and lagoons and beaches attract tourism. These features make the region important for agriculture and trade.
4. The Thar Desert is hot and dry with very little rainfall. People grow crops like millets and pulses using irrigation as they need less water. Camels are important for transport. Houses are built with thick mud walls and small windows to keep them cool. People also use traditional water storage methods like baolis and taankas. Livestock rearing and tourism are major sources of income.

5. The Sundarbans is the largest mangrove forest in the world and a UNESCO World Heritage Site. It has unique trees with breathing roots that grow in salty water. The region is also home to the Bengal tiger and other wildlife. These features make it ecologically important for biodiversity. The mangroves protect the coastline from erosion and flooding. They also support fisheries and local livelihoods.

ANSWER KEY FOR TEXTBOOK QUESTIONS

I. Fill in the blanks.

- | | | | |
|---------------------|---------------|------------------|---------|
| 1. Shiwaliks | 2. Purvanchal | 3. Indus | 4. Luni |
| 5. Satpura, Vindhya | 6. Sahyadri | 7. Kanniyakumari | |

II. Name the following.

1. K2 (8,611m)
2. Bhagirathi
3. Shimla, Mussoorie, Manali, Dharamshala, Nainital (*Students can name any three*)
4. The Ganga–Brahmaputra Delta
5. Narmada and Tapi
6. Mahanadi, Godavari, Krishna, Kaveri (*Students can name any three*)
7. (a) Western Coastal Plains: Konkan, Canara, and Malabar coasts; (b) Eastern Coastal Plains: Northern Circars and Coromandel Coast
8. Three ports of India are Mumbai, Jawaharlal Nehru Port (Nhava Sheva), Kandla and Cochin on the Western Coast, and Chennai, Ennore, Visakhapatnam, Paradip and Kolkata on the Eastern Coast. (*Students can name any three*)
9. Onge, Jarawa and Nicobarese people

III. Choose the correct option.

1. d. Kanchenjunga
2. a. it is a wetland and the largest mangrove forest in the world
3. b. Ghaghara
4. c. i, ii and iv
5. c. Taanka
6. a. Both (A) and (R) are correct, and (R) is the correct explanation of (A)
7. c. the waters of Chilika are separated from the sea by a barrier, but a narrow channel continues to link it to the sea
8. b. The islands of Lakshadweep are made up of coral, while the islands of Andaman and Nicobar are volcanic in nature

IV. Answer the following.

1. The Himalayas were formed due to the movement of tectonic plates. Millions of years ago, the Indian plate and the Eurasian plate were separated by a large ocean called the Tethys Sea. As the Indian plate moved northward, it slowly collided with the Eurasian plate. This collision caused the land in between to get squeezed and pushed upward, forming the Himalayan Mountain Ranges.
2. The Himalayas are made up of three main parts:
 - The Himadri (or Greater Himalayas): This is the northernmost and highest part of the Himalayas. It includes some of the tallest mountains in the world, such as Mount Everest (in Nepal) and Kanchenjunga (on the border between India and Nepal). Its peaks are always covered with snow, and important rivers like the Ganga and Yamuna originate from its glaciers. Due to its great height and cold climate, very few people live here.

- The Himachal (or Lesser Himalayas): Located between the Himadri and the Shiwalik Hills, this region features many beautiful valleys, hills, and forests. It is home to popular tourist spots and hill stations like Shimla, Mussoorie, Manali, Dharamshala, and Nainital. The Himachal Himalayas have a more moderate climate than the Himadri, though they receive snowfall in winter, making them more habitable. People here primarily engage in growing fruits, vegetables, raising animals, and tourism.
- The Shiwaliks (or Outer Himalayas): These are the southernmost and lowest range of the Himalayan mountains. They are composed of soft rocks and soil, making them prone to landslides. Rivers from the higher Himalayas bring stones and sand to this region. The valleys between the Shiwalik hills are called 'duns,' such as the Dehradun valley. This region is characterized by dense forests and a rich variety of wildlife, with agriculture being the main occupation in the valleys.

3. **Similarities between Ladakh and the Thar Desert:**

- Both Ladakh and the Thar Desert are deserts.
- Both regions experience scarce water conditions.
- Both are characterised by very low rainfall.

Differences between Ladakh and the Thar Desert:

- Ladakh is one of the highest cold deserts in the world, experiencing extremely cold temperatures. The Thar Desert is a hot desert with extremely hot summers.
- Ladakh is in the northernmost part of India, located between the Karakoram and the Greater Himalayas. The Thar Desert is mainly in Rajasthan, extending into Gujarat, Punjab, and Haryana. It lies in the rain-shadow area of the Aravalli Mountains, which is a main cause of its formation.

4. The diversity of India's physical features significantly impacts the occupations of its people.

- Northern Mountains (especially Himachal region): The presence of beautiful valleys, hills, and forests, combined with a moderate climate, makes this region suitable for growing fruits and vegetables and rearing cattle. Tourism is also a very important source of employment, with activities like trekking, mountaineering, rafting, skiing, and paragliding being popular.
- Northern Plains: The fertile alluvial soil and abundant rainfall in this region support agriculture, allowing for the cultivation of water-intensive crops like wheat, rice, and sugarcane. The flat nature of the land also encourages the development of infrastructure and industries, supporting a large population.
- Peninsular Plateau: The rich black soil in the Deccan Plateau, formed from lava breakdown, is particularly suited to the cultivation of cotton. The region's abundance of minerals like coal, iron ore, manganese, bauxite, and copper makes mining an important occupation and supports many industries, transforming it into a major industrial hub.
- Thar Desert: The arid conditions and scarce water in this region mean that people grow crops that use less water, such as millets and pulses, and raise livestock like camels, goats, and sheep. Despite the tough climate, tourism is also an important occupation in this region.
- Coastal Plains and Islands: Access to the sea supports occupations such as trade and fishing, and the growth of marine-based industries. Tourism has also emerged as a major industry due to their natural beauty and pristine beaches.

5. The three major river systems of the Northern Plains are the Indus, the Ganga, and the Brahmaputra river systems.

6. The Northern Plains are one of the most densely populated places in India and the world due to several factors:
 - The soil is very fertile, making it excellent for farming and supporting crops like wheat, rice, sugarcane, and pulses.
 - The land is flat, which facilitates the easy construction of roads, railways, and cities, promoting infrastructure development.
 - There is plenty of water from rivers for drinking, farming, and daily use.
 - The climate is suitable for both farming and living.
7. Three traditional methods of water conservation practiced in the Thar Desert are:
 - Orans (sacred groves): These are patches of forest with special religious importance that play an important role in water conservation. Many orans help in recharging groundwater and preserving the ecosystem.
 - Baolis and Jhalras (stepwells): These are deep, multi-story structures with steps leading down to a water source. They are designed for water conservation and as social gathering places, collecting rainwater that flows through streets and drains for irrigation, drinking, and bathing.
 - Taankas: A traditional rainwater harvesting technique, a taanka is a covered, underground tank constructed from stone or brick. Rainwater from surrounding areas flows into the tank through specially made inlets, and the collected water is usually used for drinking.

Relevance today: Yes, these traditional methods are highly relevant even today. These methods represent sustainable, community-based approaches to water management. In an era of increasing water scarcity and unpredictable rainfall patterns, adapting and applying these time-tested techniques can help in efficient rainwater harvesting, groundwater recharge, and overall water security, reducing reliance on external sources and mitigating the impacts of both drought and flash floods.
8. India's geographical diversity has a major impact on various aspects of our lives, including food, clothing and occupations:
 - Food: People eat what is grown locally. In coastal areas, rice and fish are common, while in northern states, wheat, pulses and dairy products are popular.
 - Clothing: Climate influences what we wear. People in hot regions wear light cotton clothes, while those in cold regions like Himachal Pradesh or Jammu & Kashmir wear woollen clothes.
 - Occupations: Geography also decides the kind of work people do. Farmers grow crops suited to the soil and rainfall of their area, fishermen work near coasts, and people in deserts may rear camels or do handicrafts.

V. Picture-based questions.

1. Fig.1.35. shows the Eastern Coastal Plain.
This is because, the Eastern Coastal Plain along the Bay of Bengal is generally wider and flatter, with long, straight and sandy beaches.
2. Some ways in which global warming can strongly affect India's coasts include:
 - A rise in sea levels can flood low-lying areas and river deltas (e.g., Sundarbans), causing erosion and loss of land.
 - Stronger cyclones and storm surges can damage homes, roads and ports.

- Saltwater intrusion can spoil groundwater and fields near the coast.
 - Damage to mangroves, coral reefs and fisheries can hurt biodiversity and people's livelihoods.
3. I don't agree with a total ban. Tourism gives jobs and income to many coastal families and builds local facilities.

But it must be strictly regulated: protect mangroves, dunes and turtle-nesting beaches; limit construction near the shore; manage waste and sewage; cap visitor numbers in sensitive zones; promote eco-tourism and ban harmful activities (e.g., littering, damaging reefs).

(Answers and arguments may vary)