

Physical Features of India

Fastrack Revision

- ▶ India is a large landmass formed during different geological periods which has influenced her relief. Besides geological formations, a number of processes such as weathering, erosion and deposition have created and modified the relief to its present form.

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The Gondwana land included India, Australia, South Africa, South America and Antarctica as one single landmass.

- ▶ Early scientists have tried to explain the formation of physical features with the help of certain theories, the most important being 'theory of plate tectonics'.
- ▶ This theory states that, 'the crust of the Earth has been formed out of seven major and some minor plates.'
- ▶ The movement of these plates has changed the position and size of the continents over millions of years and has also influenced the present landform features of India.
- ▶ Plate tectonic movements have affected the Indian landforms in the following manner:
 - ▶ The oldest landmass (the peninsula part) was a part of the Gondwana land.
 - ▶ The convectional currents split the crust into a number of pieces, thus leading to the drifting of the Indo-Australian plate after being separated from the Gondwana land, towards North.
 - ▶ The Northward drift resulted in the collision of this plate with the much larger Eurasian plate.
 - ▶ Due to this collision, sedimentary rocks which were accumulated in the geosyncline called the Tethys, folded to form the mountain system of Western Asia and the Himalayas.
 - ▶ The Himalayas uplifted out of the Tethys sea and subsidence of Northern flank of the peninsular plateau resulted in the formation of a large basin.

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The Kali and the Teesta river demarcate the Nepal Himalayas and the part lying between the Teesta and the Dihang rivers is known as Assam Himalayas.

- ▶ Gradually, the basin got filled with deposition of sediments by the rivers that flew from the mountains in the North and the peninsular plateau in the South. Thus, a flat land was formed due to extensive alluvial deposits and this is referred to as the Northern plains of India.
- ▶ The physical features of India can be grouped under the following physiographic divisions:
 - ▶ **The Himalayan Mountains:** The Himalayas, geologically young and structurally fold mountains, stretch over the Northern borders of India. They form an arc, which

covers a distance of about 2,400 km. Their width varies from 400 km in Kashmir to 150 km in Arunachal Pradesh. The Himalayas consist of three parallel ranges in its longitudinal extent which are referred to as the Himadri, the Himachals and the Shivaliks.

- ▶ **The Northern Plain:** The Northern plain has been formed by the interplay of the three major river systems, viz., the Ganga, the Brahmaputra, and the Indus, along with their tributaries. It spreads over an area of 7 lakh sq km. This plain is 2,400 km long and 240 to 320 km broad and is densely populated and agriculturally very productive. The Northern plain is broadly divided into the Punjab plains and the Ganga plains.

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The Aravalis lie on the Western and North-western margins of the Peninsular plateau. They are highly eroded and broken hills which extend from Gujarat to Delhi in a South-West to North-East direction.

- ▶ **The Peninsular Plateau:** It is a tableland composed of the old crystalline, igneous and metamorphic rocks. It was formed due to breaking and drifting of the Gondwana land. This plateau consists of two broad divisions, viz., the Central Highlands and the Deccan Plateau. The Western Ghats and Eastern Ghats mark the Western and Eastern edges of the Deccan Plateau.
- ▶ **The Indian Desert:** It lies towards the Western margins of the Aravali Hills. It is an undulating sandy plain covered with sand dunes. This region receives very low rainfall below 150 mm per year. It has an arid climate with low vegetation cover.
- ▶ **The Coastal Plains:** The Peninsular Plateau is flanked by the stretch of narrow coastal strips running along the Bay of Bengal on the East and the Arabian Sea on the West, comprising of the coastal plains. The Western coast, sandwiched between the Western Ghats and the Arabian Sea, is a narrow plain.

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Chilika Lake is an important feature along the Eastern coast. It is the largest salt water lake in India and lies in the state of Odisha, to the South of Mahanadi Delta.

- ▶ **The Islands:** India has two groups of islands. The Lakshadweep Islands lie close to Malabar Coast of Kerala. This island is composed of small coral islands, earlier known as Laccadive, Minicoy and Amindive. Andaman and Nicobar Islands form an elongated chain of islands in Bay of Bengal. They are bigger in size and more numerous and scattered.



Practice Exercise

Multiple Choice Questions

- Q 1. According to the 'Theory of Plate Tectonics', when some plates come towards each other, which of the following is formed?
- Convergent boundary
 - Divergent boundary
 - Transform boundary
 - None of the above
- Q 2. Which of the following is a plausible theory presented by Earth scientists to explain the formation of continents, oceans and the various landforms?
- Theory of Motion
 - Theory of Plate Tectonics
 - Theory of Evolution
 - Theory of Relativity
- Q 3. Which of the following is responsible for the variation in the colour of soil in different parts of India?
- Difference in rock formations
 - Weathering
 - Erosion and deposition
 - Land use
- Q 4. Which of the following physiographic divisions of India was formed out of accumulations in the Tethys geosyncline?
- The Himalayas
 - The Peninsular plateau
 - The Northern plains
 - The Coastal plains
- Q 5. Which continents of today were part of the Gondwana land?
- Asia and Africa
 - Europe and Asia
 - Europe and Africa
 - Australia and South America
- Q 6. Which of the following is the highest peak in India?
- Mt. Everest
 - Nanga Parbat
 - Kanchenjunga
 - Nanda Devi
- Q 7. What are Lesser Himalayas Known as?
- Himadri
 - Purvachal
 - Shivaliks
 - Himachal
- Q 8. Narrow valleys between Shivalik and Himachal are known as:
- Tarai
 - Dunes
 - Khadar
 - Bhangar
- Q 9. Mountain peak that lies in the Karakoram range is:
- K2
 - Kanchenjunga
 - Mt. Everest
 - Dhaulagiri
- Q 10. are geographically young and structurally fold mountains that stretch over the Northern border of India.
- Aravalis
 - Vindhyas
 - Himalayas
 - Cardamom hills
- Q 11. In which direction, the Himalayan mountain ranges run from the Indus to the Brahmaputra?
- West-East
 - North-South
 - East-West
 - North-East
- Q 12. Which of the following represents the loftiest and one of the most rugged mountain barriers of the world?
- Hindu Kush
 - Sulaiman range
 - Kunlun mountains
 - Himalayan mountains
- Q 13. How many parallel ranges in their longitudinal extent are contained by the Himalayas?
- Three parallel ranges
 - Four parallel ranges
 - Five parallel ranges
 - Six parallel ranges
- Q 14. In which division of the Himalayas are the famous valleys of Kashmir, Kangra and Kullu located?
- The Himadri
 - The Himachal
 - The Shivaliks
 - Purvachal
- Q 15. Identify the physiographic division using the following clues:
- This is the outermost range of the Himalayas with height varying between 900 m and 1,100 m.
 - The average width is 10 to 50 km.
 - They are composed of coarse sediments brought down by rivers from the main Himalayan ranges.
- Great Himalayas
 - Himachal
 - Shivalik Range
 - Kumaon Himalayas
- Q 16. The Northern plains have been formed by the interplay of how many river systems in India?
- Two
 - Three
 - Four
 - One
- Q 17. Which of the following parts of India is agriculturally a productive part of India with a rich soil cover combined with adequate water supply and favourable climate?
- Northern plains
 - Peninsular plateau
 - Coastal plains
 - Indian desert
- Q 18. The Northern plains are formed of soil.
- alluvial
 - black
 - red
 - laterite

By the picture and answer the question that follows:



Which physiographic division is being depicted in the given picture?

- The Peninsular plateau
- The Northern plains
- The Coastal plains
- None of the above

Q 20. Match the following:

Column I	Column II
1. Bhabar	A. Newer, younger deposits of flood plains.
2. Terai	B. Largest part of the Northern plain.
3. Bhangar	C. Wet, swampy and marshy region.
4. Khadar	D. Lies parallel to the slopes of the shivaliks.

- | | | | |
|------|---|---|---|
| 1 | 2 | 3 | 4 |
| a. A | C | B | D |
| b. D | C | B | A |
| c. C | D | B | A |
| d. B | C | D | A |

Q 21. Mountain ranges in the Eastern part of India forming its boundary with Myanmar are collectively called as:

- Himachal
- Uttarakhand
- Purvachal
- None of the above

Q 22. Which hills lie along the undulating sandy plain covered with sand dunes with streams appearing only during rainy season?

- Mizo hills
- Khasi hills
- Aravali hills
- Jaintia hills

Q 23. Which of the following physiographic divisions of India is supposed to be one of the most stable land blocks geologically?

- The Himalayas
- The Northern plains
- The Peninsular Plateau
- The Coastal plains

Q 24. Which physiographic divisions have rising hills and wide valleys?

- The Himalayan mountains
- The Northern plains
- The Peninsular plateau
- The Coastal plains

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The Peninsular Plateau is a tableland composed of the old crystalline, igneous and metamorphic rocks that have broad and shallow valleys and rounded hills.

Q 25. Which of the following land mass includes the Peninsular Plateau of India?

- Angara land
- Tethys
- Gondwana land
- None of these

Q 26. Which of the following in the Brahmaputra river is the largest inhabited riverine island in the world?

- Majuli
- Andaman
- Lakshadweep
- None of these

Q 27. The Indian Desert lies towards the Western margins of the:

- Shivalik hills
- Jaintia hills
- Aravali hills
- Khasi hills

Q 28. Which two hills are located in the South-East of Eastern Ghats?

- Mizo hills and Patkal hills
- Shevroy hills and Javadi hills
- Patkal hills and Naga hills
- Mizo hills and Naga hills

Q 29. Which of the following is located on the west side of the Aravallis?

- Northern plains
- Peninsular plateau
- Coastal plains
- Thar desert

Q 30. A landmass bounded by sea on three sides is known as:

- Coast
- Uttarakhand
- Island
- None of these

Q 31. The Aravali region annually receives rainfall:

- below 150 mm
- below 125 mm
- above 150 m
- below 120 mm

Q 32. Which of the following river is found in desert region of India?

- Narmada
- Tapti
- Luni
- Kaveri



TiP

Revise thoroughly the flow of various rivers across different regions of India.

Q 33. Which type of climate the Aravali region has?

- Temperate climate
- Arid climate
- Tropical climate
- Mediterranean climate

Read the following statements carefully and choose the correct option:

Statement (I): The Northern plains are generally described as flat land with no variations in its relief.
Statement (II): According to the variations in relief features, the Northern plains can be divided into four regions.

- a. Statement (I) is correct and (II) is incorrect.
- b. Statement (I) is incorrect and (II) is correct.
- c. Both Statements are incorrect.
- d. Both Statements are correct.

Q 35. Read the following statements carefully and choose the correct option:

Statement (I): The Himalayas form an arc, which covers a distance of about 2400 km.

Statement (II): The width varies from 200 km in Kashmir to 50 km in Arunachal Pradesh.

- a. Statement (I) is correct and (II) is incorrect.
- b. Statement (I) is incorrect and (II) is correct.
- c. Both Statements are incorrect.
- d. Both Statements are correct.

Q 36. Read the following statements carefully and choose the correct option:

Statement (I): Our country has practically all major Physical features of the earth i.e., mountains, plains deserts, plateaus and islands.

Statement (II): The land of India displays great physical variation.

- a. Statement (I) is correct and (II) is incorrect.
- b. Statement (I) is incorrect and (II) is correct.
- c. Both Statements are incorrect.
- d. Both Statements are correct.



Assertion & Reason Type Questions

Directions (Q.Nos. 37-43): In the following questions given below, there are two statements marked as Assertion (A) and Reason (R). Read the statements and choose the correct option:

- a. Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
- b. Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A).
- c. Assertion (A) is true, but Reason (R) is false.
- d. Assertion (A) is false, but Reason (R) is true.

Q 37. Assertion (A): The Island groups have a great diversity of flora and fauna.

Reason (R): These Island lie close to the equator and have a thick forest cover.

Q 38. Assertion (A): India has practically all major physical features of the earth i.e., mountains, plains, deserts, plateaus and islands.

Reason (R): The land of India displays great physical variation.

Q 39. Assertion (A): The part of the Northern plains is formed of older alluvium known as Bhangar.

Reason (R): It lies above the flood plains of the rivers and presents a terrace like feature.

Q 40. Assertion (A): The Himalayas play an important role in the economic and cultural development of India.

Reason (R): The Himalayas are known for their scenic beauty and are visited by tourists all over the world bringing much needed foreign currency into the country.

Q 41. Assertion (A): The Peninsular plateau is one of the oldest landmasses of the earth.

Reason (R): It is separated from the coastal plains by Eastern and Western Ghats.

Q 42. Assertion (A): The coastal plains are the narrow strips of the plains running along with coasts of India.

Reason (R): They are formed by the alluvial soil deposited by the Himalayan rivers.

Q 43. Assertion (A): The Indian desert is an undulating sandy plain covered with sand dunes.

Reason (R): The rivers draining this region are the Chambal, the Sind, the Betwa and the Ken.

Answers

- | | | | | |
|---------|---------|---------|---------|---------|
| 1. (a) | 2. (b) | 3. (a) | 4. (a) | 5. (d) |
| 6. (a) | 7. (d) | 8. (b) | 9. (a) | 10. (c) |
| 11. (a) | 12. (d) | 13. (a) | 14. (b) | 15. (c) |
| 16. (b) | 17. (a) | 18. (a) | 19. (b) | 20. (b) |
| 21. (c) | 22. (c) | 23. (c) | 24. (c) | 25. (c) |
| 26. (a) | 27. (c) | 28. (b) | 29. (d) | 30. (d) |
| 31. (a) | 32. (c) | 33. (b) | 34. (b) | 35. (a) |
| 36. (d) | 37. (a) | 38. (b) | 39. (b) | 40. (a) |
| 41. (b) | 42. (c) | 43. (c) | | |



Source Based Questions

Source 1

Read the source given below and answer the questions that follow by choosing the most appropriate option:

The Himalayas, geologically young and structurally fold mountains stretch over the Northern borders of India. These mountain ranges run in a West-East direction from the Indus to the Brahmaputra. The Himalayas represent the loftiest and one of the most rugged mountain barriers of the world. They form an arc, which covers a distance of about 2,400 km. Their width varies from 400 km in

hmir to 150 km in Arunachal Pradesh. The altitudinal variations are greater in the eastern half than those in the western half. The Himalaya consists of three parallel ranges in its longitudinal extent. A number of valleys lie between these ranges. The northern most range is known as the Great or Inner Himalayas or the 'Himadri'. It is the most continuous range consisting of the loftiest peaks with an average height of 6,000 metres. It contains all the prominent Himalayan peaks.

- Q 1. What is the distance covered by an arc formed by Himalayan mountains?**
 a. 2,200 km b. 2,300 km
 c. 2,400 km d. 2,500 km
- Q 2. What type of altitudinal variations are seen in the Eastern and Western half of Himalayas?**
 a. Same in Eastern and Western half
 b. Greater in Eastern half than those in the Western half
 c. Smaller in Eastern half than those in the Western half
 d. No altitudinal variations are seen
- Q 3. How many parallel ranges are found in Himalayas in its longitudinal extent?**
 a. Two b. Three
 c. Four d. One
- Q 4. Which of the following is the Northern-most range of Himalayas?**
 a. Himadri b. Himachal
 c. Shivalik Range d. Eastern Range
- Q 5. What is the average height of the loftiest peaks of Inner Himalayas?**
 a. 4,000 metres b. 5,000 metres
 c. 6,000 metres d. 7,000 metres
- Q 6. What is the variation in width of Himalayan mountains?**
 a. 300 km in Kashmir to 150 km in Arunachal Pradesh
 b. 400 km in Kashmir to 150 km in Arunachal Pradesh
 c. 400 km in Kashmir to 200 km in Arunachal Pradesh
 d. 450 km in Kashmir to 150 km in Arunachal Pradesh

Answers

1. (c) 2. (b) 3. (b) 4. (a) 5. (c) 6. (b)

Source 2

Read the source given below and answer the questions that follow:

The **Western Ghats** and the **Eastern Ghats** mark the Western and the Eastern edges of the Deccan Plateau respectively. Western Ghats lie parallel to the Western coast. They are continuous and can

be crossed through passes only. Locate the Thal, Bhor and Pal Ghats in the Physical map of India.

The Western Ghats are higher than the Eastern Ghats. Their average elevation is 900–1,600 metres as against 600 metres of the Eastern Ghats. The Eastern Ghats stretch from the Mahanadi Valley to the Nilgiris in the South. The Eastern Ghats are discontinuous and irregular and dissected by rivers draining into the Bay of Bengal. The Western Ghats cause orographic rain by facing the rain bearing moist winds to rise along the Western slopes of the Ghats. The Western Ghats are known by different local names. The height of the Western Ghats progressively increases from North to South. The highest peaks include the Anai Mudi (2,695 metres) and the Doda Betta (2,637 metres). Mahendragiri (1,501 metres) is the highest peak in the Eastern Ghats. Shevroy Hills and the Javadi Hills are located to the South-East of the Eastern Ghats. Locate the famous hill stations of Udagamandalam, popularly known as Ooty and the Kodaikanal.

- Q 1. Which of the two is having a higher average height, the Eastern Ghats or the Western Ghats?**

Ans. The average height of the Western Ghats is 900 to 1,600 m, whereas the average height of the Eastern Ghats is only about 600 m. Thus, the Western Ghats are higher.

- Q 2. Give the difference between the Eastern Ghats and Western Ghats on the basis of their location.**

Ans. The Eastern Ghats lie parallel to the Eastern coast along the Bay of Bengal. On the other hand, the Western Ghats lie parallel to the Western coast along the Arabian Sea.

- Q 3. What is the stretch of Eastern Ghats?**

Ans. The Eastern Ghats stretch from the Mahanadi valley to the Nilgiris in the South.



Very Short Answer Type Questions

- Q 1. What does the theory of Plate Tectonic states?**

Ans. The theory of Plate Tectonic states that the crust of the earth has been formed out of seven major and some minor plates.

- Q 2. What do you know about the Gondwana land?**

Ans. Gondwana land is the southern part of the ancient super continent Pangea with Angara land in the Northern part.

- Q 3. Name the continents and the countries which made up the Gondwana land.**

Ans. The Gondwana land included India, Australia, South Africa, South America and Antarctica as one single landmass.

How did a large basin in India form?

The Himalayan uplift out of the Tethys sea and subsidence on the Northern flank of the peninsular plateau resulted in the formation of a large basin.

Q 5. Which range of Himalayas is the most continuous range?

Ans. The Northernmost range which is also known as Himadri or Inner Himalayas, is the most continuous range of Himalaya.

Q 6. Name the three prominent sub-ranges of the Himachal Himalayas.

Ans. The sub-ranges are named as Pir Panjal, Dhauladhar and Mahabharat.

Q 7. What is the variation in height in the Shivalik mountain range?

Ans. The height of the Shivalik mountain range varies from 900 to 1,100 m.

Q 8. What are Shivalik ranges made of?

Ans. Shivalik ranges are composed of unconsolidated sediments brought down by rivers from the main Himalayan ranges.

Q 9. Which is the highest peak in the Eastern Ghats and what is its height?

Ans. Mahendragiri at a height of 1,501 m is the highest peak in the Eastern Ghats.

Q 10. Name the hills that lie at the junction of Western and Eastern Ghats.

Ans. The Nilgiri hills in Tamil Nadu lie at the junction of Eastern and Western Ghats.

Q 11. Name the highest peak which lies in Western Ghats and what is its height?

Ans. Anai Mudi is the highest peak in Western Ghats. Its height is 2,695 m.

Q 12. It is a table land composed of the old crystalline, igneous and Metamorphic rocks. Which physiographic division is being described? Give two reasons.

Ans. The peninsular plateau is being described in the given statements. The main features of peninsular plateau are:

- (i) A large number of peninsular rivers are seasonal, as their flow depends on rainfall
- (ii) These rivers have shorter and shallower courses.

Q 13. Which part of the plateau contains black soil of volcanic origin?

Ans. The Western part of plateau known as the Deccan trap contains black soil of volcanic origin.

Q 14. Which part of the Eastern coastal plain is known as Northern Circar?

Ans. The Northern part of the Eastern coastal plain is known as Northern Circar.

Q 15. What is the Southern part of the Western coastal plains known as?

Ans. The Southern part of the Western coastal plains is known as Malabar (mostly in Kerala).

Q 16. Which coastal part is called as Konkan?

Ans. The Northern part of the coast is known as Konkan.

Q 17. Where do the Lakshadweep islands lie?

Ans. The Lakshadweep islands lie close to the Malabar coast of Kerala.

Q 18. Where are the Aravali hills located?

Ans. The Aravali hills lie on the Western and North-Western margins of the peninsular Plateau.

Q 19. What are Corals?

Ans. Coral polyps are short lived microscopic organisms which live in colonies in shallow, mud free and warm water.

Q 20. What are Atolls?

Ans. Atolls are circular or horse shoe shaped coral reefs.

Q 21.



What is shown in the above picture? Explain its two features.

Ans. Above picture shows the coastal plains.

Features of coastal plains in India are:

- (i) In the Northern part, it is called Northern Circar, while the Southern part is known as Coromandel Coasts.
- (ii) The plains along the Bay of Bengal are wide and level.



Short Answer Type Questions

Q 1. Explain the plate movements.

OR

Explain the types of tectonic plate movements responsible for the formation of relief features.

Ans. There are basically three types of movements of plates:

- (i) **Divergent Movements:** When the plates move away from each other, the movement is known as divergent movement.
- (ii) **Convergent Movements:** When the plates come towards each other, the movement is known as convergent movement.

Transformation Fault Boundary: When the plates slide past each other, scraping and deforming as they pass, the movement is known as transformation fault boundary.

Q 2. Why does India have great physical variations?

OR

Which factors have modified the relief features of India?

Ans. India has practically all major physical features such as the mountains, plains, plateaus, desert and islands. It is because of the following reasons:

- (i) Processes such as weathering, erosion and deposition have created and modified the relief to its present form.
- (ii) The tectonic movement of plates is also responsible for physical variations in India.

Q 3. Write a short note on Purvachal or Eastern Himalayas.

Ans. Beyond the Dihang gorge, the Himalayas bend sharply to the South and spread along the Eastern boundary of India. They are known as the Purvachal or the Eastern mountains. Covered with dense forests, they mostly run as parallel ranges and valleys and are composed of strong sandstones. The Purvachal comprises of the Patkal hills, the Naga hills, the Manipur hills and the Mizo hills.

COMMON ERROR

Students do not mention the features of Eastern Himalayas properly and do not write the names of hills comprised in it.

Q 4. Name the three parallel ranges of the Himalayas and state one typical characteristic of each.

OR

Which are the three main ranges of the Himalayas? Describe briefly.

Ans. The three parallel ranges of the Himalayas are as follows:

- (i) **The Himadri:** The Himadri is the loftiest of all the Himalayan ranges. All the high peaks belong to this range.
- (ii) **The Himachal:** All the important hill stations such as Dalhousie, Dharamshala and Shimla belong to this range.
- (iii) **The Shivaliks:** These are made up of unconsolidated river deposits and are prone to earthquakes and landslides.

Q 5. Classify Northern plains according to location.

Ans. The Northern plains are broadly divided into the following sections according to its location:

(i) **Punjab Plains:** The Western part of the Northern plains is referred to as the Punjab plains. They are formed by the Indus and its tributaries. The larger part of this plain lies in Pakistan. This section is dominated by doobs.

(ii) **Ganga Plains:** The Ganga plains extends between the Ghaggar and the Teesta river. They are spread over the states of Haryana, Delhi, UP, Bihar and partly Jharkhand and West Bengal. To the East of Ganga plains, especially in Assam, lies the Brahmaputra plain.

Q 6. Give the differences between the Himalayan peaks and the Peninsular peaks.

Ans. Difference between the Himalayan peaks and the Peninsular peaks are:

S.No.	Basis of Difference	The Himalayan Peaks	The Peninsular Peaks
(i)	Location	These are <u>located in the Himalayan mountains of the north</u> .	These are <u>located in the Peninsular Plateau region</u> .
(ii)	Height	Their height is <u>above 6,000 metres from the sea level</u> .	Their height does <u>not exceed 3,000 metres from the sea level</u> .
(iii)	Snowfall	They are <u>always snow-covered</u> .	They <u>never experience snow fall</u> .
(iv)	Highest Peak	<u>Mt Everest (8,848 m)</u> is the highest peak of the world and that of the Himalayas.	<u>Anai Mudi (2,995 m)</u> is the highest peak of the Peninsular peaks.

Q 7. Why are Northern plains agriculturally fertile?

Ans. Northern plains are agriculturally fertile due to the following reasons:

- (i) They have a rich soil cover.
- (ii) They have adequate water supply.
- (iii) They have a favourable climate.

Q 8. State any three features of Western Ghats.

Ans. The following are the features of Western Ghats:

- (i) The Western Ghats lie parallel to the Western coast. They are continuous and can be crossed through passes only.
- (ii) The average height of the Western Ghats is 900 to 1,600 metres.
- (iii) The height of the Western Ghats progressively increases from North to South.

Knowledge BOOSTER



The Western Ghats cause orographic rain by facing the rain-bearing winds.

Name the three sections of the Western coast.

Western coast consists of three sections which are as follows:

- (i) The Northern part of the coast is called the Konkan (Mumbai-Goa).
- (ii) The central stretch is called the Kannad plain.
- (iii) The Southern stretch is referred to as the Malabar coast.



Long Answer Type Questions

Q 1. How has plate tectonics affected the Indian landforms?

Ans. Plate tectonics has affected the Indian landforms in the following manner:

- (i) The oldest landmass (the peninsula part) was a part of the Gondwana land. The Gondwana land included India, Australia, South Africa, South America and Antarctica as one single landmass.
- (ii) The convictional currents split the Gondwana land into a number of pieces, thus leading to the drifting of the Indo-Australian plate after being separated from the Gondwana land, towards North.
- (iii) The Northward drift resulted in the collision of this plate with the much larger Eurasian plate.
- (iv) Due to this collision, sedimentary rocks which were accumulated in the geosyncline called the Tethys, folded to form the mountain system of Western Asia and Himalaya.
- (v) The Himalayas uplift out of the Tethys sea and subsidence of Northern flank of the peninsular plateau resulted in the formation of a large basin. Gradually, the depression got filled with deposition of sediments by the rivers that flew from the mountains in the North and the peninsular plateau in the South, leading to the formation of Northern plains.

Q 2. Describe how the Himalayas were formed.

Ans. The oldest landmass was a part of the Gondwana land. This land included India, Australia, Africa, South America and Antarctica as one single landmass. There was a larger Eurasian Plate in the North. In between the Gondwana land and the Eurasian Plate there was a narrow, elongated trough called the Tethys Sea. It was filled with sedimentary rocks. The convictional currents split the Gondwana land into a number of pieces. The Indo-Australian plate after separating from the Gondwana land drifted towards North. As a result, both the North and Southern plates collided. Due to this collision, the sedimentary rocks, accumulated in the geosynclines of the Tethys, got folded and uplifted. The uplifted folds in course of time assumed the stature of the Himalayas and the West Asian mountain system.

Q 3. Describe any five characteristics of the Great Himalayas.

Ans. The Northern most range of the Himalayas is called the Inner Himalayas or Great Himalayas or the Himadri. They exhibit the following characteristics:

- (i) They are the most continuous range, consisting of some of the loftiest peaks like Mt Everest, Kanchenjunga, etc.
- (ii) Their average height is 6,000 metres.
- (iii) The core of the Inner Himalayas is made up of granite.
- (iv) The folds of the Inner Himalayas are asymmetrical.
- (v) They are permanently covered with snow and ice. Many rivers and glaciers come down from this range.

Q 4. Describe how the Himalayas have been divided on the basis of regions from West to East.

Ans. The Himalayas are divided into four sections in the West-East direction:

- (i) **Punjab Himalayas:** The part of the Himalayas lying between the Sutlej and the Indus rivers is known as Punjab Himalayas.
- (ii) **Kumaon Himalayas:** The part of the Himalayas lying between the Sutlej and the Kali river is known as Kumaon Himalayas.
- (iii) **Nepal Himalayas:** The Kali and the Teesta river demarcate the Nepal Himalayas.
- (iv) **Assam Himalayas:** It includes the part lying between the Teesta and the Dihang river.

Q 5. Differentiate between the Himadri Himalayas and the Himachal Himalayas.

Ans. Difference between the Himadri Himalayas and the Himachal Himalayas are:

S.No.	Basis of Difference	The Himadri Himalayas	The Himachal Himalayas
(i)	Range	The Himadri Himalayas are the <u>innermost range.</u>	The Himachal Himalayas are the <u>middle range.</u>
(ii)	Height	They have <u>lofty peaks, with an average height of 6,000 metres.</u>	The average height <u>varies from 3,700 to 4,500 metres.</u>
(iii)	Snowfall	This range is <u>always snow bound.</u>	This range experiences <u>occasional snowfall.</u>
(iv)	Glaciers and rocks	<u>Siachin and Baltoro</u> are some of the glaciers in this range.	They are composed of <u>compressed and altered rocks.</u>

Important mountain peaks	Nanga Parbat, Nanda Devi, Kanchenjunga, Namcha Barwa, Mount Everest (in Nepal/Tibet) are important mountain peaks of these ranges.	Kinnaur Kailash, Indrasan, Deo Tibba, etc., are important mountain peaks of these ranges.
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Q 6. Give the main characteristics of the Northern plains of India.

Ans. Characteristics of the Northern plains of India are as follows:

- Northern plains have been formed by the three major river systems, viz., the Indus, the Ganga and the Brahmaputra and their tributaries.
- They are one of the most fertile plains in the world, spreading over an area of 7 lakh sq kms.
- Northern plains peaks are the most densely populated region of India.
- These plains contain rich alluvial soil cover. They have an adequate water supply and favourable climate for crop cultivation and are the granaries of India.
- These plains have many riverine features such as alluvial fans, flood plains, bars, buffs, etc.
- Many ancient and large cities are located in these plains.

Q 7. How would you categorise the Northern plains on the basis of relief?

Ans. On the basis of relief, the Northern plains can be divided in the following manner:

- Bhabar:** It is a narrow belt covered with pebbles, lying along the foot of the Shivaliks from the river Indus to the river Teesta. This belt is about 8 to 16 km in width.
- Terai:** It is wet and marshy. It has a thick forest and a variety of wildlife.
- Khadar:** It is composed of new alluvium. It is formed in the lower levels in the plains near the rivers. It is very fertile.
- Bhangar:** It is composed of old alluvium. It is formed higher up in the plains at river terraces. It is less fertile as compared to khadar.

Q 8. Mention the features of the Deccan Plateau.

Ans. Features of the Deccan Plateau are as follows:

- The Deccan Plateau is a triangular landmass that lies to the South of the river Narmada.
- The Satpura range flanks its broad base in the North while the Mahadev, the Kaimur hills and the Maikal range form its Eastward extension.
- It is higher in the West and slopes gently Eastwards.

(iv) Its North-East extension is locally known as Meghalaya, Karbi-Anglong plateau and the North Cachar Hills. It is separated by a fault from the Chotanagpur plateau.

(v) Three prominent hill ranges from the West to the East are the Garo, Khasi and Jaintia Hills.

Q 9. Contrast the relief of the Himalayan region with that of the Peninsular plateau region.

Ans. Difference between the Himalayan region and the Peninsular plateau region are:

S.No.	Basis of Difference	The Himalayan Region	The Peninsular Plateau Region
(i)	Landforms	It consists of the <u>loftiest mountains and deep valleys.</u>	It consists of <u>broad and shallow valleys and rounded hills.</u>
(ii)	Structure	The Himalayan Mountains <u>comprise the greatest and the highest mountain ranges of the world.</u>	The Peninsular plateau is <u>rugged, dissected and is a remnant portion of the great old landmass called the Gondwana land.</u>
(iii)	Rivers	Perennial rivers originate from the <u>snow-capped mountain ranges.</u>	In the absence of snow-capped mountain ranges, the rivers <u>originating in this region are rainfed and seasonal.</u>
(iv)	Location	It is located at the <u>edge of the Indo-Gangetic plain.</u>	It is located at the <u>edge of Deccan plateau.</u>
(v)	Hill Stations	There are many <u>famous hill stations found in the Himalayan region.</u> For example, <u>Shimla, Mussoorie, Darjeeling, etc.</u>	No well-known hill station is found in the Peninsular plateau.

differentiate between the Western Ghats and the Eastern Ghats.

The difference between the Western Ghats and the Eastern Ghats are:

S.No.	Basis of Difference	The Western Ghats	The Eastern Ghats
(i)	Location	These are <u>located on the Western side of the Peninsular plateau.</u>	These are <u>located on the Eastern side of the Peninsular plateau.</u>
(ii)	Structure	These are <u>regular and continuous and can be crossed through passes only.</u>	These are <u>discontinuous and irregular and dissected by rivers draining into the Bay of Bengal.</u>
(iii)	Coastal region	They lie <u>parallel to the Malabar coast.</u>	They lie <u>parallel to the Coromandel coast.</u>

(iv)	Height	They are comparatively <u>higher in elevation. Their average elevation is 900-1,600 metres.</u>	They have a comparatively <u>lower elevation. Their average elevation is 600 metres.</u>
(v)	Highest peaks	The highest peaks in the <u>Western Ghats are the Anai Mudli and the Doda Betta.</u>	The highest peak in the <u>Eastern Ghats is Mahendragiri.</u>



TiP

Give the difference between the two in tabular format on different bases.



Chapter Test

Multiple Choice Questions

Q 1. Mountain ranges in the Eastern part of India forming its boundary with Myanmar are collectively called:

- a. Himachal
- b. Purvachal
- c. Uttaranchal
- d. None of these

Q 2. Which two hills are located in the South-East of Eastern Ghats?

- a. Mizo hills and Naga hills
- b. Javadi hills and Shevroy hills
- c. Patkal hills and Manipuri hills
- d. Mizo hills and Patkal hills

Q 3. Which mountain range represents the loftiest and one of the most rugged mountain ranges in the world?

- a. Sulaiman range
- b. Himalayan range
- c. Satpura range
- d. Vindhya range

Q 4. What marks the Eastward extension of the plateau which is also drained by the Damodar river?

- a. Chotanagpur Plateau
- b. Malwa Plateau
- c. Central Highlands
- d. Deccan Plateau

Q 5. Where is the Lakshadweep Islands groups located?

- a. Close to the Malabar coast of Kerala
- b. Close to the Coromandel coast
- c. Close to the Malabar coast
- d. None of the above

Assertion and Reason Type Questions

Directions (Q.Nos. 6-7): In the following questions given below, there are two statements marked as Assertion (A) and Reason (R). Read the statements and choose the correct option:

- a. Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
- b. Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A).
- c. Assertion (A) is true, but Reason (R) is false.
- d. Assertion (A) is false, but Reason (R) is true.

Q 6. Assertion (A): Landslides occur frequently in the Shivaliks.

Reason (R): The Shivaliks are composed of unconsolidated sediments brought down by rivers from the main Himalayan ranges.

Q 7. Assertion (A): Himalayas are called young fold mountains.

Reason (R): Himalayas are characterised by high peaks, gorges, I-shaped valleys, glaciers and steep slopes which indicate that the mountains are still very young.

sed Question

the source given below and answer the questions follow by choosing the most appropriate option:

The Peninsular plateau is a tableland composed of the old crystalline, igneous and metamorphic rocks. It was formed due to the breaking and drifting of the Gondwana land and thus, making it a part of the oldest landmass. The plateau has broad and shallow valleys and rounded hills. This plateau consists of two broad divisions, namely, the Central Highlands and the Deccan Plateau. The part of the Peninsular plateau lying to the North of the Narmada river, covering a major area of the Malwa plateau is known as the Central Highlands. The Vindhyan range is bounded by the Satpura range on the South and the Aravalis on the North-West. The further Westward extension gradually merges with the sandy and rocky desert of Rajasthan. The flow of the rivers draining this region, namely the Chambal, the Sind, the Betwa and Ken is from South-West to North-East, thus indicating the slope. The Central Highlands are wider in the West but narrower in the East. The Eastward extensions of this plateau are locally known as the Bundelkhand and Baghelkhand.

- (i) Name the part of the Peninsular plateau lying to the North of the Narmada river covering a major area of the Malwa plateau.
- a. Deccan Plateau b. Central Highlands
c. Vindhyan Range d. Satpura Range
- (ii) Which range is bounded by the Satpura range on the South and the Aravalis on the North-West?
- a. Himadri b. Himachal
c. Shivalik d. Vindhyan
- (iii) What is the direction of the flow of rivers draining this region?
- a. South-East to North-West
b. South-West to North-East
c. South-East to North-East
d. North-East to South-West
- (iv) Name the term locally used for Eastward extensions of Peninsular plateau.
- a. Chotanagpur plateau b. Bundelkhand
c. Baghelkhand d. Both b. and c.

- (v) What was the reason behind formation of Peninsular plateau?

- a. Broad and shallow valleys and rounded hills.
b. Breaking and drifting of the Gondwana land.
c. Discontinuous and irregular slopes.
d. Decrease in the velocity of river due to gentle slope.

- (vi) There are two statements marked as Assertion (A) and Reason (R). Read them and choose the correct option:

Assertion (A): Peninsular plateau is a part of the oldest landmass.

Reason (R): It is composed of old crystalline and sedimentary rocks.

- a. Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
b. Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A).
c. Assertion (A) is true, but Reason (R) is false.
d. Assertion (A) is false, but Reason (R) is true.

Very Short Answer Type Questions

- Q 9. Name the two rivers between which Kumaon and Assam Himalayas demarcated.
- Q 10. Where is the Chilika lake located? Why is it famous?

Short Answer Type Questions

- Q 11. Name the part of the Northern plains formed of older alluvium. Mention any two characteristic features of it.
- Q 12. Describe the divisions of the Northern plain on the basis of the differences in the relief.
- Q 13. Name the coastal strip of Peninsular plateau lying along the Arabian sea. Write any four features of it.

Long Answer Type Questions

- Q 14. Give an account of the four divisions of the Himalayas from West to East along with Purvachal hills.
- Q 15. Discuss about the role of Himalayas in the economic and cultural development of India.

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To get Answers of this Chapter Test

