

## **SOCIAL STUDIES (GEOGRAPHY)**

### **CHAPTER 02: PHYSICAL FEATURES OF INDIA**

(Textbook + Extra Q&A)

**1. Discuss the geological structure of India.**

- (i) India is part of ancient continent called Gondwanaland which is divided into many plates. One such Indo-Australian plate moved towards the north and collided with Euro-asian plate and thus resulted in rising to the present day Himalayas.
- (ii) To the south of Himalayas a basin was formed. It was filled with alluvium brought by the rivers and thus forming North Indian plains.
- (iii) During Himalayas formation, two major events affected the plateau. An extensive volcanic eruption took place in the north-west part of the plateau.
- (iv) The western part subsided and the Indian Ocean advanced and occupied the depression. It led to the rise to the Bay of Bengal and the Arabian sea.

**2. Describe the physiographic divisions or physical features of India.**

Physiographic division of India is:

- (i) The Himalayan Mountains: Geologically young and fold mountains stretch over the northern borders of India. These are the one of the most rugged mountain barriers of the world.
- (ii) The Northern Plain: It is about 2400km long and 240-320km wide. Formed by interplay of three major river systems - the Indus, the Ganga and the Brahmaputra. It is rich in fertile alluvial soil.
- (iii) The Peninsular Plateau: The tableland composed of old crystalline igneous and metamorphic rocks. It is abundant with shallow valleys and rounded hills.
- (iv) The Indian Desert: It lies towards the western margins of the Aravalli Hills and has arid climate with low vegetation cover.
- (v) The Coastal Plains: These plains are stretched along the eastern and the western edges of the peninsular plateau.
- (vi) The Islands: Two island groups - the Lakshadweep Islands and the Andaman and Nicobar Islands.

**3. Write three important features of Aravalli Hills.**

- (i) The Aravalli Hills lie on the western and the north-western margins of the peninsular plateau.
- (ii) Highly eroded and broken hills.
- (iii) Extend from Gujarat to Delhi in southwest-northeast direction.

**4. Which plateau lies between the Aravalli and the Vindhyan ranges?**

The Malwa plateau

**5. Name the three major divisions of the Himalayas from north to south.**

Three major divisions of the Himalayas:

- (i) The Greater Himalayas or the Inner Himalayas or Himadri
- (ii) The Middle Himalayas or Himachal
- (iii) The Outer Himalayas or "Shivaliks"

**6. Name the island group of India having coral origin.**

Lakshadweep Islands

**7. Write a short note on The Indian Desert.**

- (i) The Great Indian Desert lies to the west of the Aravalli range.
- (ii) It largely covers a major region of the state of Rajasthan.
- (iii) It receives very low rainfall i.e. below 150 mm per year and therefore it is a dry region.

- (iv) The soil is generally sandy to sandy-loam in texture.
- (v) It has arid climate with low vegetation cover.

**8. Name the landmasses that were included in the Gondwanaland.**

India, Australia, Southern Africa, South America

**9. What are the relief features that are found in the Northern Plains?**

Relief features in the Northern Plains are (i) Bhabar; (ii) Terai; (iii) Bhangar; and (iv) Khadar

**10. Describe the Theory of Plate Tectonics.**

A plausible theory presented by earth scientists to explain the formation of continents and ocean basins and the various landforms is the 'Theory of Plate Tectonics'. According to the theory, the crust of the earth has been formed out of seven major and some minor tectonic plates.

According to the earth scientists, millions of years ago, the world comprised of a supercontinent 'Pangaea' surrounded by the primeval ocean 'Panthalasa'. The present continents and intervening oceans were formed due to splitting of the crust into plates due to convection currents and drifting of these plates.

**11. Where would one find most of the volcanoes and earthquake zones in the world and why?**

Most volcanoes and earthquake zones in the world are located at plate margins. According to the 'Theory of Plate Tectonics' presented by earth scientists, the crust of the earth has been formed out of seven major and some minor plates. The movement of these plates due to convection currents results in the building up of stresses within the plates and continental rocks above. This leads to folding, faulting and volcanic activity along the zones of maximum stress, i.e., mostly along the margins of the plates. Earthquake and volcanic activity are maximum here. The circum-Pacific region – popularly termed as the Pacific Ring of Fire on account of its volcanoes and frequent earthquakes – lies along the margin of tectonic plates.

**12. Name the different major physiographic divisions of India. Write a note on any one of the physiographic divisions of India.**

The major physiographic divisions of India are as follows :

- The Himalayan Mountains
- The Northern Plains
- The Peninsular Plateau
- The Indian Desert
- The Coastal Plains
- The Islands

The Coastal Plains: The Peninsular Plateau of India is flanked by a stretch of narrow coastal plains to its west and east. The Western Coastal Plain is a narrow strip of plain stretching along the Arabian Sea lying to its west and flanked by the Western Ghats to its east. The northern part of the West Coast is called the Konkan (Mumbai to Goa), the central stretch is called the Kannad while the southern part is called the Malabar Coast. The Eastern Coastal Plain is comparatively wide and level stretch running along the Bay of Bengal lying to its east with the Eastern Ghats rising to its west. It is known as Northern Circar in the north, while its southern part is referred to as the Coromandal Coast.

**13. How was the Great Northern Plains of India formed? Give a brief description.**

The formation of the Himalayas due to upliftment of sediments out of the Tethys Sea and subsidence of the northern flank of the Peninsular Plateau resulted in the formation of a large basin.

Over millions of years this depression gradually got filled up with alluvium deposited by the three major river systems – the Indus, the Ganga and the Brahmaputra flowing from the Himalayas in the north. Sediments were also deposited by the tributaries of these rivers rising from the mountains in the north as

well as the Peninsular Plateau to its south. As a result, the fertile Indo-Gangetic or Northern Plains, and the Brahmaputra Plain in the northeast, were formed. As the Himalayas gained in height, the rivers, glaciers and other agents of denudation became increasingly active in erosion. As a result, large amount of silt got deposited in the shrinking Tethys.

**14. Where are the Western and the Eastern Ghats situated? Write a small note on each.**

The Western and the Eastern Ghats are situated in the Peninsular Plateau region. The Western Ghats mark the western edge of the Deccan Plateau and lie parallel to the Western Coast. The Eastern Ghats mark the eastern edge of the Deccan Plateau. They stretch from the Mahanadi Valley to the Nilgiri Hills in the south. The eastern coastal plain runs to its east. The Western Ghats are continuous and regular and can be crossed only through passes like the Thal, Bhore and the Pal Ghats. They are comparatively high in elevation (average 900 to 1600 metres). No major river cuts across the Western Ghats. The Eastern Ghats are discontinuous and irregular. They are of relatively lower elevation (average 600 m). They are dissected by rivers draining into the Bay of Bengal.

**15. Define tectonic or lithospheric plates.**

Earth scientists have put forward the view that the Earth's crust or the lithosphere is not a continuous block. It consists of several large and small, rigid, irregularly shaped plates (slabs) which include continents and the ocean floor. These slabs are moving or drifting in relation to each other by about 2.5 cm to 5 cm each year. These crustal slabs are called tectonic or lithospheric plates. According to the 'Theory of Plate Tectonics' put forward by the Earth scientists, the earth's crust has been formed out of seven major and some minor tectonic plates or lithospheric plates.

**16. Which plateau lies between the Aravali and the Vindhya range? Write a brief note on this plateau.**

The Malwa Plateau lies between the Aravali hills and the Vindhya range. The Aravali hills lie to the west of the plateau and the Vindhya range lies to its south. 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 Malwa plateau lies in Madhya Pradesh. It is composed of extensive lava flows. There are rolling plains separated by flat topped hills. The plateau is largely broken in form of ravines near the Chambal Valley in its east.

**17. What do you understand by 'duns'? Where are they situated in our country? Give any two examples of duns.**

The longitudinal valleys lying between Lesser Himalaya and the Shivaliks are known as duns. Dehradun and Kotli Dun are two examples of duns.

**18. What are corals? Name and describe the island group which is of coral origin.**

Corals are short lived microscopic organisms, which lives in colonies. They flourish in shallow, mud-free and warm waters. They secrete calcium carbonate. The coral secretion and their skeletons form coral deposits. Lakshadweep islands group lying close to the Malabar Coast of Kerala is composed of small coral islands.

**19. Describe 'Bhabar' and 'Terai'.**

Bhabar is pebble studded formation situated at the base of mountains and plains in the Himalayan region. Terai is a sloping land at the foothills of the Nepal Himalayas. The Terai receives heavy rainfall and is densely forested.

**20. Name any three divisions of Himalayas on the basis of regions from West to East and also write one main feature of each.**

The Himalayas have been divided on the basis of regions from west to east. These divisions have been demarcated by river valleys.

- (i) The part of Himalayas lying between Indus and Sutlej has been traditionally known as Punjab Himalayas. It is also regionally known as Kashmir Himachal Himalaya from west to east respectively.
- (ii) The part of Himalayas lying between Sutlej and Kali rivers is known as Kumaon Himalayas.
- (iii) The Kali and Tista rivers demarcate the Nepal Himalayas and the part lying between Tista and Dihang rivers is known as Assam Himalayas.

**21. Why are the Himalayas called young fold mountains?**

The Himalayan mountain is geologically young and structurally fold mountains stretch over the northern parts of India. It was uplifted from the 'Tethys Sea' during the Tertiary period. The whole mountain represents a very youthful topography with high peaks, deep valleys and fast flowing rivers. That is why it is called a young-fold mountain.

**22. The relief of India displays a great physical variation. Explain.**

India is a vast country with varied landforms. It has high mountains, plains, plateaus, islands, deserts etc. This varied 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. It is, therefore, India displays a great physical variation.

**23. What is the Great Himalaya? Write two characteristics of it.**

The northernmost range of the Himalayas is known as the Great or Inner Himalayas or the Himadri.

- (i) It is the most continuous range consisting of the loftiest peaks with an average height of 6000 metres. It contains all the prominent Himalayan peaks.
- (ii) Its folds are asymmetrical in nature and its core is composed of granite rock. It is perennially snowbound and contains many glaciers.