

HOTS (Higher Order Thinking Skills)

Q.1. Collision of which two Plates led to the formation of fold mountains in Tethya Sea?

Ans. Collision of Indo-Australian plate with Eurasian plate led to the formation of fold mountains in the Tethys Sea.

Q.2. Distinguish between fold and fault?

Ans.

Folds	Faults
1. These are bends in rocks that are due to compressional forces. They are formed when heat and pressure is applied to the rock.	1. If the internal strength of the rock is less than the pressure applied to a rock undergoing fold, faults are formed.
2. Caused due to vertical movements.	2. Generally caused due to horizontal movements.
3. Forces move towards a common centre.	3. Forces move away from the common centre.
4. It leads to the formation of anticlines and synclines.	4. It leads to the formation of Block mountains and Rift valleys, due to upliftment and subsidence of land.
5. Common in sedimentary rocks.	5. Common in igneous or metamorphic rocks.
6. Example, the Himalayas and the Alps.	6. Ex. vosges and black forest are Block mountains, formation of Vindhya and Satpura range.

Q.3. “The relief of India displays a great physical variation. Explain how?

Ans. The relief of India displays a great physical variation:

(i) India is one of the few countries, which is having almost all kind of physical features.

(ii) The Himalayas are young fold mountain blocks which are helpful in blocking the cold winds arriving from North and causing rainfall in almost all over India.

(iii) To the South of Himalayas like Northern Plains of India, which are called granaries of India, as they are formed by alluvial deposits by the Himalaya rivers like Ganga, Brahmaputra and Indus.

(iv) To its South lies Peninsular Plateau formed by volcanic activities and are the store houses of minerals.

(v) India does experience dryness. Thar desert in Western Rajasthan remains in rain shadow and receives less than 25 cm of annual rainfall.

(vi) India is also flanked by two Island groups namely, Andaman and Nicobar Islands in Bay of Bengal and Lakshadweep islands in Arabian Sea.

Q.4. Why are the Shiwalik ranges prone to landslide and earthquakes?

Ans. The Shiwalik ranges are still in the process of folding. This is the youngest range of the Himalayas formed by unconsolidated rock material. Therefore, these ranges are prone to earthquakes and landslides.

Q.5. Why are Himalayas called young fold mountains? Mention any three features of the great Himalayan range.

Ans. (i) Himalayas are called young fold mountains as they are formed by folding process and still process of folding is going on.

(ii) They got folded into three parallel range—The greater Himalayas, the lesser Himalayas and the Shiwalika.

(iii) They have all prominent peaks which are snow covered almost throughout the year.

So, Himalayas are geologically young and structurally fold mountains stretch over the Northern borders of India.

Q.6. Mention the nature of geology and topography of the Himalayas, the Peninsular Plateau and Northern Plains.

Ans. Nature, geology and topography of the Himalayas:

1. Himalayas: The Himalayas, geologically young and structurally fold mountains stretch over the northern borders of India. The Himalayas are loftiest and one of the most rugged barriers of the world.

2. Peninsular Plateau: It was formed due to breaking and drifting of the Gondwana land and thus, making it a part of the oldest landmass. The part of Peninsular plateau lying to the North of Narmada river covering a major area of the Malwa plateau called central Highlands. Peninsular Plateau

contain of Western and Eastern Ghats folded by the volcanic activities in the area.

3. The Northern Plain: Northern plains are drained by three river systems—The Indus, Ganga and the Brahmaputra alongwith their tributaries. They deposit alluvial soil in vast basin lying at the foothills of Himalaya.

Q.7. How are plains important for country's economy?

Ans. The Northern Plains are drained by three river systems—the Indus, Ganga and the Brahmaputra along with their tributaries. They deposit alluvial soils in vast basins lying at the foothills of the Himalayas. With a rich soil cover combined with adequate water supply and favourable climate, it is agriculturally a very productive part of India.

Q.8. Classify the Northern Plains on the basis of the variations in the relief features. Write characteristic each of any three of them.

Ans. (i) Bhabar: The rivers after descending from the mountains deposit pebbles in a narrow belt lying parallel to the slopes of the Shiwaliks. This is known as Bhabar.

(ii) Terai: To the south of Bhabar belt, the rivers and stream re-emerge and create a wet, swampy and marshy region known as the Terai. This was a thickly forested area but was later on cleared for cultivation.

(iii) Bhangar: The largest part of the northern plain is formed of older alluvium. They lie above the flood plains of the rivers and present a terrace-like feature. The soil in this region contains kankar modules in them. This part is known as bhangar.

(iv) Khadar: The newer younger deposits of the floodplains are called khadar. They are renewed almost every year and are therefore fertile. They are ideal for cultivation.

Q.9. Why is Peninsular Plateau of India known as structure of minerals? Explain.

Ans. Peninsular Plateau known as storehouse of Minerals:

(i) The Peninsular Plateau is formed by igneous and metamorphic rocks due to volcanic activities.

(ii) Major metallic minerals like iron-ore and coal deposits are abundantly found in this Plateau.

(iii) Other Non-metallic minerals like Mica is also found in this region, making it structure of Minerals of India.

Q.10. 'Each physiographic region of India complements the others and makes the country richer in its natural resource'. Explain this statement with five examples.

Ans. Significance of physiographic regions are:

(i) Northern Mountains provide us perennial rivers which have contributed in the formation of Northern plain by depositing alluvial silt. Besides they act as barrier against cold winds in winters. There are many beautiful Hill Stations located in Himachal region. Northern mountains are the major source of water and forest wealth.

(ii) Northern plains are structure of granaries and are responsible for major wheat and other food crops grown for entire country.

(iii) Similarly Peninsular Plateau is structure of minerals. They provide raw material for a number of manufacturing industries, helping in the economic development of the country. Besides plenty of minerals are exported outside the country fetching us foreign exchange.

(iv) Coastal regions and Island groups provides sites for tourism, development of fisheries, etc.

(v) There are twelve major ports of India which are used for various exports and imports business.

Thus, the diverse physical features of the land have immense future possibilities of development.