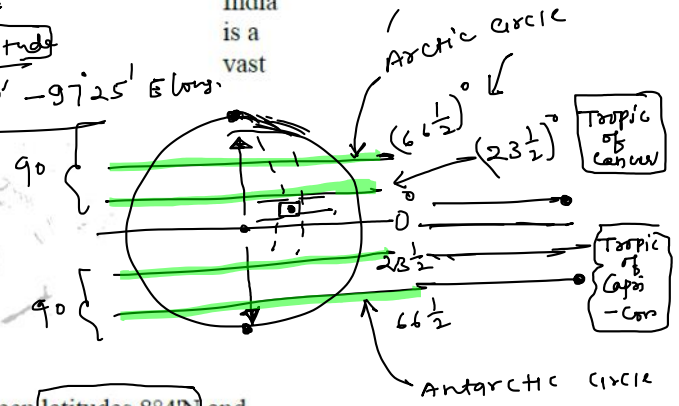
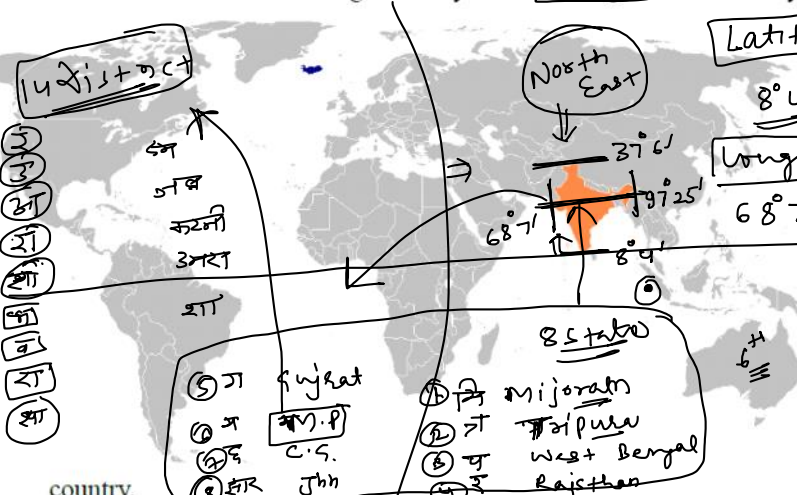
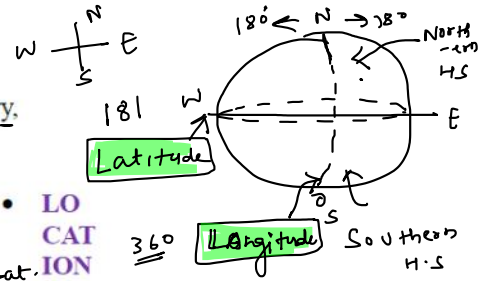
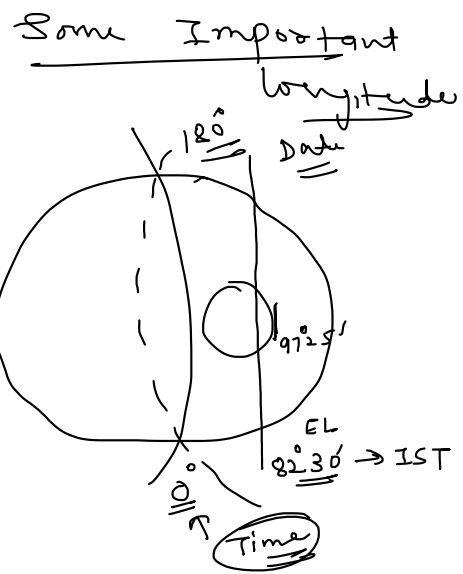
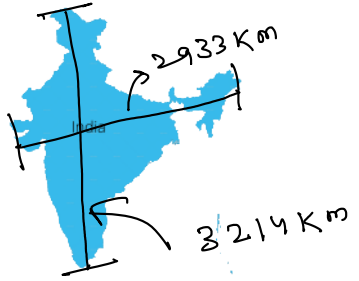
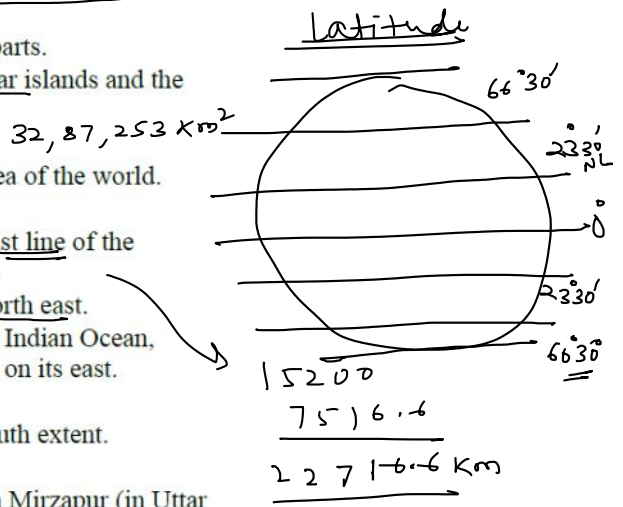


INDIA- SIZE AND LOCATION

- India is one of the ancient civilisations in the world.
- It has achieved multi-faceted socioeconomic progress during the last five decades.
- It has moved forward displaying remarkable progress in the field of agriculture, industry, technology and overall economic development.
- India has also contributed significantly to the making of world history.



- country.
- Lying entirely in the Northern Hemisphere the main land extends between latitudes 8°4'N and 37°6'N and longitudes 68°7'E and 97°25'E.
- The Tropic of Cancer (23° 30'N) divides the country into almost two equal parts.
- To the southeast and southwest of the mainland, lie the Andaman and Nicobar islands and the Lakshadweep islands in Bay of Bengal and Arabian Sea respectively.
- **SIZE** The land mass of India has an area of 3.28 million square km.
- India's total area accounts for about 2.4 per cent of the total geographical area of the world.
- India is the seventh largest country of the world.
- India has a land boundary of about 15,200 km and the total length of the coast line of the mainland including Andaman and Nicobar and Lakshadweep is 7,516.6 km.
- India is bounded by the young fold mountains in the northwest, north and north east.
- South of about 22° north latitude, it begins to taper, and extends towards the Indian Ocean, dividing it into two seas, the Arabian Sea on the west and the Bay of Bengal on its east.
- The latitudinal and longitudinal extent of the mainland is about 30°.
- Despite this fact the east-west extent appears to be smaller than the north-south extent.
- From Gujarat to Arunachal Pradesh there is a time lag of two hours.
- Hence, time along the Standard Meridian of India (82°30'E) passing through Mirzapur (in Uttar Pradesh) is taken as the standard time for the whole country.
- The latitudinal extent influences the duration of the day and night, as one moves from south to north.

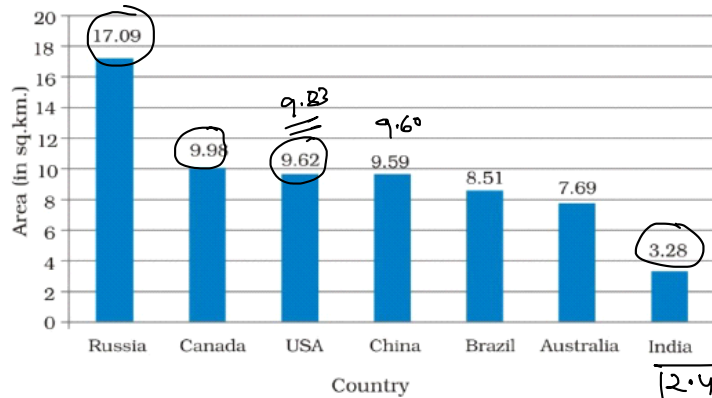


- **INDIA AND THE WORLD** The Indian landmass has a central location between the East and the West Asia.

- India is a southward extension of the Asian Continent.

- The trans Indian Ocean routes which connect the countries of Europe in the West and the countries of East Asia provide a strategic central location to India.

- Note that the Deccan Peninsula protrudes into the Indian Ocean, thus helping India to establish close contact with West Asia, Africa and Europe from the western coast and with Southeast and East Asia from the eastern coast.



2.4%

7th

- No other country has a long coastline on the Indian Ocean as India has and indeed, it is India's eminent position in the Indian Ocean which justifies the naming of an Ocean after it.

- India's contacts with the World have continued through the ages but her relationships through the land routes are much older than her maritime contacts.

- The various passes across the mountains in the north have provided passages to the ancient travellers, while the oceans restricted such interaction for a long time.

- These routes have contributed in the exchange of ideas and commodities since ancient times.

- The ideas of the Upanishads and the Ramayana, the stories of Panchtantra, the Indian numerals and the decimal system thus could reach many parts of the world.

- The spices, muslin and other merchandise were taken from India to different countries.

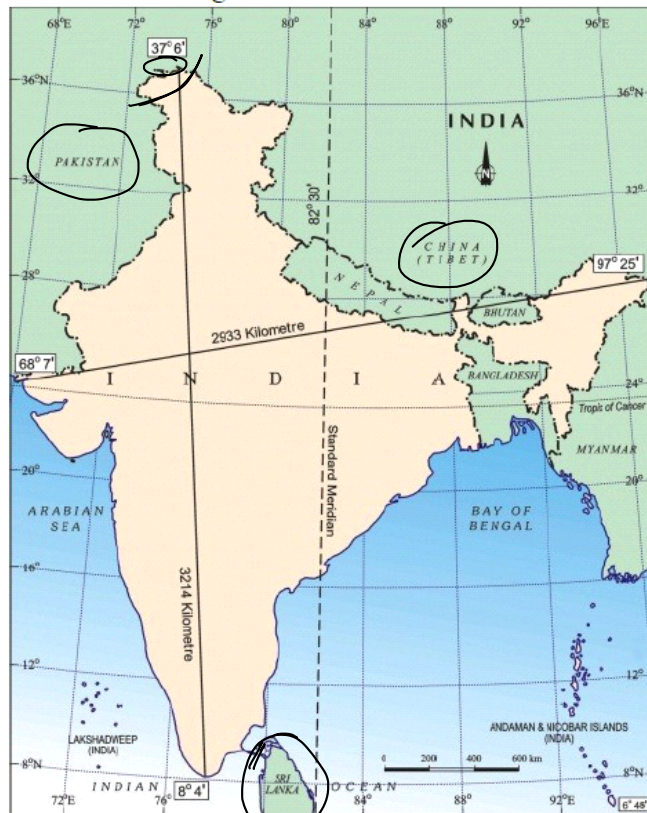
- On the other hand, the influence of Greek sculpture, and the architectural styles of dome and minarets from West Asia can be seen in different parts of our country.

- **INDIA'S NEIGHBOURS** India occupies an important strategic position in South Asia.

- India has 28 states and 8 Union Territories.

- India shares its land boundaries with Pakistan and Afghanistan in the northwest, China (Tibet), Nepal and Bhutan in the north and Myanmar and Bangladesh in the east.

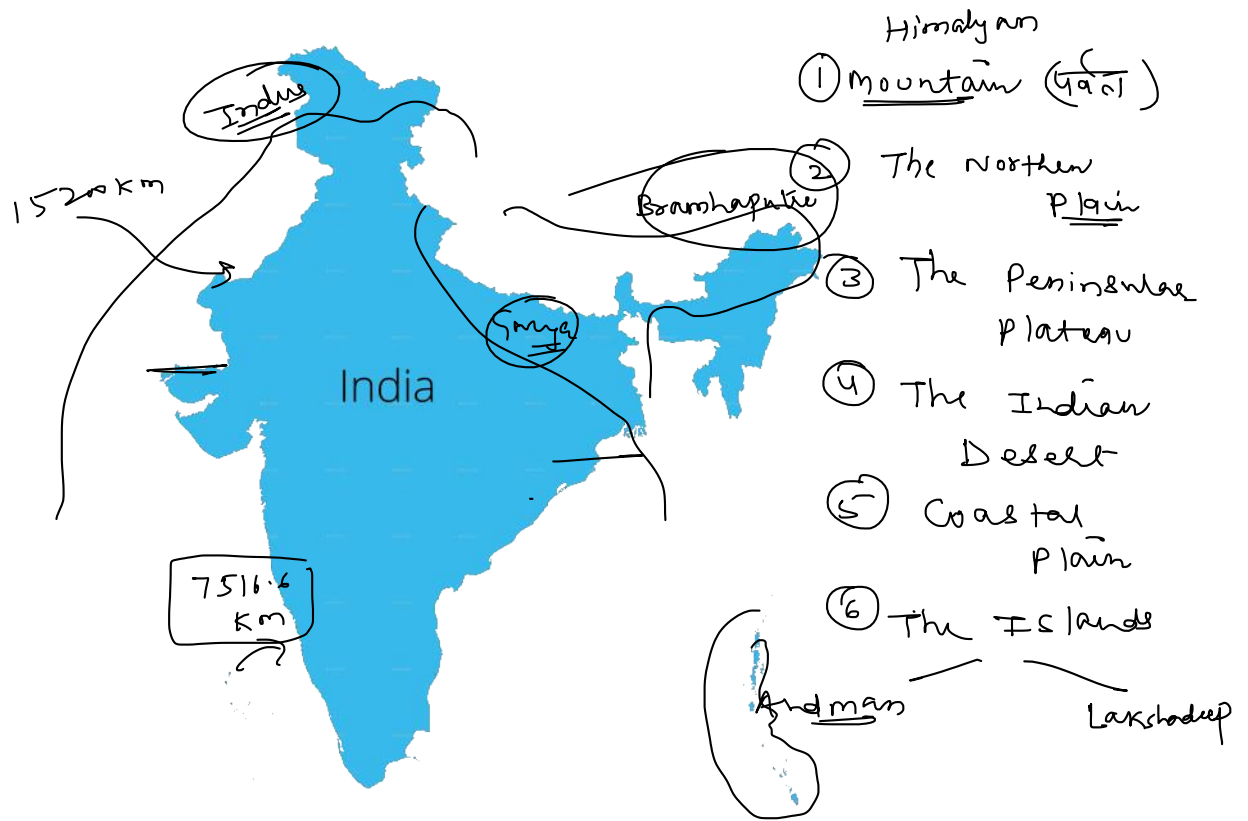
- Our southern neighbours across the sea consist of the two island countries, namely Sri Lanka and Maldives.



- Sri Lanka is separated from India by a narrow channel of sea formed by the Palk Strait and the Gulf of Mannar while Maldives Islands are situated to the south of the Lakshadweep Islands.

- India has had strong geographical and historical links with her neighbours.

Himalyan

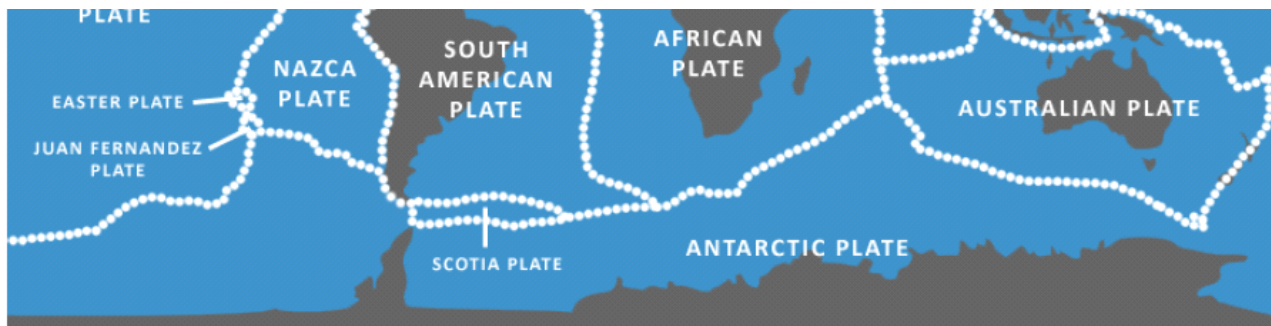


Ch. 2

PHYSICAL FEATURES OF INDIA

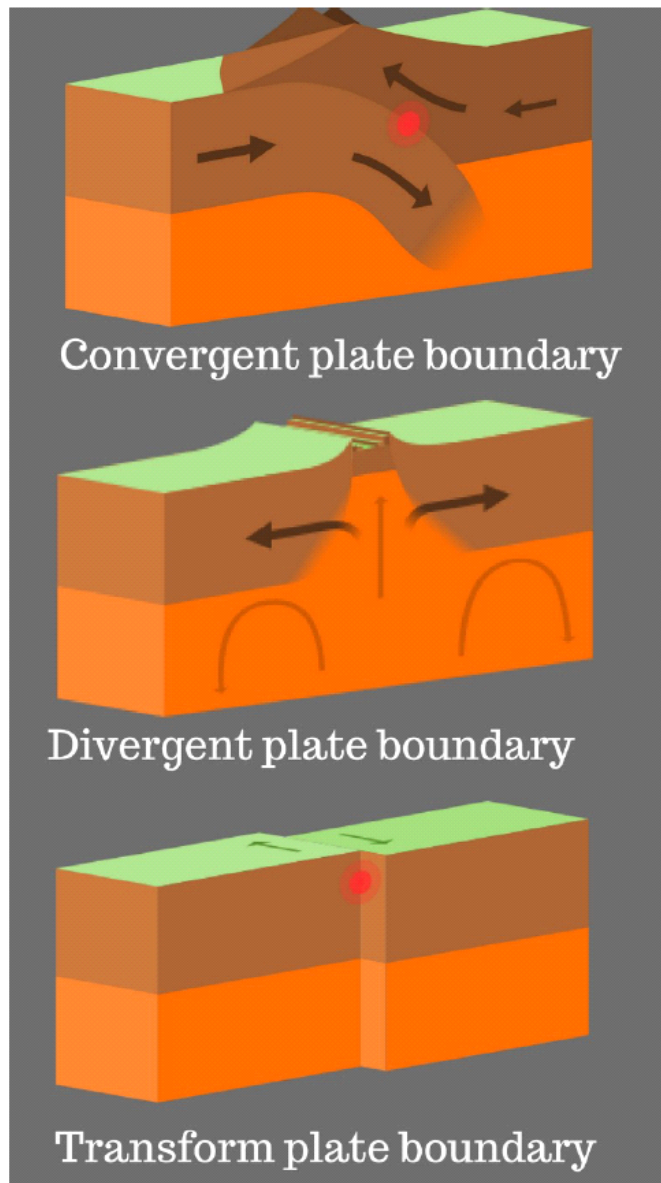
- India is a large landmass formed during different geological periods which has influenced her relief.
- Besides geological formations, a number of processes such as weathering, erosion and deposition have created and modified the relief to its present form.
- Earth scientists have attempted to explain the formation of physical features with the help of some theories based on certain evidences.
- One such plausible theory is the “Theory of Plate Tectonics”.
- According to this theory, the crust (upper part) of the earth has been formed out of seven major and some minor plates.
- The movement of the plates results in the building up of stresses within the plates and the continental rocks above, leading to **folding**, **faulting** and **volcanic activity**.
- Broadly, these plate movements are classified into three types.
- While some plates come towards each other and form convergent boundary.



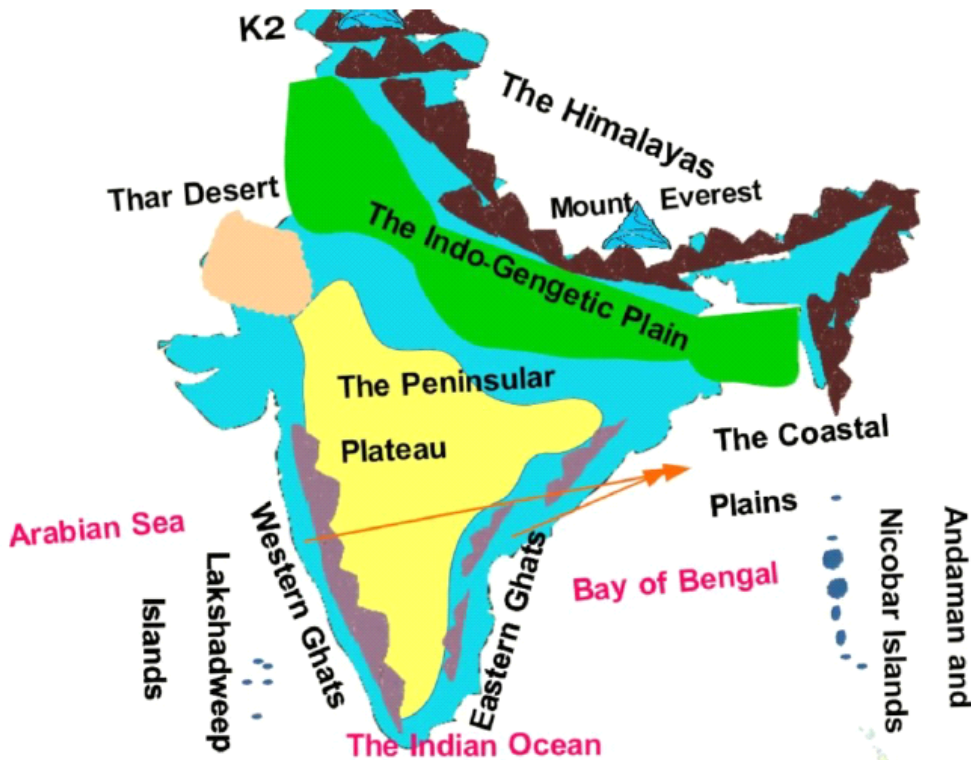


- Some plates move away from each other and form divergent boundary.
 - In the event of two plates coming together they may either collide and crumble, or one may slide under the other.
 - At times, they may also move horizontally past each other and form transform boundary.
 - The movement of these plates have changed the position and size of the continents over millions of years.
 - Such movements have also influenced the evolution of the present landform features of India.
 - The oldest landforms, (the peninsula part) was a part of the Gondwana land
 - The Gondwana land included India, S.Africa, S.America, and Antartica as one single landmass.
 - The convectional currents split the crust into a number of pieces and thus leading to drifting the Indo-Australian plate after being separated from the Gondwana land towards the North.
- e Northward drift resulted in the collision of the plate with the much larger Eurasian Plate.
- Due to this collision, the sedimentary rocks which were accumulated in the geosyncline known as the Tethys were folded to form the mountain system of western Asia and Himalaya.

- The Himalayan uplift out of the Tethys sea and subsidence of the northern flank of the peninsular plateau resulted in the formation of a large basin.
- In due course of time this depression, gradually got filled with deposition of sediments by the rivers flowing from the mountains in the north and the peninsular plateau in the south.
- A flat land of extensive alluvial deposits led to the formation of the northern plains of India.
- The land of India displays great physical variation.
- Geologically, the Peninsular Plateau constitutes one of the ancient landmasses on the earth's surface.
- It was supposed to be one of the most stable land blocks.
- The Himalayas and the Northern Plains are the most recent landforms.
- From the view point of geology, Himalayan mountains form an unstable zone.
- The whole mountain system of Himalaya represents a very youthful topography with high peaks, deep valleys and fast flowing rivers.
- Most volcanoes and earthquakes in the world are located at plate margins, but some do occur within the plates.
- 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 land mass.
- 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 the plate with the much larger Eurasian Plate.
- Due to this collision, the sedimentary rocks which were accumulated in the geosyncline known as the Tethys were folded to form the mountain system of western Asia and Himalaya.
- The peninsular plateau is composed of igneous and metamorphic rocks with gently rising hills and wide valleys.

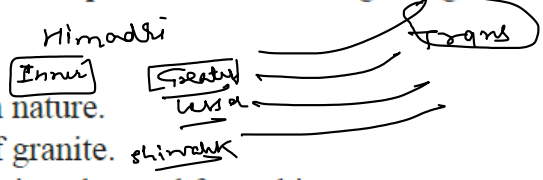


- **MAJOR PHYSIOGRAPHIC DIVISIONS** The physical features of India can be grouped under the following physiographic divisions (1) The Himalayan Mountains (2) The Northern Plains (3) The Peninsular Plateau (4) The Indian Desert (5) The Coastal Plains (6) The Islands



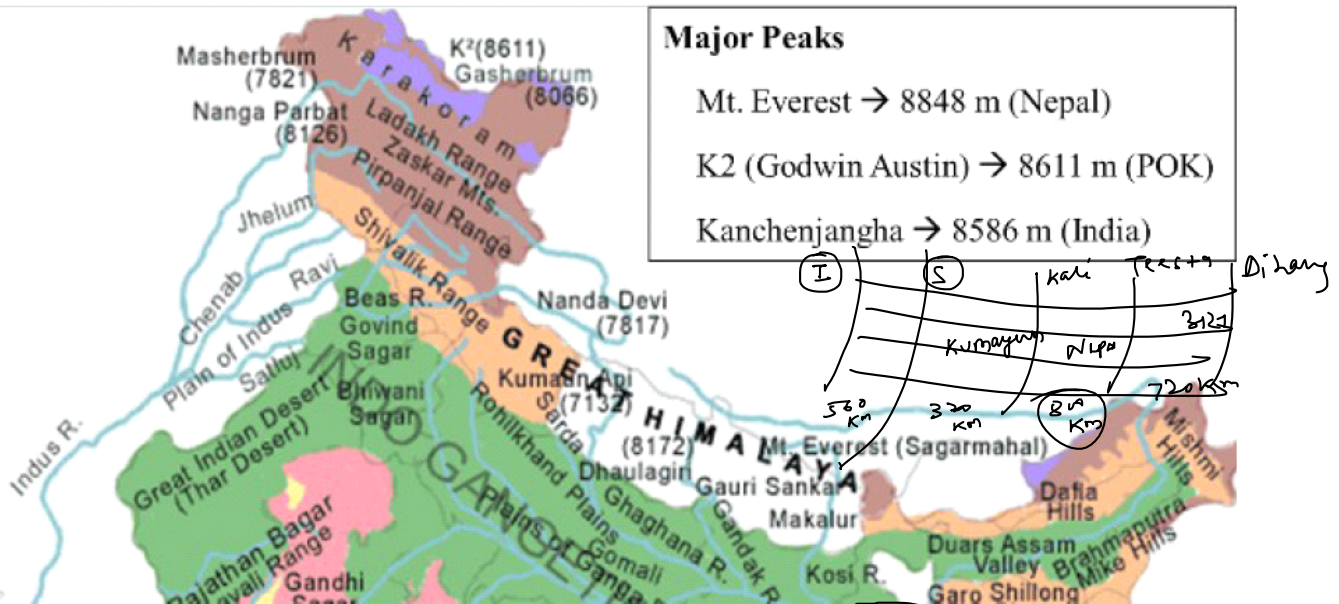
The Himalayan Mountains The Himalayas, geologically young and structurally fold mountains stretch over the northern borders of India.

- 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 Kashmir 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.
- The folds of Great Himalayas are asymmetrical in nature.
- The core of this part of Himalayas is composed of granite.
- It is perennially snow bound, and a number of glaciers descend from this range.
- The range lying to the south of the Himadri forms the most rugged mountain system and is known as Himachal or lesser Himalaya.
- The ranges are mainly composed of highly compressed and altered rocks.
- The altitude varies between 3,700 and 4,500 metres and the average width is of 50 Km.
- While the Pir Panjal range forms the longest and the most important range, the Dhauladhar and the Mahabharat ranges are also prominent ones.
 - This range consists of the famous valley of Kashmir, the Kangra and Kullu Valley in Himachal Pradesh.
 - This region is well known for its hill stations.



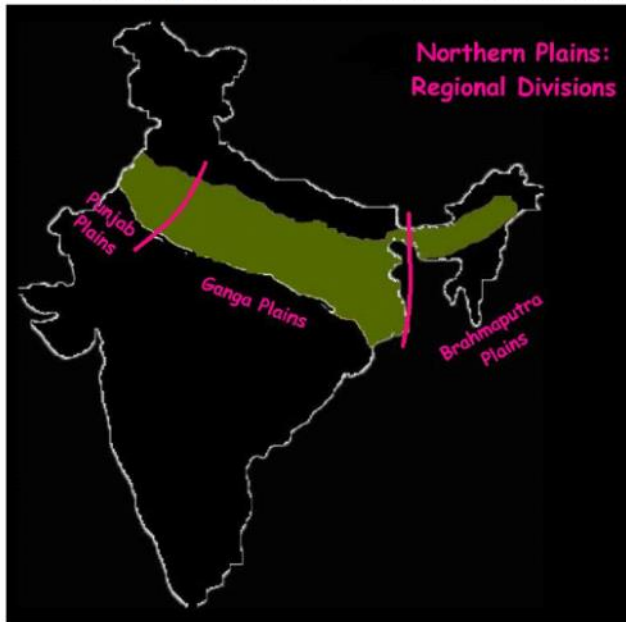
Major Peaks

- This range consists of the famous valley of Kashmir, the Kangra and Kullu Valley in Himachal Pradesh.
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- The outer most range of the Himalayas is called the **Shivaliks**.
- They extend over a width of 10-50 Km and have an altitude varying between 900 and 1100 metres.
- These ranges are composed of unconsolidated sediments brought down by rivers from the main Himalayan ranges located farther north.
- These valleys are covered with thick gravel and besides the longitudinal divisions, the Himalayas have been divided on the basis of regions from west to east.
- These divisions have been demarcated by river valleys.
- For example, the part of Himalayas lying between Indus and Satluj has been traditionally known as Punjab Himalaya but it is also known regionally as Kashmir and Himachal Himalaya from west to east respectively.
- The part of the Himalayas lying between Satluj and Kali rivers is known as Kumaon Himalayas.
- The Kali and Tista rivers demarcate the Nepal Himalayas and the part lying between Tista and Dihang rivers is known as Assam Himalayas.
- There are regional names also in these broad categories.
- The Brahmaputra marks the eastern most boundary of the Himalayas.
- 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 hills and mountains.
- These hills running through the north-eastern states are mostly composed of strong sandstones which are sedimentary rocks.
- Covered with dense forests, they mostly run as parallel ranges and valleys.
- The Purvachal comprises the Patkai hills, the Naga hills, Manipur hills and the Mizo hills.

- **The Northern Plain** The northern plain has been formed by the interplay of the three major river systems, namely– the Indus, the Ganga and the Brahmaputra along with their tributaries.
- This plain is formed of alluvial soil.
- The deposition of alluvium in a vast basin lying at the foothills of the Himalaya over millions of



- years, formed this fertile plain.
- It spreads over an area of 7 lakh sq.km.
- The plain being about 2400 Km long and 240 to 320 Km broad, is a densely populated physiographic division.
- With a rich soil cover combined with adequate water supply and favourable climate it is agriculturally a very productive part of India.
- The rivers coming from northern mountains are involved in depositional work.
- In the lower course, due to gentle slope, the velocity of the river decreases which results in the formation of riverine islands.
- The rivers in their lower course split into numerous channels due to the

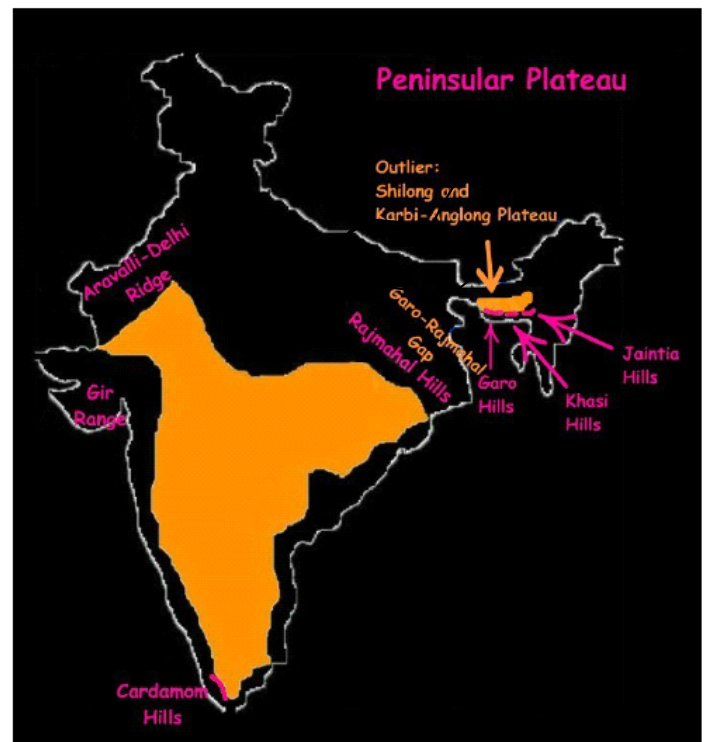
deposition of silt.

- These channels are known as distributaries.
- The Northern Plain is broadly divided into three sections.
- The Western part of the Northern Plain is referred to as the Punjab Plains.
- Formed by the Indus and its tributaries, the larger part of this plain lies in Pakistan.
- The Indus and its tributaries–the Jhelum, the Chenab, the Ravi, the Beas and the Satluj originate in the Himalaya.

This section of the plain is dominated by the doabs.

- The Ganga plain extends between Ghaggar and Teesta rivers.
- It is spread over the states of North India, Haryana, Delhi, U.P., Bihar, partly Jharkhand and West Bengal to its East, particularly in Assam lies the Brahmaputra plain.
- The northern plains are generally described as flat land with no variations in its relief which is not true.
- These vast plains also have diverse relief features.
- According to the variations in relief features, the Northern plains can be divided into four regions.
- The rivers, after descending from the mountains deposit pebbles in a narrow belt of about 8 to 16 km in width lying parallel to the slopes of the Shiwaliks. It is known as bhabar.
- All the streams disappear in this bhabar belt.

- South of this belt, the streams and rivers re-emerge and create a wet, swampy and marshy region known as terai.
- This was a thickly forested region full of wildlife.
- The forests have been cleared to create agricultural land and to settle migrants from Pakistan after partition.
- 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.
- This part is known as bhangar.
- The soil in this region contains calcareous deposits locally known as kankar.
- The newer, younger deposits of the flood plains are called khadar.
- They are renewed almost every year and so are fertile, thus, ideal for intensive agriculture.
- **The Peninsular Plateau** 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 Central Highlands on the south and the Aravalis on the northwest.
- 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 southwest to northeast, 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.
- The Chotanagpur plateau marks the further eastward extension, drained by the Damodar river.
- 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 forms its eastern extensions.
- The Deccan Plateau is higher in the west and slopes gently eastwards.
- An extension of the Plateau is also visible in the northeast— locally known as the Meghalaya, Karbi-Anglong Plateau and North Cachar Hills.
- It is separated by a fault from the Chotanagpur Plateau.
- Three Prominent hill ranges from the west to east are the Garo, the Khasi and the Jaintia Hills.
- The **Western Ghats** and the **Eastern Ghats** mark the western and the eastern edges of the Deccan Plateau respectively



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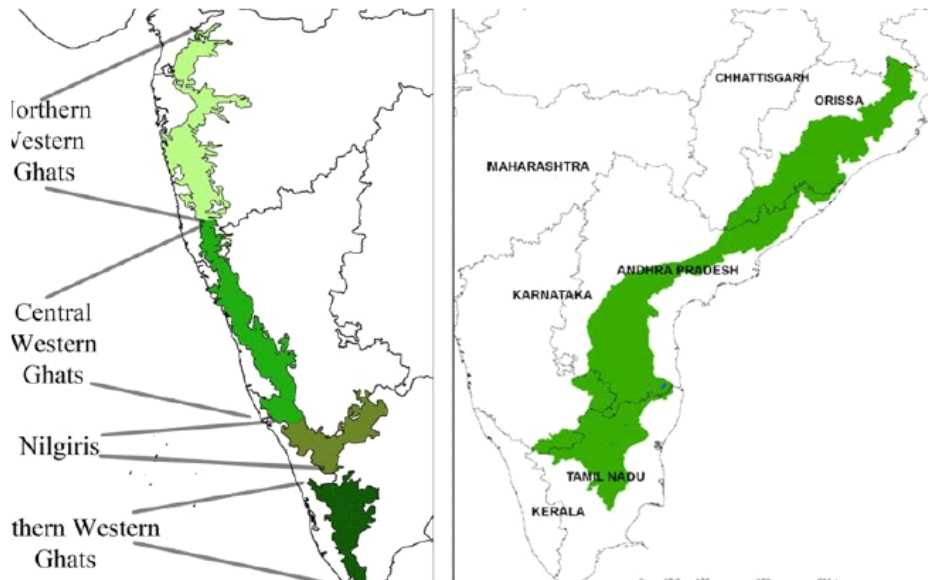
- Western Ghats lie parallel to the western coast.
- They are continuous and can be crossed through passes only.

- The Western Ghats are higher than the Eastern Ghats.

- Their average elevation is 900– 1600 metres as against 600 metres of the Eastern Ghats.

- The Eastern Ghats stretch from the Mahanadi Valley to the Nigiris 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 (2,695metres) 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 southeast of the Eastern Ghats.

- One of the distinct features of the peninsular plateau is the black soil area known as Deccan Trap.

- This is of volcanic origin hence the rocks are igneous. Actually these rocks have denuded over time and are responsible for the formation of black soil.

- The Aravali Hills lie on the western and northwestern margins of the peninsular plateau.

- These are highly eroded hills and are found as broken hills.

- They extend from Gujarat to Delhi in a southwest-northeast direction.

- The Indian Desert The Indian desest 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 arid climate with low vegetation cover.

- Streams appear during the rainy season.
- Soon after they disappear into the sand as they do not have enough water to reach the sea.
- Luni is the only large river in this region.
- Barchans (crescent shaped dunes) cover larger areas but longitudinal dunes become more prominent near the Indo-Pakistan boundary.



- Barchans (crescent shaped dunes) cover larger areas but longitudinal dunes become more prominent near the Indo-Pakistan boundary.
- **THE COASTAL PLAINS** The peninsular plateau is flanked by stretch of narrow coastal strips, running along the Arabian Sea on the west and the Bay of Bengal on the east.
- The western coast, sandwiched between the Western Ghats and the Arabian Sea, is a narrow plain. It consists of three sections.
 - The northern part of the coast is called the Konkan (Mumbai – Goa), the central stretch is called the Kannad Plain while the southern stretch is referred to as the Malabar coast.
 - The plains along the Bay of Bengal are wide and level.
 - In the northern part, it is referred to as the Northern Circar, while the southern part is known as the Coromandel Coast.
- Large rivers such as the Mahanadi, the Godavari, the Krishna and the Kaveri have formed extensive delta on this coast.
- Lake Chilika is an important feature along the eastern coast.
- **THE ISLANDS** India has two groups of islands.
 - Lakshadweep Islands group lying close to the Malabar coast of Kerala.
 - This group of islands is composed of small coral islands.
 - Earlier they were known as Laccadive, Minicoy and Amindive.
 - In 1973 these were named as Lakshadweep.
 - It covers small area of 32 sq km.
 - Kavaratti island is the administrative headquarters of Lakshadweep.
 - This island group has great diversity of flora and fauna.
 - The Pitti island, which is uninhabited, has a bird sanctuary.
 - The elongated chain of islands located in the Bay of Bengal extending from north to south.
 - These are Andaman and Nicobar islands.
 - They are bigger in size and are more numerous and scattered.
 - The entire group of islands is divided into two broad categories – The Andaman in the north and the Nicobar in the south.
 - It is believed that these islands are an elevated portion of submarine mountains.
 - These island groups are of great strategic importance for the country.
 - There is great diversity of flora and fauna in this group of islands too.
- These islands lie close to equator and experience equatorial climate and has thick forest cover.
- Each region complements the other and makes the country richer in its natural resources.
- The mountains are the major sources of water and forest wealth.
- The northern plains are the granaries of the country. They provide the base for early civilisations.
- The plateau is a storehouse of minerals, which has played a crucial role in the industrialisation of the country.
- The coastal region and island groups provide sites for fishing and port activities.
- Thus, the diverse physical features of the land have immense future possibilities of development.

