

**GEOGRAPHY**

**MODULE: 3 - GEOGRAPHY OF INDIA**

**A. LOCATION AND SPACE RELATIONS – PHYSIOGRAPHY OF INDIA**

- ✚ India is a vast country located entirely in the northern hemisphere, specifically in the south-central part of Asia.
- ✚ Mainland extends between 8° 4' N and 37°6' N and longitudes 68° 7' E and 97 ° 25' E area of the world.
- ✚ India the seventh largest country in the world.
- ✚ India has a land boundary of about 15000 km.
- ✚ The total length of the coastline of the mainland including Andaman and Nicobar, Lakshadweep is 7516.6km.
- ✚ The latitude and longitudinal extent of the main land is about 30°.
- ✚ From Gujarat to Arunachal Pradesh, there is a time lag of 2 hours, standard meridian of India 82° 30' E passing through Mirzapur in Uttar Pradesh, is taken as the standard time for the whole country.
- ✚ Garden time – Assam



- ✚ The tropic of cancer passes through 8 states:
- ✚ Gujarat – Jasdan, Rajasthan – Kalinjar, Madhya Pradesh – Shajapur, Chhattisgarh – Sonhat, Jharkhand – Lohardaga, West Bengal – Krishnanagar, Tripura – Udaipur, Mizoram – Champhani.

- ✚ The southernmost point of the country is the Pygmalion point or Indira point.
- ✚ The north south extends from Indira col in Kashmir to Kanyakumari in 3214 km.
- ✚ East west width from the Rann of Kachchh to Arunachal Pradesh is 2933 km with an area of 32,87, 263 km<sup>2</sup>
- ✚ India accounts for about 2.4% of the total surface area of the world.

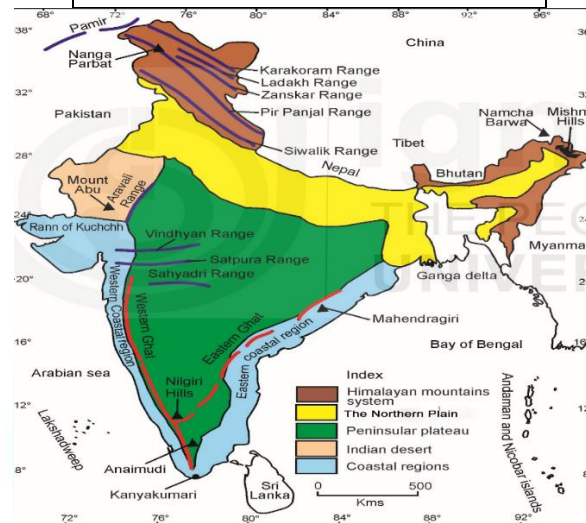
**INDIA AND BOUNDARIES**



- ✚ India's longest border is with Bangladesh while the shortest is with Afghanistan.
- ✚ Second longest border with china.
- ✚ India and Sri Lanka - separated by shallow island narrow line / narrow land: pac straight – kachchadweep island – 1974 – India gave to Sri Lanka (Pakistan)
- ✚ 28 states and 8 union territories

Land boundaries 7 countries	Coastal boundaries
✚ Bangladesh	Sri Lanka
✚ Nepal	Maldives
✚ Bhutan	India, Maldives
✚ Myanmar	separates from 8-
✚ China	degree channel.










<ul style="list-style-type: none"> <li> Afghanistan</li> <li> Pakistan</li> </ul>	
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Physiographic zones of India	
	Northern mountains
	The northern plain
	The peninsular plateau
	The great Indian desert
	Coastal plains
	The islands
	Himalayan



-  It includes the Himalayas, Purvanchal, and their extensions Arakan Yoma related to Myanmar
-  It is the youngest and highly unstable landmarks of India; Tectonic movements are very common.

**NORTHERN MOUNTAINS**

-  Divisions of one of the Himalayan - **Trans Himalaya**
-  The Zaskar, Ladakh, Kailas, the Karakoram are the main ranges.
-  It is also called **Tibetan Himalaya** because most of its lie in Tibet.
-  It stretches for a distance of about 1000 km in the east west direction.
-  Average elevation is 3000m above the Msl.
-  The Nanga Parbat (8126 m) is an important range which is in the Zaskar Range.
-  The northern most range of trans Himalaya range in India is the Great Karakoram Range also known as the Krishnagiri range.
-  Some of the peaks are more than 8000 m, K2, 8611m, or Godwin Austen or Qogir is the second highest peak in the world.
-  Highest peak in the Indian union.

## The Himalaya

### Great Himalayas

- ✚ Inner Himalayas, central Himalayas, Himadri.
- ✚ Average elevation of 6100 msl and average width of 25 km.
- ✚ Formed of the central crystalline rocks: granite and genesis.
- ✚ Sagarmatha: Nepal, Chomolungma: China, Tibet.

State	Passes
Jammu Kashmir	✚ Burzil ✚ Zoji La
Himachal Pradesh	✚ Baralacha La ✚ Shipki La
Uttarakhand	✚ Thaga La ✚ Niti pass ✚ Lipu Lekh
Sikkim	✚ Nath La ✚ Jelep La

### Middle or the lower Himalaya

- ✚ Lower Himalaya or Himachal
- ✚ Elevations vary from 3500 – 4500m
- ✚ Width 60 – 80 km
- ✚ Length 2400 km
- ✚ The ranges are more friendly to human contact.
- ✚ In Uttarakhand the middle Himalayas are marked by the Mussoorie and the Nag Tibba ranges.
- ✚ The majority of the Himalayas hill station like Shimla, Ranikhet, Nainital, Almora, Tele are located here.
- ✚ Kangra valley / strike valley, Kulu valley / transverse valley.

Ranges	Region
✚ The Pir Danjal	✚ Jammu Kashmir
✚ The Dhaula Dhar	✚ Himachal Pradesh
✚ Mahabharat Lekh	✚ Nepal

### The Shiwalik

- ✚ The outer Himalaya
- ✚ Altitude varies - 600 to 1500
- ✚ Southern slopes are sleep while the northern slopes are gentle.
- ✚ Width varies from 50 km Himachal Pradesh to less than 15 km Arunachal Pradesh.
- ✚ The Southern slopes of the Shiwalik range in Punjab and Himachal Pradesh are almost devoid of the forest cover.

- ✚ The slopes are highly dissected by seasonal streams called **chos**.

State	Hills
Jammu	✚ Jammu hills
Arunachal Pradesh	✚ Defla, Miri, Abor and Mishmi hills
Uttarakhand	✚ The Dhang ranges ✚ Dundwa range
Nepal	✚ Chunariya Ghat hills

- ✚ Shiwalik hills are formed by the accumulation of conglomerates – sand, silt, gravel.
- ✚ Dune formation is prominent. Longitudinal valley is called dunes. e.g.: Dera Dune.

### Regional divisions of Himalayas

Classified by six – Sidney Burnard

Punjab Himalayas	<ul style="list-style-type: none"> <li>✚ Between the Indus and the Sutlej.</li> <li>✚ 560 km long</li> <li>✚ All the major rivers of Indus system flow through Punjab Himalayas</li> <li>✚ Kashmir or himachal Himalaya</li> <li>✚ Karakoram, Ladakh, Pir Panjal, Zaskar and Dholadhar are the major ranges in this section.</li> </ul>
Kumaon Himalaya	<ul style="list-style-type: none"> <li>✚ -320 km</li> <li>✚ -Between salween and kali rivers</li> <li>✚ -Nanda devi</li> <li>✚ -Kamet, Beduinnally, Kedarnath are here.</li> </ul>
Nepal Himalaya / central Himalaya	<ul style="list-style-type: none"> <li>✚ -Located between kali river in the west and Tista in the east.</li> <li>✚ -Mount Everest, Kanchenjunga, Makalu located here.</li> <li>✚ -The lesser Himalayas - Mahabharat Lekh.</li> <li>✚ -In this region.</li> </ul>
Assam Himalaya / Eastern Himalaya	<ul style="list-style-type: none"> <li>✚ -Located between Tista and Brahmaputra.</li> <li>✚ -Dominance of fluvial erosion due to heavy rainfall.</li> <li>✚ -Earthquakes are very common inhabited by Tiber.</li> </ul>

### **PURVANCHAL OR EASTERN HILLS**

- ✚ The eastern mountains due to altitudinal variations and height are lesser than northern mountains, so eastern mountains are called hills.
- ✚ Easter hill or Purvanchal are the southward extension of Himalayas running along the north-eastern edge of India.
- ✚ Purvanchal hills are convex to the west.

## ENTRI

- ✚ They run along the India-Myanmar border extending from Arunachal Pradesh in the north to Mizoram in the south.

### GARO HILLS

- ✚ It is located in Meghalaya state and part of Garo-Khasi range which is considered as one of 'the wettest places on earth'.
- ✚ Nokrek Peak is the highest peak of this region.

### KHASI HILLS

- ✚ It is a part of Garo-khasi range in the Meghalaya.
- ✚ got its name Khasi tribes which are found in this region.
- ✚ Cherrapunji is situated in the East Khasi – most rainfall – Sohra: new name of Cherrapunji.
- ✚ Lum Shyllong is the highest peak near to Shillong.

### JAINTIA HILLS

- ✚ It is located further to the east from the Khasi Hills.

### MIZO HILLS

- ✚ Mizo hills, formerly Lushai Hills, is a mountain range in southeastern Mizoram state.
- ✚ These ranges are part of the NORTH ARAKAN YOMA SYSTEM.
- ✚ The Mizo hills rise to about up to 2,125 meters, and their slopes are covered with evergreen forest.
- ✚ Bamboo is a dominant species here.
- ✚ In the intermontane valleys, shifting (slash and burn) agriculture and some terrace cultivations are practiced.

### NAGA HILLS

- ✚ Naga Hills, part of the complex mountain barrier on the border of India and Myanmar (BURMA).
- ✚ A northern extension of the Arakan Yoma system.
- ✚ the Naga Hills reach a height of 12,555 feet or 3,826 m in mount Saramati on the India Myanmar frontier.
- ✚ The part of the range within India constituted the Naga hills district of Assam until 1961 and since 1963 has been part of Nagaland.
- ✚ Received heavy monsoon rainfall.
- ✚ Naturally clothed with dense forest.
- ✚ Placed throughout the hills are village Naga tribes.
- ✚ In their natural state, these hills are covered with dense evergreen forest.

### BARAIL HILL RANGE

- ✚ Lies in the north Cachar district.
- ✚ South western extension of the Patkai Range.

## ENTRI

- ✚ It runs in a south westerly direction from southern Nagaland and parts of northern Manipur up to the Jaintia Hills of Meghalaya.
- ✚ The higher elevation areas 15500 – 2500m, of the range is located in the southern Nagaland state, while low to mid elevation areas in the North Cachar and Cachar districts continuing up to Jaintia hills of Meghalaya.
- ✚ Barail wildlife sanctuary is situated here and spreads over an area of 326 sq. km.

### MIKIR HILLS

- ✚ Mikir hills of Assam.
- ✚ An extension of Shillong Plateau, covered with tropical rain forest which makes it highly inaccessible.
- ✚ Located to the south of the Kaziranga National Park, Assam.
- ✚ Oldest landforms in Assam.
- ✚ This landform is pear shaped and encompasses an area of around 7000 sq.km.
- ✚ Part of Karbi Plateau.
- ✚ Highest peak – Dambuchko.

### DAFLA HILLS

- ✚ Situated north of the Tezpur and is bounded on the east by the Abor range.

### ABOR RANGE

- ✚ Far north east of India, near the border with China.
- ✚ Drained by the Dibang River, a tributary of the Brahmaputra.

### MISHMI HILLS

- ✚ Southward extension of the great Himalayas.
- ✚ Touches China.

### PATKAI BURN HILLS

- ✚ Border with Burma.
- ✚ The word 'Patkai' means - to cut chicken in the Tai Ahom language. It's a dead language in Assam. Ahom was a tribal group.
- ✚ Conical peaks, steep slopes and deep valleys.

## NORTHERN PLAINS

- ✚ Heart of India.
- ✚ Political, economic, cultural activities are oriented with the northern plain regions.
- ✚ West Bengal, Bihar, Uttar Pradesh, Punjab, Haryana, etc.
- ✚ Agriculture and most populated regions of India.
- ✚ Formed due to the alluvial depositions.

### GEOMORPHOLOGY OF THE PLAIN.

## ENTRI

- ✚ The great plain of north India as a monotonous flat and featureless plain.
- ✚ It has its own significance.

### THE BHABHAR

- ✚ A narrow belt about 8-16 km wide running east west directions along the foot of the Shiwalik rivers descending from the Himalayas deposit their load along the foothills in the form of the alluvial fans.
- ✚ Fans consisting of gravel and unsorted sediments have merged together to build up the Bhabhar belt.
- ✚ Narrow in the east and extensive in the western and north western hilly region.
- ✚ The area is not suitable for agriculture due to gravels and unsorted sediments.

### THE TARAI

- ✚ Marshy region.
- ✚ 15-30 wide marshy tracts in the south of running parallel to it.
- ✚ Marked by the re-emergence of the underground streams of the Bhabhar belt.
- ✚ Covered with thick forest and wildlife.
- ✚ Suitable for sugar cane and wheat cultivation.

### THE BHANGAR

- ✚ Composed of the old alluvium.
- ✚ Often impregnated with calcareous concretions known as **Kankar**.

### THE KHADAR

- ✚ Composed of newer alluvium and forms of flood plains along with the river banks.
- ✚ The new layer of alluvium is deposited by river flood almost every year.

### REH OR KALLAR

- ✚ Comprises barren saline efflorescence of drier areas in Uttar Pradesh and Haryana.

### BHUR

- ✚ Denotes an elevated place of land suited along the banks of ganga river especially in the upper Ganga Yamuna doab.
- ✚ Formed at Uttar Pradesh region.
- ✚ Formed due to accumulation of windblow sands during the hot dry months of the year.

### REGIONAL DIVISIONS of GREAT PLAIN OF INDIA or NORTH INDIAN PLAINS

- ✚ The Punjab Haryana Plain
- ✚ The Ganga Plain
- ✚ The Brahmaputra Plain

### The Punjab Haryana Plain

- ✚ The western part of the northern plain.
- ✚ In the east, the Delhi Aravalli range separates it from the Ganga plains.
- ✚ This is formed by the Indus and its tributaries - Jhelum, Chenab, Ravi, Beas, Sutlej.
- ✚ A major portion of these plains is in Pakistan.
- ✚ It is divided into many doabs (do – two – ab- water or river) a region or land lying between and reaching to the meeting of the two rivers.
- ✚ Features:
- ✚ Khadar – rich flood plains are known as **Betlands or Belts**.
- ✚ The rivers in Punjab Haryana plains have broad flood plains of Khadar flanked by bluffs – locally known as – **Dhays**.
- ✚ The northern part of this plain adjoining the Shivalik hills has been heavily eroded by numerous streams which are called – **Chhos**.
- ✚ The southern parts especially the Hisar district is sandy and characterized by shifting sand dunes.

### Ganga Plain

- ✚ The Ganga plain lies between the Yamuna catchment in the west to the Bangladesh border in the east.
- ✚ The main topographical variations in these plains include Bhabhar, Tarai, Bhangar, Khagar, etc.
- ✚ Almost all the rivers keep on shifting their course making this area prone of frequent floods.
- ✚ The Kosi River is very notorious in respect.
- ✚ Sorrow of Bihar.
- ✚ Haryana, Delhi, Uttar Pradesh, Bihar, West Bengal, part of Jharkhand lies in the plain.
- ✚ The Ganga Brahmaputra delta - the largest delta in the world, large part of coastal delta is covered tidal forests called Sundarbans.

### Brahmaputra Plain

- ✚ These plain forms the eastern part of the northern plain lies in the Assam.
- ✚ Western boundary – formed by the Indo Bangladesh border as well as boundary of the lower Ganga plain.
- ✚ Eastern boundary – formed by the Purvanchal hills.
- ✚ The Brahmaputra plains are known for their riverine islands and sand bars.

### NORTHERN MOUNTAIN PASSES

STATES	PASSES
Jammu – Srinagar	Banihal



Sikkim – Lassa –	Bara lach La
Himachal Pradesh – Tibet	Shipki La
Srinagar – Kargil	Soj La
Sikkim – Tibet	Nathu La (related to silk route)
Arunachal Pradesh – Tibet	Bomdi La
Himachal Pradesh -	Rohtang

**PENINSULAR PLATEAU**

✚ Boundaries:

North – Malwa (Vindhya & Aravalli)
South – Deccan
East - Chota Nagpur

- ✚ Triangular in shape.
- ✚ 32 lakhs sq.km India as whole.
- ✚ North India and south India - separated India by Vindhya ranges.
- ✚ Average height of the plateau – 600 to 900 m above the sea level.
- ✚ Most of the peninsular rivers flow west to east – general slope.
- ✚ Narmada Tapti – east to west.
- ✚ Peninsular plateau – one of the oldest landforms of the earth.
- ✚ Highly stable block composed mostly of the Archaean gneisses and schists / rock system.

**MAJOR AND MINOR PLATEAUS:**

MARWAR PLATEAU or MEWAR PLATEAU

Eastern Rajasthan.

Marwar plain - West of Aravalli and Marwar plateau – east.

Average elevation – 250 – 500m above the sea level.

Slopes down eastward.

Made off sandstones, shales, limestones of Vindhya plain.

Banas river – tributaries: Berach river, Khasi River – originated in the Aravalli range.

Flow towards north west into Chambal River.

The erosional activity of these rivers makes the plateau top appear like rolling plain.

CENTRAL HIGHLAND

Madhya Bharat Pathar or Madhya Bharat Plateau.

East to the Marwar Upland.

Comprises the basin of the Chambal River which flows in a rift valley.

Kali Sindh – flow from Rana Prataph Sagar, Banas flowing through Mewar plateau and the Parwan and the Parbati flow from Madhya Pradesh are the main tributaries.

Rolling plateau with rounded hills composed of sand stones.

Thick forest grown.

North – ravines or Badlands of the Chambal River, semi - Arid landforms.

BUNDELKHAND UPLAND

North – Yamuna River

West – Madhya Bharat Pathar  
 East and south east – Vindhya Scarp lands.  
 South – Malwa Plateau.  
 Old dissected (divided by a number of deep valleys) upland.  
 Bundelkhand gneiss comprising of granite and gneiss.  
 Spreads – five districts of Uttar Pradesh and four districts of Madhya Pradesh.  
 Average elevation – 300 to 600 m above sea level.  
 Slopes down from Vindhya.  
 Scrap division towards the Yamuna River.  
 Chain of hillocks or small hills made of granite and sandstone.  
 Erosional work of the river flowing here have converted it into an undulating wave like surface area and rendered it unfit for cultivation.  
 Streams like – Betwa, Dhasan, Ken flow through the plateau. (Main tributaries of Yamuna River)

#### MALWA PLATEAU

Roughly forms a triangle based on the Vindhya hills.  
 West – Aravalli range.  
 North – Madhya Bharat Pathar.  
 East – Bundelkhand.  
 Two system of drainage – one towards the Arabian Sea (Narmada, Tapti, Mahi) and other towards the Bay of Bengal (Chambal, Betwa joining the Yamuna).  
 North – drained by Chambal and tributaries: Kali, Sindh, Parbati.  
 Composed of extensive lava flow and is covered with black soil.  
 Slope towards north.




#### BAGHELKHAND

North – Maikal range.  
 West - Made of limestones and sand stones  
 East – granite.  
 North – Son River.  
 Central part acts as a water divide between the Son drainage system - north and Mahanadi river system – south.

#### CHOTANAGPUR PLATEAU

Represents the north eastern projection of Indian peninsula  
 Jharkhand – northern part of Chhattisgarh and Purulia district of west Bengal.  
 Son river flows in the north west and joins Ganga.  
 Average elevation – 700m above the sea level.  
 Composed of Gondwana rocks.  
 Drained by numerous rivers and streams in different directions.  
 Presents a radial drainage pattern.  
 Rivers – Damodar, the Subarnrekaha, North Koel, South Koel, Barkar – developed extensive drainage basins.

#### Damodar river

-  Flows through the middle of this region in a rift valley from west to east.
-  Gondwana coal field which provide bulk of coal in India.
-  Mineral heart of India.

## E ▶ ENTRI

- ✚ North – Hazaribagh plateau
- ✚ Average elevation – 600 m above the sea level.
- ✚ Isolated hills.
- ✚ Looks like peneplain due to large scale erosion.
- ✚ South – Ranchi Plateau.
- ✚ Rises about 600m above the sea level.
- ✚ Most of the surface is rolling where the city of Ranchi is located.
- ✚ North East – Rajmahal Hills of Chotanagpur Plateau.
- ✚ Made up of basalt.
- ✚ Covered by lava flows – Basaltic Lava.

### MEGHALAYA PLATEAU

East

Beyond the Rajmahal Hills from Meghalaya or Shillong Plateau.

Garo - Rajmahal Gap – separate this plateau from main block.

Gap was formed by down faulting (a block of earth slides downwards).

Later filled by sediment deposited by Ganga and Brahmaputra.

Formed by Archaean quartzites, shales, and schists.

North - The plateau slopes down to Brahmaputra valley.

South - The Surma, Meghna valley.

West – Bangladesh border.

Western, central, eastern parts – Garo Hills – 900m; the Khasi – Jaintia Hills – 1500m, Mikir Hills – 700m.

Shillong is the highest point of the plateau – 1961 m.

### DECCAN PLATEAU

Covers – an area about five lakhs sq. km.

Triangular in shape.

Bounded by:

North – west: The Satpura and Vindhya.

North: Maikal.

West: western Ghats.

East: Eastern Ghats.

Average elevation – 600m.

Rises to 1000m in the south but dips to 500m in the north.

General slopes – west to east – indicated by the flow of major rivers.

Rivers subdivided the plateaus into smaller plateaus.

### MAHARASHTRA PLATEAU

Maharashtra.

Forms – northern part of deccan plateau.

Majority region underlain by basaltic rocks of lava origin.

Most of deccan traps lies here.

Area looks like rolling plain due to weathering.

The horizontal lava sheets have led to the formation of typical deccan trap topography.

Godavari, Bhima, Krishna – broad and shallow valleys.

Flanked by flat topped steep sided hills and ridges.

The entire area is covered by black cotton soil – **Regur**. (Cotton cultivation)

**KARNATAKA PLATEAU**

Mysore Plateau.  
South of Maharashtra plateau.  
Rolling plateau  
Average elevation – 600- 900m.  
Highly dissected by numerous rivers rising from the western ghats.  
Parallel or across the western ghats.  
Highest peak – **Mulangiri** in Baba Budan Hills – 1913m – Chikmanglur district.  
(Important for coffee cultivation)  
Two division – Malnad and Maiden.  
Malnad – Kannada means hill country. Dissected into deep valleys covered with dense forest.  
Maidan – rolling plain with low granite hills.  
Plateau tapers between the western ghats and the eastern hills in the south meet the Nilgiris hills.

**TELENGANA PLATEAU**

Consist of Archaean gneiss.  
Average elevation - 500-600m.  
Southern part is higher than northern counterpart.  
Region drained by three river systems – Godavari, Krishna, Penneru.  
Entire plateau is divided into – Ghats and Penneplains.  
Peneplains – a vast featureless, undulating plain which the last stage of deposition process.

**CHHATTISGARH PLAIN**

Only plain worth the name in the peninsular plateau.  
Whole basin lies - between the Maikala Range and the Odisha Hills.  
The regions were once ruled by the – Haithaivanshi Rajput – thirty-six forts:  
Chhattisgarh – derived its name.  
Horizontal beds of limestone and shale.  
General elevation – 250 m in the east to 330m in the west.