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Indian physical 2

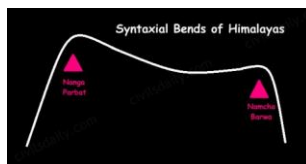
2nd Module

Class 3

Himalayan and Hilly region

 **North to South Division of Himalaya: (Breadthwise division of the Himalaya)**

- ✓ **The total area of the Himalaya :- 7.2 lakhs sq km.**
- ✓ **The total area of the Himalaya in India :- 5 lakhs sq km.**
- ✓ **Himalaya means :- Abode of snow**
- ✓ **Mountain type :- Young fold mountain.**
- ✓ **Shape :- Arc shape.**
- ✓ **Rock :- Sedimentary and Metamorphic rocks.**
- ✓ **Syntaxial Bend :-** It is associated with the origin of the Himalaya. Himalaya Extend in the East-West direction from the Indus Gorge in the west and Brahmaputra Gorge in the east. The western syntaxial bend occur near the Nanga parbat and eastern syntaxial bend occur near the Namcha Barwa.



- ✓ **In India of the total landmass :- Plains (43%) , Plateau (27.7%), Hills (18.6%), Mountain (10.7%).**



Transhimalaya :-

- ✓ **Other names:-** Tethys Himalaya, Tibetan Himalaya.
- ✓ **Avg height :** 5000 to 5500 Mt.
- ✓ **Formation time :** Cretaceous Period of Mesozoic Era.
- ✓ **Range :** Karakoram, Ladakh, Zaskar, Kailash.
- ✓ **Glacier of Karakoram range :** Siachen (Longest glacier of India situated in Nubra Valley), Baltoro, Batura, Hisper, Biafo, Rimo, Chogo Lungma, Khurdopin, Trango, Yinsugaiti.
- ✓ **5 important peaks of Karakoram range:-** K2 ,Gasherbrum1 ,Broad peak , Gasherbrum2, Gasherbrum3.
- ✓ Ladhak is the **Highest Plateau of India / Roof of India** and called the **Cold Desert**.
- ✓ **Saltoro range is the part of** = Karakoram range and Saltoro Kangri is the Highest peak of saltoro mountain or saltoro range. Karakoram range covers India, Pakistan and China.
- ✓ **Rakaposhi is a mountain in the** Karakoram range and Rakaposhi means Shining wall in the local language.
- ✓ **Highest peak of Kailash range:-** Mt. Kailash in Tibet.
- ✓ **The Highest peak of the Zaskar range:-** Mt. Kamet.

Greater Himalaya /Himadri /Higher Himalaya /Inner Himalaya /Antargiri:-

- ✓ **Avg height =** 6000 Mt .
- ✓ **Formation time =** Eocene in Tertiary Period of Cenozoic Era.
- ✓ **Himadri is the Oldest part of the Himalaya.**
- ✓ **Nangaparbat** is the Westernmost and **Namcharwa** is the Easternmost peak of the Himalaya.
- ✓ **Peak :** Nanga Parbat, Kanchenjunga, Nandadevi, Makalu, Manaslu, Mt.Everest, Dhaulagiri, Annapurna, Namcha Barwa.
- ✓ **The Longest and Largest range of himalaya =** Greater himalaya.

Lesser Himalaya /Himachal Himalaya /Middle Himalaya /Lower Himalaya :-


- ✓ **Avg height** : 3500 to 4500 mt.
- ✓ **Formation time** = Miocene in Tertiary Period of Cenozoic Era.
- ✓ **Range**:- Pir Panjal (Jammu Kashmir and Himachal Pradesh), Dhauladhar (Himachal Pradesh), Mussoorie (Uttarakhand), Nag Tibba (Uttarakhand), Mahabharat range in Nepal.
- ✓ **Longest range of Lesser Himalaya**:- Pirpanjal range.
- ✓ **Glacier of Pirpanjal range**:- Sonapani, Gangri, Barasingri.
- ✓ **Important Valley**:- Kullu Valley, Kangra Valley, Kashmir Valley.
- ✓ **Shimla, Mussoorie, Nainital, Almora, Ranikhet, Darjeeling etc** Hill resorts are located here.
- ✓ **Middle Himalaya is marked by Meadows which are called** Buggyals in Uttarakhand and Marg in kashmir. Like Gulmarg and Sonmarg are such Meadows.
- ✓ **One of the important railway tunnels of India** = Pirpanjal tunnel in Jammu Kashmir. (11.215 Km)
- ✓ **The Longest roadway tunnel of India** = Chenani nashri tunnel / Patnitop tunnel/Dr Shyama Prasad Mookerjee tunnel in Jammu Kashmir. (9.28 Km)

▣Shivalik / Foothill/ Outer Himalaya / Sub Himalaya / Manak Parbat/ Bahirgiri:-

- ✓ **Avg height** : 600 to 1500 Mt.
- ✓ **Formation time** = Pliocene in Tertiary Period of Cenozoic Era.
- ✓ **Shiwalik is the youngest part of the Himalaya.**
- ✓ **Regional name of Shiwalik Himalaya** :

 **Arunachalpradesh**:- Dofla, Miri, Abor, Mishmi.

 **Nepal** :- Churiaghat hill.

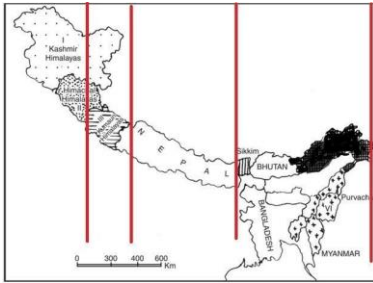
 **Uttarakhand** :- Dhang, Dundwa

 **Jammu** :- Jammu hill

- ✓ **Old name of Shiwalik Himalaya** = Manak Parbat.
- ✓ **Between the Lesser and Shiwalik Himalaya the longitudinal valley is called** Doon. Example :- Dehradun and Dehradun is the largest doon of India.
- ✓ **Other doons**:- Kotah, Chumbi, Kotli, Udampur, Kyarda, Patlikothi.

☞ Longitudinal Division of Himalaya:-

- East west extension of the Himalaya = 2500 km/ 2400 km.



1) Western Himalaya:-

- ✓ **Extension:-** Indus /Nanga parbat to Kali Gandak.
- ✓ **Classification :-**
 - **Indus to Sutlej:-**
 - A) Kashmir Himalaya
 - B) Himachal Himalaya
 - C) Punjab Himalaya
 - **Sutlej to Kaligandak:-**
 - A) Garhwal Himalaya:- (Western part of Uttarakhand)
 - **The Longest Glacier of Himalayan Mountain range:-** Gangotri Glacier is part of Garhwal Himalaya.
 - B) Kumaon Himalaya (Eastern part of Uttarakhand)

2) Nepal Himalaya:-

- ✓ **Extension:-** Kaligandak to Teesta / Singolila range.
- **Longest regional division of Himalaya is** Nepal Himalaya. (800km)

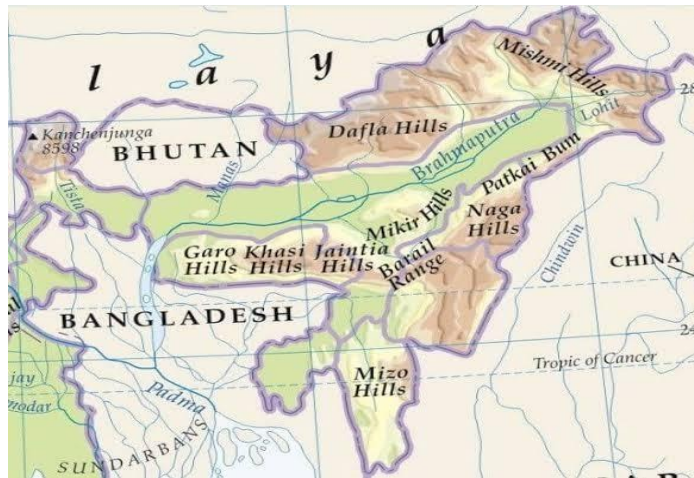
3) Eastern Himalaya:-

- ✓ **Extension:-** Teesta / Singalila to Namcha Barwa/ Brahmaputra river.
- **Classification:-**
 - A) Sikkim Himalaya
 - B) Darjeeling Himalaya
 - C) Assam Himalaya
 - D) Bhutan Himalaya
 - E) Arunachal Himalaya

🏞️ Regional division of the Himalaya:-

- ✓ **Punjab Himalaya:-** Between Indus to Sutlej River.
- ✓ **Kumaon Himalaya:-** Between Sutlej to Kali river.
- ✓ **Nepal Himalaya:-** Between Kali to Teesta river.
- ✓ **Assam Himalaya:-** Between Teesta to Brahmaputra river.

North East Hilly region:- (Purvanchal Himalaya)



- ✓ **Mishmi range** = Dafabum in Arunachal pradesh.
- ✓ **Naga hill** = Saramati in Nagaland. (Highest peak of Nagaland)
- ✓ **Kohima** = Japfu in Nagaland.
- ✓ **Mizo Hill** = Phawngpui/Blue mountain in Mizoram. (Highest peak of Mizoram)
- ✓ **Manipur hill** = Mount Tenipu/ Mount Iso in Manipur. (Highest peak of Manipur)
- ✓ **Khasi** = Shillong in Meghalaya (Highest peak of Meghalaya)
- ✓ **Garo** = Nokrek in Meghalaya.
- ✓ **Jaintia** = Marangksih in Meghalaya.
- ✓ **Patkai** = Patkai bum in Arunachal pradesh. (Easternmost Hill of India)
- ✓ **Jampui Tong** = Betalingshiv in Tripura. (Highest peak of Tripura)

Name of the passes in India:-

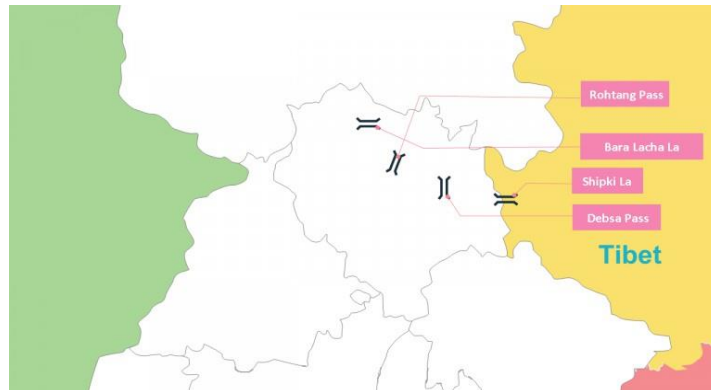
 **Ladakh**= Zojila, Fotula, Khardungla, Pensi la, Sia la, Saser la, Chang la, Karakoram Pass.

 **Jammu Kashmir**:- Banihal



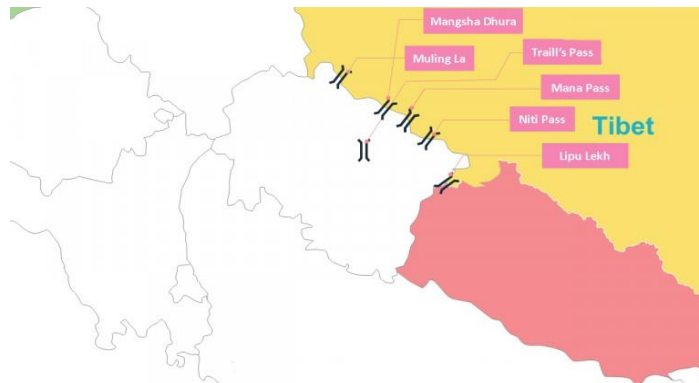
Himachal Pradesh:-

Barlachala, Rohtang, Shipki La, Debsa, Indrahara, Kunzum, Chanshal Pass.



 **Sikkim:-** Jeleppla, Nathula (Silk route), Dongkha La, Goecha La.

 **Uttarakhand:-** Mana, Nittila, Lipulekh, Kalindi pass, Nama pass, Sin La.



 **Madhya Pradesh:-** Asirgarh pass in Satpura Range.

 **Rajasthan:-** Haldighat, Piplighat, Goramghat.

 **Arunachal Pradesh:-** Sela, Bomdila, Pangsu, Diphu pass.



Name of passes and its connectivity:-

 **Banihal pass** = Jammu to Srinagar in Pir Panjal range

 **Barlachala:-** Leh to Manali in Zaskar range /Lahaul district in Hp to Leh district in Ladakh.

 **Shipkila:-** Shimla to Tibet. **Sutlej river** flows through this pass.

 **Khardungla:-** Leh to Siachen in Ladakh range.

🏔️ **Zojila:-** Srinagar to Kargil and Leh./Dras valley to Suru valley in Zaskar range.

🏔️ **Pangsu:-** Arunachal Pradesh to Myanmar.

🏔️ **Goram Ghat :-** Udaipur with Sirohi and Jalore in Rajasthan.

🏔️ **Jelep La:-** Sikkim to Lhasa (Tibet). Trijunction of India, China, Bhutan.

🏔️ **Rohtang :-** Kullu valley with Lahaul and Spiti valley in Pir Panjal range. (Leh to Manali highway)

🏔️ **Lipulekh:-** Trijunction of India, China and Nepal.

🏔️ **Diphu pass:-** Trijunction of India, China and Myanmar.

🏔️ **Haldighat :-** Rajsamand and Pali district of Rajasthan.

🏔️ **Changla:-** Pangong lake to Leh in Ladakh range.

🏔️ **Pensi la:-** Kashmir valley with Ladakh.

🏔️ **Nathula:-** It connects Sikkim with China's Tibet autonomous region. Nathu means 'Listening Ears' And La means 'pass' in Tibetan.

🏔️ **Fotu La:-** It is a mountain pass on the Srinagar-Leh highway in the Zaskar Range of the Himalayas in India.

🏔️ **Mintaka Pass:-** It is located in Karakoram range and forms the trijunction of India-China and Afghanistan border.

👉 Major Mountain passes in India and its Neighboring countries:-

🏔️ **BANIHAL PASS:-**

- **Banihal Pass** is a mountain pass across the Pir Panjal Range in India.
- It connects the Kashmir Valley in the Indian union territory of Jammu and Kashmir to the outer Himalaya and the plains to the south.
- Until the construction of the Jawahar tunnel in 1956, the Banihal pass served as the road link between Jammu and Srinagar.
- **Jawahar Tunnel**, also called **Banihal Tunnel**, is a road tunnel in the Union Territory of Jammu and Kashmir in India below the Banihal Pass in the Pir Panjal mountain range in lower Himalayas.
- Banihal Tunnel is situated between **Banihāl and Qazigund** on **NH 1A** that has been renumbered **NH 44**.

🏔️ **SIA LA:-**

- **Sia La** is a mountain pass situated on **Saltoro Ridge**, in **Ladakh**.
- It was a Conflict area between **India and Pakistan**.

AGHIL PASS:-

- The pass is located in **Ladakh**, specifically in the **Karakoram** to the north of Mount Godwin Austen.
- It connects the Xinjiang province within China with Ladakh. During the cold winters, the Aghil pass is closed.

CHANG LA:-

- **Chang La** is a high **mountain pass** in **Ladakh**.
- It is in the **Ladakh range** between **Leh and the Shyok River valley**.
- The Chang La, situated on **Leh to Pangong Lake** road.

FOTU LA:-

- It is a mountain pass on the **Srinagar-Leh highway** in the **Zaskar Range** of the Himalayas in India.

KHARDUNG LA:-

- **Leh to Siachen in Ladakh range**.
- The pass is on the **Ladakh Range**, north of **Leh**, and connects the **Indus** river valley and the **Shyok** river valley. It also forms the gateway to the **Nubra** valley, beyond which lies the **Siachen Glacier**.

ZOJILA PASS:-

- **Zoji La** is a high **mountain pass** in the **Himalayas**. It is in the **Kargil district**, Indian Union territory of Ladakh. Located in the **Dra** subdivision, the pass connects the **Kashmir Valley** to its west with the **Dras and Suru valleys** to its northeast and the **Indus valley** further east.
- Traversed by:- **Srinagar-Leh Highway**. /**Srinagar to Kargil and Leh** .

BARALACHA LA:-

- **Bara-lacha la** also known as **Bara-lacha Pass**, is a high **mountain pass** in the **Zaskar range** of Northern-India, connecting **Lahaul district in Himachal Pradesh** to **Leh district in Ladakh**.

ROHTANG PASS:-

- **Rohtang Pass** is a high mountain pass on the eastern end of the Pir Panjal Range of the Himalayas in Himachal Pradesh.
- It connects the Kullu Valley with the Lahaul and Spiti Valleys of Himachal Pradesh, India.

SHIPKI LA:-

- The pass is on the border between the Kinnaur district in the state of Himachal Pradesh, India, and the Ngari Prefecture in Tibet, China. The pass is one of India's border trading points with Tibet along with NathuLa in Sikkim, and Lipulekh in Uttarakhand.
- Sutlej river flows through this pass.

INDRAHAR PASS:-

- It is Situated in Himachal Pradesh connecting the Kangra with Bharmour in Dhauladhar range.

MANA PASS:-

- Mana pass serves as a border between India and the Tibet region of China.
- It is located in the Garhwal Himalayan Mountain range.
- It is a high mountain pass located in the Himalayan Mountains of Uttarakhand.
- Mana Pass is located within Nanda Devi Biosphere Reserve in Uttarakhand.

NITI LA:-

- It is located on the Indo-China border and connects the Uttarakhand district with the southern region of Tibet.

JELEP LA:-

- It Connects the Sikkim state of India with Lhasa (Tibet).
- It Passes through the Chumbi valley, which is located in the Eastern region of the Great Himalayan Range i.e. in the southern portion of Tibet.

NATHU LA:-

- It connects Sikkim with China's Tibet autonomous region.
- Nathu means 'Listening Ears And La means 'pass' in Tibetan.

BOMDI LA:-

- Bomdi La is in **Arunachal Pradesh**.
- At an altitude of **4331 m**
- Situated at an altitude of 4331 m near the western boundary of Arunachal Pradesh in the Greater Himalayas, **this pass connects Arunachal Pradesh with Lhasa**.

DIPHU PASS:-

- Diphu Pass is a **mountain pass** around the area of the disputed **tripoint** borders of **India, China, and Myanmar**.
- Diphu Pass is also a strategic approach to eastern **Arunachal Pradesh** in India.
- It lies on the **McMahon Line**.

SELA PASS:-

- The **Sela Pass** is a high-altitude **mountain pass** located on the border between the **Tawang and West Kameng** districts in the **Indian state** of **Arunachal Pradesh**.

KHYBER PASS:-

- The **Khyber Pass** is a **mountain pass** in the **Khyber Pakhtunkhwa** province of **Pakistan**, on the border with the **Nangarhar Province** of **Afghanistan**.
- It connects the town of **Landi Kotal** to the **Valley of Peshawar at Jamrud** by traversing part of the **White Mountains**.

BOLAN PASS:-

- **Bolān Pass** is a valley and a natural gateway through the **Toba kakar range** in **Balochistan** province of **Pakistan**. It is situated 120 km (75 mi) south of the Afghanistan's **border**.

BURZIL PASS:-

- **Burzil Pass** connects the **Kashmir valley** with the **Deosai plains** of **Ladakh**.
- It is situated at an altitude of **4100 meters** above sea level.
- Being snow covered during the winter season.
- It remains closed for trade and transport.
- The Burzil Pass is an ancient pass and caravan route between **Srinagar** in **Kashmir** and **Gilgit**.

DIHANG PASS:-

- **Dihang Pass** connects **Arunachal Pradesh** with **Myanmar**.

PANGSAU PASS:-

- **Pangsau Pass** or **Pan Saung Pass**, lies on the crest of the **Patkai Hills** on the **India–Myanmar border**.
- It connects **Arunachal Pradesh to Myanmar**.

LIPULEKH PASS:-

- Lipulekh is a Himalayan pass on the border between India's **Uttarakhand** state and the Tibet region of **China, near their trijunction with Nepal**.
- Nepal has ongoing claims to the southern side of the pass, called **Kalapani territory**, which is controlled by India.
- The pass is near the **Chinese trading town of Taklakot (Purang) in Tibet and used since ancient times by traders, mendicants and pilgrims transiting between India and Tibet**.
- It is also used by **pilgrims to Kailas and Manasarovar**.

Important valley in India:-

- ✓ **Nubra valley:-** Nubra is a subdivision and a tehsil in the Indian union territory of Ladakh. Nubra valley is situated between **Karakoram and Ladakh range**. The Nubra River is a **river** in the **Nubra Valley of Ladakh in India**. It is a tributary of the **Shyok River** (a part of the **Indus River system**) and originates from the **Siachen Glacier**.
- ✓ **Shyok valley:-** It is situated between **Karakoram and Ladakh range**. The shyok valley is the valley of the shyok river situated in ladakh.
- ✓ **Indus Valley:-** It is situated between **Ladakh and Zaskar range**.
- ✓ **Suru valley:-** It is a valley in Kargil district of Ladakh. It is drained by the suru river, tributary of the indus river. Suru Valley situated between **Ladakh and Zaskar range**.
- ✓ **Betab valley:-** Betab Valley is situated at a distance of 15 km from Pahalgam in Anantnag district of Jammu Kashmir. It is situated between **Pirpanjal and Zaskar range**.

✓ **Kashmir Valley**:- It is situated between **Greater Himalaya and Pir Panjal range or Pir Panjal range and Zaskar range**. The **Jhelum** is the most prominent river flowing through this valley which passes through the **wular lake**. Apart from the Wular lake, the Dal lake (Srinagar) of Kashmir is also very famous.

✓ **Chamba valley**:- It is situated on the banks of the Ravi river located in Himachal Pradesh. It is situated between **Pirpanjal and Dhauladhar range**.

✓ **Bara Bhangal Valley**:- It is situated in **Himachal Pradesh** in between **Pirpanjal and Dhauladhar range**.

✓ **Balh Valley** :- It is situated in **Himachal Pradesh** and situated in between **Shimla ridge and Shivalik Himalaya**.

✓ **Valley of Flower**:- It is a national park located in North Chamoli in Uttarakhand. It lies between **Greater Himalaya and Zaskar range**.

✓ **Lahaul and Spiti valley**:- Lahaul valley lies between **Pirpanjal and Greater Himalaya** and Spiti valley lies between **Greater Himalaya and Zaskar range**. The name "Spiti" means "**The middle land**". Spiti river is a long tributary of **Sutlej river**.

✓ **Ketti valley**:- It is a Valley of **Nilgiri Mountain in Tamilnadu**. located between **Coonoor -ooty road**. It is called **Switzerland of south India**.

✓ **Araku Valley**:- It is a hill station in **Ap**. It is a Valley in the **Eastern ghat** inhabited by different tribes.

✓ **Silent valley**:- It is a national park in **Kerala**. It is located in **Nilgiris**. Plans for a hydroelectric project that threatened the park's biodiversity stimulated an Environment social movement is called **Save Silent Valley**.

✓ **Baspa valley**:- It is a river valley that is said to be named after the **Baspa river**. It lies in **HP**. **Sangla** is a major town in the Baspa Valley and the valley is also known as the **Sangla valley or Tukpa valley**.

✓ **Darma valley**:-

It is located in **Uttarakhand**. This valley is located in Eastern part of Uttarakhand at Kumaon division. The Darma valley is formed by the Dharma river. It is situated between **kuthi yankti valley and lassar yankti valley**.

✓ **Parvati valley**:- It is situated in **Himachal Pradesh** from the **Confluence of the Parvati river with the Beas river**. **Debsa pass** connects **Spiti valley and Parvati valley**.

✓ **Nathang valley and Yumthang valley**:- **Sikkim**.

✓ **Kulley valley**:- It is located between **Pirpanjal range and Dhauladhar range**. It is located in **Himachal Pradesh**.

✓ **Kangra Valley:-** It is located between **Dhauladhar range and Shiwalik Himalaya**. It is located in Himachal Pradesh.

✓ **Chumbi Valley:-** It is situated between **Sikkim-Bhutan Border in Tibet**.

✓ **Cumbum valley:-** Cumbum Valley, also called Kambam Valley, is a valley in the **Theni district of Tamil Nadu state in India near the Kerala state border**. This is the most fertile valley in south India, The valley includes lands between **Thekkady Hills, Varusanadu Hills, and Kodaikanal Hills**.

✓ **Panjshir valley :-**

The Panjshir Valley is a valley in northeastern **Afghanistan**, 150 kilometers (93 mi) north of **Kabul**, near the **Hindu Kush mountain range**.

✓ **Neora valley:-** This valley has developed in the Himalayan Mountain region in **Kalimpong district** in West Bengal. This valley borders Sikkim on the north and Bhutan on the east. **The red panda**, which is included in the red data Book of IUCN, is found here in natural state. This valley is named after the **Neora river** flowing through it.

✓ **Galwan valley:-** This valley is developed by the **Galwan river** which is in the northeastern part of Ladakh union Territory near the **LAC between India and China**. The Galwan river originates from the **Akshai chin** region under Chinese control and flowing Westward joins the **Shyok river**. This valley was in news due to violent clashes between Indian and Chinese soldiers in 2020.

✓ **Markha Valley:-** This valley is developed by the **Markha river**. The Markha river is a tributary of the **zaskar river** and flows through the **Hemis National park** in Ladakh.

✓ **Puga Valley:-**

Ladakh's Puga Valley is an important area in terms of Geothermal energy. Large Potential of Geothermal energy has been expressed here due to sulfur fumaroles and hot water source.

 **Name of range/ peak and it's other name:-**

✓ **Karakoram** = Krishnagiri, Back bone of Asia, Black gravel.

✓ **Dhaulagiri** = White mountain

✓ **Mizo hill** = Lushai hill (Old name)

✓ **Nilgiri** = Blue mountain

✓ **Anaimalai**= Elephant hill

✓ **Makalu** = The Great Black

- ✓ **Mt. Everest** = Sagarmatha (Nepal), Chomolungma (Tibet), Peak XV (Old name), Qumolungma (China).
- ✓ **K2** = Godwin Austin, Dapsang, Chogo Gangri, Savage Mountain.
- ✓ **Nanda Devi** = Bliss Giving Goddess.
- ✓ **Kanchanjunga** = Five Treasures of the great snow (No of peaks Five), Sleeping Buddha.
- ✓ **Saltoro kangri** = Peak 36 (Old name).
- ✓ **Gasherbrum1** = Hidden peak.

- ✓ **Mt Everest** = Highest peak of the world /Asia / Nepal/ Himalayan range.
- ✓ **K2** = Highest peak of India /Karakoram range/Trans himalaya/2nd highest peak of the world.
- ✓ **Kanchenjunga** = Highest peak of himalayan range in India /2nd Highest peak of Himalaya/2nd Highest peak of India/3rd highest peak of the world.
- ✓ **Nanda Devi** = It is the Highest peak of Himalayan range Completely lies in India.

List of Glacier in India

• **Zemu Glacier** is the largest glacier in the **Eastern Himalaya**. It is about 26 kilometres in length and is located at the base of **Kanchenjunga** in the **Himalayan** region of **Sikkim, India**. The Zemu Glacier drains the east side of Kanchenjunga, the world's third highest mountain. The glacier is the source of water for numerous rivers, as it feeds them when it melts. One of them is the **Teesta River**, which has garnered large attention in the past few years because of a proposed 3500 MW hydropower plant.

• **Rathong** is a **glacier** in **West Sikkim** district of India. It is the source of the **Rathong river**.

• **Lonak Glacier** is one of the three major **glaciers** of **Sikkim**, in the **Himalaya range** in the **north-east** of **India**.

• **Bara Shigri** (literally "Great Glacier", Bara = "big" and Shigri = "boulder covered ice") is a glacier located in **Lahaul & Spiti, Himachal Pradesh, India**. Bara Shigri feeds the **Chandra River** which after its confluence at Tandi with the **Bhaga River** is known as Chandrabhaga or **Chenab**. Bara Shigri glacier is located on the northern slopes of the **Pir Panjal Range**.

• **Sonapani Glacier** is located in Mainly **Pir Panjal Range** of **Himachal Pradesh**.

•**The Satopanth Glacier** is situated in the Indian state of **Uttarakhand**. The river **Alaknanda**, one of the primary headstreams of the **Ganges**, has its origin in the Satopanth glacier. Mainly Satopanth glacier lies on the northwest side of Nilkantha, a major peak of the **Garhwal division of the Himalayas**.

•**Milam Glacier** is a major **glacier** of the **Kumaon Himalaya, Uttarakhand**, India.

•**Namik Glacier** is situated in the **Pithoragarh district** of **Uttarakhand** state in India. The glacier is situated on the **Kumaon Himalayas** at an altitude of 3,600 m. This glacier is the source of the **Ramganga River**.

•**Panchachuli Glacier** is a **Himalayan glacier**, situated in the **Pithoragarh district** of **Uttarakhand, Kumaon Himalaya, India**.

•**The Pindari Glacier** is a **glacier** found in the upper reaches of the **Kumaon Himalayas**, to the southeast of **Nanda Devi and Nanda Kot**. The glacier is about 9 kilometers long and gives rise to the **Pindar River** which meets the **Alakananda** at **Karnaprayag** in the **Garhwal district**.

•**Ralam Glacier** is one of the main **Himalayan glaciers** situated on the hills of **Pithoragarh district** of **Uttarakhand, India**.

•**Meola Glacier or Athasi-Balati Glacier** is the **Himalayan glacier** situated in the eastern part of **Uttarakhand** in the **Pithoragarh district** of India.

•**The Kafni Glacier** is located in the upper reaches of the **Kumaon Himalayas**, to the southeast of **Nanda Devi**. The glacier gives rise to the Kafni River, which is a tributary of the **Pindar River**. The Pindar River is a tributary to **Alaknanda River**, which eventually is one of the two headstreams of the **Ganges**.

•**Bandarpunch** is a mountain massif in the **Garhwal Himalaya** in **Uttarakhand, India**.

•**Kalabaland Glacier** of **Himalaya** is situated in the eastern **Kumaun** of the **Pithoragarh district** of **Uttarakhand** state of **India**. Kalabaland is situated to the north of the **Milam Valley** and to the west of the **Darma valley**.

•**Sona Glacier** is the **Himalayan glacier** situated in the eastern part of **Kumaon Himalayas, Pithoragarh district, Uttarakhand, India**.

•**Parkachik Glacier** is a mountain glacier in Kargil, **Ladakh, India**.

Parkachik Glacier, located at Parkachik, is a mass of ice moving slowly down the **Nun-Kun slopes**. This ice mass finally falls into the Suru River, so providing views of the huge ice-fall.

•**The Rimo Muztagh** is one of the most remote subranges of the **Karakoram range**. The southern part of Rimo Muztagh is in the **Ladakh** portion of far northwestern India, also claimed by Pakistan.

•**The Drang-Drung Glacier (also called Durung Drung Glacier)** is a mountain glacier near the **Pensi La** pass on the Kargil-Zaskar Road in the **Kargil district** of **Ladakh** in India. The Glacier lies in **Zaskar range**.

•**Batura Glacier** long, is one of the largest and longest **glaciers** outside of the polar regions. It lies in the upper Hunza (**Gojal**) region of **Hunza District**, in **Gilgit-Baltistan, Pakistan** lies in **Karakoram range**.

•**The Baltoro Glacier** is a glacier located in the **Shigar District** of the **Gilgit-Baltistan region in Pakistan**, lies in **Karakoram range**.

•**Hispar Glacier** long glacier situated in the **Karakoram Mountains** of **Gilgit-Baltistan, Pakistan**.

•**The Biafo Glacier** is a glacier located within the **Karakoram mountain range** in the Hispar valley, Nagar District of **Gilgit-Baltistan, Pakistan**.

•**Trango Glacier** is a glacier in the **Baltoro Muztagh range** of the **Karakoram** in **Baltistan, Gilgit-Baltistan, Pakistan**.

•**Chogo Lungma Glacier** is a glacier in the **Karakoram mountain ranges** in **Shigar District** of **Gilgit-Baltistan, Pakistan**.

•**The Yinsugaiti Glacier** is located in the **Shaksgam River basin**, north-west of **K2** peak on the northern slope of the **Karakoram Range, Xinjiang, China**.

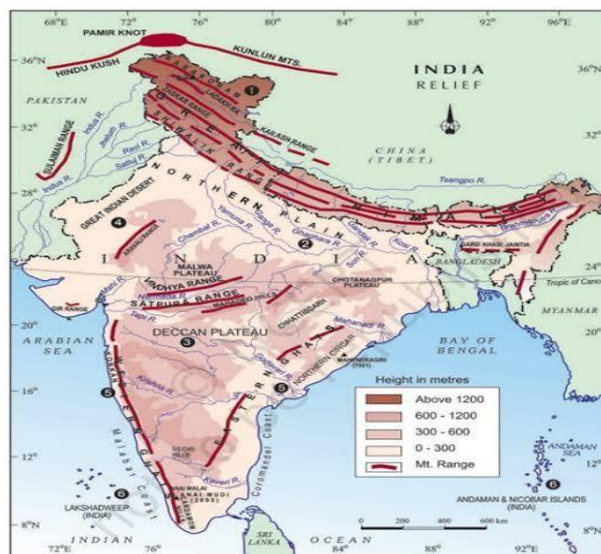
Short Type Information:-

✓ **Mizoram** is also known as the '**Molasses basin**' which is made up of soft unconsolidated deposits.

✓ **Patkai Bum, Nagahill, Mizohill** from the Watershed between **India and Myanmar**.

- ✓ **World's Highest Motorable Pass** :- Mig La Pass in Ladakh followed by Umlingla pass.
- ✓ **Southern most pass of India** :- Senkotta pass connecting Thiruvananthapuram to Madurai lies between Nagercoil and Cardamom hill.
- ✓ **Highest pass in India** :- Karakoram pass in Ladakh.
- ✓ **Kashmir valley** is the part of Himalaya where we find the Karewa formation which is the best cultivation of Saffron.
- ✓ Patkai, Barail, Kohima, Manipur hill, Mizo hill, Naga hill are the part of **Purvanchal Himalaya** and Garo, Khasi, Jaintia hill are part of **Shillong plateau**.
- ✓ **The proposed Longest road tunnel in India**:- Zojila tunnel in Ladakh.
- ✓ **Kodaikanal means in Tamil language**:- The Gift of the forest, situated in palani Hill. Palani hill covers Kerala and Tamilnadu.
- ✓ **At Present The Longest Railway Tunnel in India** is T-50 Tunnel in Jammu Kashmir. (12.7 Km)

Some Important Range of India.



Aravalli :-

- ✓ **Highest peak** :- Gurusikhar in Rajasthan.
- ✓ **Extension of range**:- Delhi to Palanpur (Gujarat).
- ✓ **Type** :- Oldest fold mountain / Oldest Mountain in India. (At present Residual / Relict / Erosional mountain).
- ✓ **Famous Hill station**:- Mount Abu in Aravalli range.
- ✓ **Location**:- Delhi, Haryana, Rajasthan (Maximum part), Gujarat.
- ✓ **Mountain pass**:- Goram ghat, Haldighat, Piplighat etc.
- ✓ **Age of Rock** :- Precambrian
- ✓ **Origin** :- Proterozoic

Vindhya :-

- ✓ **Highest peak:-** Manpub in Madhya Pradesh /Sad-Bhawna Shikhar or Kalumar Peak or Goodwill peak in Madhya Pradesh.
- ✓ **Extension of range :-** Jobat to Sasaram.
- ✓ **Type:-** Block Mountain or Fault Mountain.
- ✓ **Kaimur hill is located :-** Eastern part of Vindhya range. Extending from around Katangi in Jabalpur district of Madhya Pradesh to around Sasaram in Rohtas district of Bihar. (Madhya Pradesh, Uttar Pradesh, Bihar)

Satpura :-

- ✓ **Means:-** Seven mountain. (Maikal, Mahadeo, Kalibhit, Asirgarh, Bijargarh, Barwani, Arwani).
- ✓ **Highest peak:-** Dhupgarh in Madhya Pradesh.
- ✓ **Location:-** Satpura Range is a range of hills in **central India**. The range rises in **eastern Gujarat** running east through the border of **Maharashtra and Madhya Pradesh and ends in Chhattisgarh**.
- ✓ **Type:-** Block Mountain..
- ✓ **Panchmari** is called the **Queen of Satpura**.
- ✓ **Asirgarh pass** situated in Satpura range of Madhya Pradesh.

Maikal/Mahakal:-

- ✓ **Highest peak:-** Amarkantak in Madhya Pradesh.
- ✓ **Type =** Residual Mountain.
- ✓ **Location of range :-** Madhya Pradesh and Chhattisgarh.

Mahadeo:-

- ✓ **Highest peak:-** Panchmari in Madhya Pradesh
- ✓ **Type: -** Residual Mountain.
- ✓ **Location of range :-** Madhya Pradesh

Ajanta :-

- ✓ **Highest peak:-** Dhodap in Maharashtra.
- ✓ **Location of range:-** Maharashtra
- ✓ **Type:-** Block Mountain.

Anaimalai :-

- ✓ **Highest peak:-** Anamudi in Kerala and it is the highest peak of South India or Peninsular India or Deccan plateau.
- ✓ **Location of range =** Kerala to Tamil Nadu.
- ✓ **Other name:-** Elephant Hill.

Cardamom :-

- ✓ **Highest peak:-** Yellagiri in Tamilnadu .
- ✓ **Cardamom is the** Southernmost hill of India.
- ✓ **Location of range:-** Tamil Nadu to Kerala
- ✓ **Yelagiri is a branch of :-** Anaimalai hill.



Nilgiri:-

- ✓ **Highest peak:-** Doddabetta in Tamil Nadu and Doddabetta is the 2nd highest peak of South India.
- ✓ **Type :-** Residual Mountain.
- ✓ **Other name:-** Blue Mountain.
- ✓ **Eastern Ghat and Western Ghat inter Secting each other at** Nilgiri hill.
- ✓ **Location of range:-** Tamilnadu, Kerala, Karnataka.
- ✓ **Ooty is called** Queen of Nilgiri hill of Western Ghat.
- ✓ **Toda tribe** live in Nilgiri hill in Tamilnadu.
- ✓ **Nilgiri** is the 1st biosphere reserve in India (1986).
- ✓ **National Park in Nilgiri mountain:-** Silent Valley in Kerala, Mudumalai in Tamilnadu, Bandipur in Karnataka and Nagarhole in Karnataka.



Western Ghat :-

- ✓ **Highest peak** - Anamudi.
- ✓ **Type :-** Block Mountain/Tilted Fault-Block Mountain.
- ✓ **Other names** - Sahyadri in Maharashtra and Kolsubai in Maharashtra is the highest peak of sahyadri.
- ✓ **Bhor ghat:-** Mumbai to Pune. It is India's Busiest Pass.
- ✓ **Thal ghat :-** Mumbai to Nasik.
- ✓ **Palghat :-** Kochi to Coimbatore.
- It is the southernmost gap of Western Ghat situated between Nilgiri and Anaimalai hill.
- It is the longest pass in South India.
- This pass can be traveled by Kochi port to Chennai port.
- ✓ **Location of range :-** Gujarat, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu.
- ✓ **Western Side of Western Ghat is:-** Cliff
- ✓ **Western Ghat is also called important for** Water divider.



Eastern Ghat :-

- ✓ **Highest peak:-** Jindagada in Andhra Pradesh./Arma Konda in Andhra Pradesh.
- ✓ **Type:-** Residual Mountain.
- ✓ **Other names:-** Malyadri in Odisha and Mahendragiri in Odisha is the highest peak of Malayadri.
- ✓ **Location of range :-** Odisha, Andhra Pradesh, Tamil Nadu, Karnataka, Telangana.
- ✓ **Important peaks of Eastern ghat:-**
 - Mahendragiri (Odisha).
 - Nallamala Hill (Andhra Pradesh).
 - Vinukonda (Andhra Pradesh).
 - Palkonda (Andhra Pradesh).
 - Nagari hill (Andhra Pradesh).
 - Javadi hill (Tamil Nadu).
 - Shevaroy hill (Tamil Nadu).
 - Sirumalai hill (Tamil Nadu).
 - Pachaimalai hill (Tamil Nadu).

Continent:-

✓ Asia :-

- **Highest peak**:- Mt Everest.
- **Longest river system**:- Yangtze.

✓ Australia:-

- **Highest peak**:- Mt. Kosciusko.
- **Longest river system**:- Murray- Darling.

✓ Antarctica:-

- **Highest peak**:- Vinson massif.
- **Longest river system** :- Onyx.

✓ Europe:-

- **Highest peak**:- Mt. Elbrus.
- **Longest river system**:- Volga.

✓ Africa:-

- **Highest peak**:- Kilimanjaro.
- **Longest river system**:- Nile.

✓ North America:-

- **Highest peak**:- Mt. McKinley.
- **Longest river system**:- Mississippi-Missouri.

✓ South America:-

- **Highest peak**: Aconcagua.
- **Longest river system**:- Amazon.

Indian Neighboring Countries:-

Bangladesh:-

- ✓ **Highest peak** = Tazing Dong (also known as Bijay) / Keokradong / Saka Haphong.
- ✓ **Longest river** = Padma-Meghna.

Pakistan :-

- ✓ **Highest peak** = Tirich Mir
- ✓ **Longest river** = Indus.

Nepal :-

- ✓ **Highest peak** = Mt Everest.
- ✓ **Longest river** = Kali Gandaki/Karnali river.

Sri Lanka:-

- ✓ **Highest peak** = Pidurutalagala.
- ✓ **Longest river** = Mahabali Ganga.

Afghanistan:-

- ✓ **Highest peak** = Noshag
- ✓ **Longest river** = Helmand.

China :-

- ✓ **Highest peak:-** Gosainthan.
- ✓ **Longest river** = Yangtze.

Myanmar :-

- ✓ **Highest peak** = Hkakabo Razi.
- ✓ **Longest river** = Irrawaddi.

Bhutan :-

- ✓ **Highest peak** = Kulakangri /Gangkhar puensum.
- ✓ **Longest river** = Manas.