

HIMALAYAS

“Where Earth Touches the Sky.”

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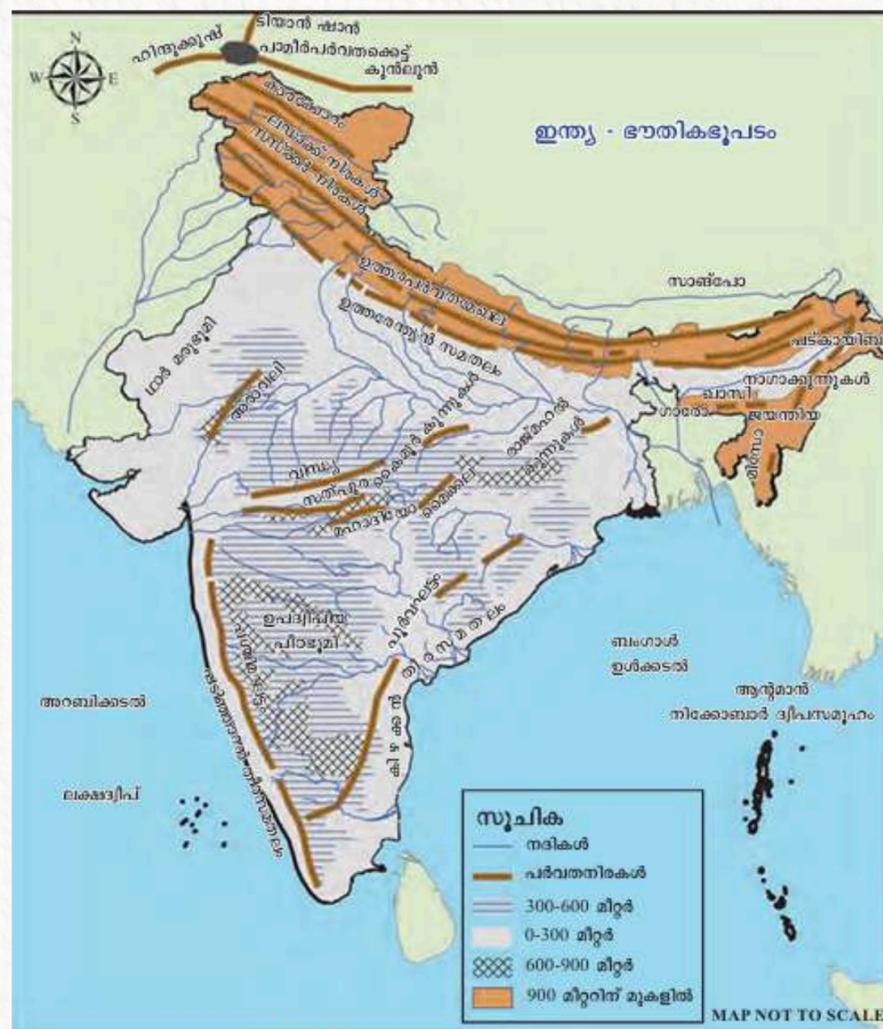
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**“The future depends on what you do today.”
— Mahatma Gandhi**

HIMALAYAS

The geography of India can be classified based on its landforms as follows:

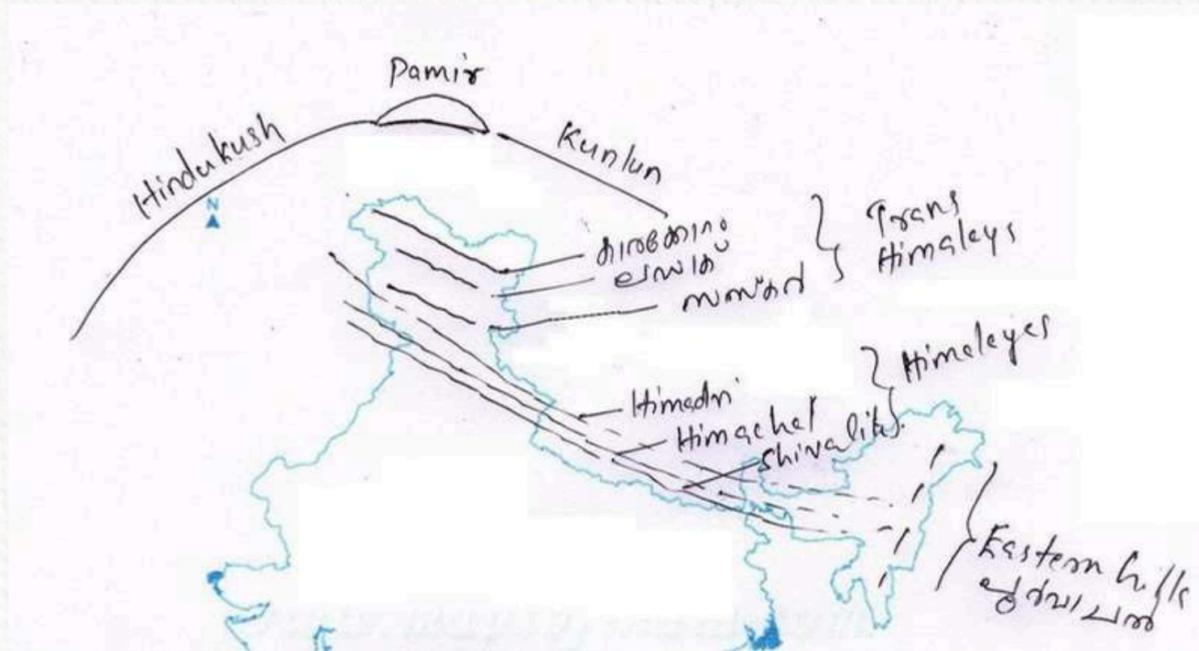
1. The Northern Mountain Region
2. The North Indian Plains
3. The Peninsular Plateau
4. The Indian Desert
5. The Coastal Plains and Islands



The Northern Mountain Region

- The mountains located to the **north and northeast of India** are collectively known as the Northern Mountain Region.
- Throughout the Northern Mountain Region, fertile mountain soil is generally found.

- The Northern Mountain Region comprises the **Himalayas, Trans-Himalayas, and Purvachal (Eastern Hills).**
- Landforms generally rising above an average elevation of **900 meters above sea level** are commonly known as mountains.



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- The Himalayas were formed by the collision of the **Indo-Australian Plate and the Eurasian Plate** (first Himadri, then Himachal, then Shivalik).
- The Himalayas are a mountain range formed by the **folding and uplifting of the seabed of the Tethys Sea** due to the pressure of the converging tectonic plates.

Himalaya

- Mountain ranges are formed when **rock strata fold under compressional forces**. This process is called folding. Ranges like the Himalayas and the Alps were formed this way.
- The formation of the Himalayas began approximately 40 million years ago (during the Tertiary period of the Cenozoic Era).
- **The highest mountain range in the world.**
- The youngest fold mountain range in the world.
- The Himalayas are constructed from sedimentary rocks.

മടക്കുപർവതങ്ങൾ

(Fold Mountains)

ഭൂവൽക്കത്തിലെ ശിലാപാളികൾ സമ്മർദ്ദ ബലത്താൽ മടങ്ങി മടക്കുപർവതങ്ങൾ രൂപപ്പെടാറുണ്ട്. വലനം (Folding) എന്ന ഈ പ്രക്രിയയിലൂടെയാണ് മടക്കുപർവതങ്ങൾ രൂപപ്പെടുന്നത്. ഹിമാലയം, ആൽപ്സ് തുടങ്ങിയ പർവതനിരകൾ ഇത്തരത്തിൽ രൂപപ്പെട്ടവയാണ്.



Meaning:

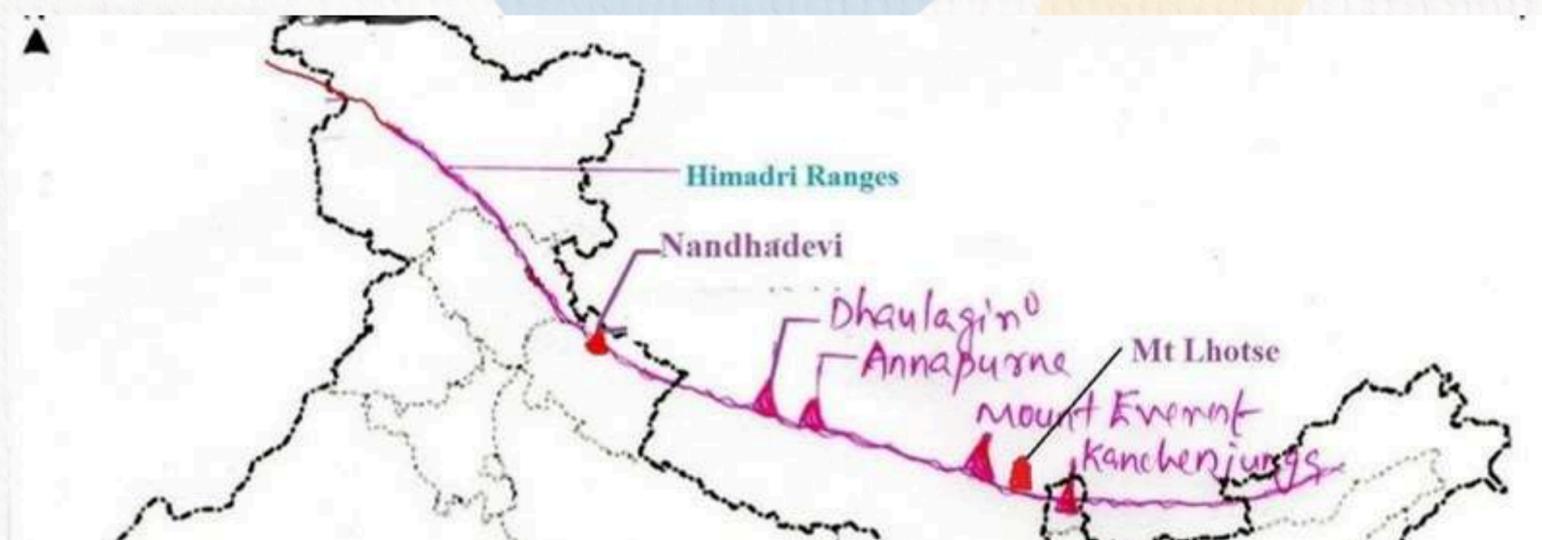
- The word 'Himalaya' means **"Abode of Snow"**.
- The Himalayas are situated between the **Gangetic Plain and the Tibetan Plateau**.
- The mountain range that separates the Indian subcontinent from the Tibetan Plateau.
- Length of the Himalayas: **2400 km**.
- Width: 150 km to 400 km.
- Area: 5.95 lakh sq km.
- The **width of the Himalayas decreases from west to east**.

- Known as the Queen of the Himalayas: Darjeeling (West Bengal).
- The Queen of Hill Stations: Mussoorie (Uttarakhand).
- The Princess of Hill Stations: Kodaikanal.
- The Queen of Deccan: Pune.
- The Queen of Nilgiris: Ooty.
- The Queen of Satpura Ranges: Pachmarhi.
- Known as the Gateway to the Himalayas: Rishikesh (Uttarakhand).
- Foothills of Himalaya: Shivalik / Bhabar.
- The region below the Shivaliks, filled with small pebbles, is the Bhabar.
- Plateau known as the 'Roof of the World': Pamir.
- The highest plateau in the world: Pamir.
- The Pamir Plateau is part of the Tibetan Plateau.
- The Pamir Plateau connects the Himalayas with other mountains in Central Asia.
- The country where the Pamir is located: **Tajikistan**.
- The mountain range situated on the northwest/western border of the Indian subcontinent: Hindukush.
- Countries the Hindukush passes through: Pakistan, Afghanistan.
- The highest peak located in the Hindukush: Tirich Mir (Pakistan).
- Known as 'Paryatra Parvat' in the Vedas: **Hindukush**.
- The 2 main passes located in the Hindukush are: Khyber, Bolan.
- The passes connecting Pakistan and Afghanistan are: Khyber, Bolan.
- The pass known as the Gateway to the Indian Subcontinent: Bolan.
- Alexander, Genghis Khan, Babur, and Timur entered India through the Khyber Pass.
- The Indian subcontinent has a total of 7 countries and 247 islands.
- The 7 countries of the Indian subcontinent are: **India, Pakistan, Nepal, Bhutan, Bangladesh, Sri Lanka, Maldives**.

- Trees found between 1000 and 2000 meters in the Himalayan region are: Oak, Pine, Fir, Deodar.
- Coniferous trees found above 2000 meters in the Himalayan region are: Deodar, Spruce.
- The project started by the Central Government and UNDP to protect the Himalayas is: Secure Himalaya.
- The Himalayas have **3 ranges**:
 - a. Himadri (The Greater Himalaya / Inner Himalaya)
 - b. Himachal (The Lesser Himalaya)
 - c. Shivalik (The Outer Himalaya)

Himadri (The Greater Himalaya / Inner Himalaya)

- The northernmost range of the Himalayas.
- The **highest Himalayan range**.
- Himadri, also known as the Greater Himalaya/Inner Himalaya, is a mountain range with an average height of over 6100 meters above sea level.
- The average width of the Himadri is about **25 kilometers**. These are snow-covered mountains.



- The Himalayan range from where the Ganga and Yamuna rivers originate.
- The Himalayan range from which the maximum number of rivers originate.
- The range known as the **spine of the Himalayas**.
- The Himalayan range with the least human habitation.
- The Himalayan range with the maximum number of peaks.

The Major Peaks in Himadri

Code – DAKN2E യുടെ L2 Mayavi ഉൗരി

- D - Dhaulagiri (Nepal)
- A - Annapurna (Nepal)
- K - Kanchenjunga (Sikkim)
- N - Nanda Devi (Uttarakhand)
- N - Namcha Barwa (China)
- E - Mt. Everest (Nepal)
- L - Lhotse (Nepal)
- L - Lhutse (Nepal)
- M – Makalu (Nepal)

Mt Everest (Nepal)

- The highest peak in the world.
- The highest Himalayan peak.
- Height: 8848.86 m / 29029 ft.
- Nepali name for Everest: Sagarmatha.



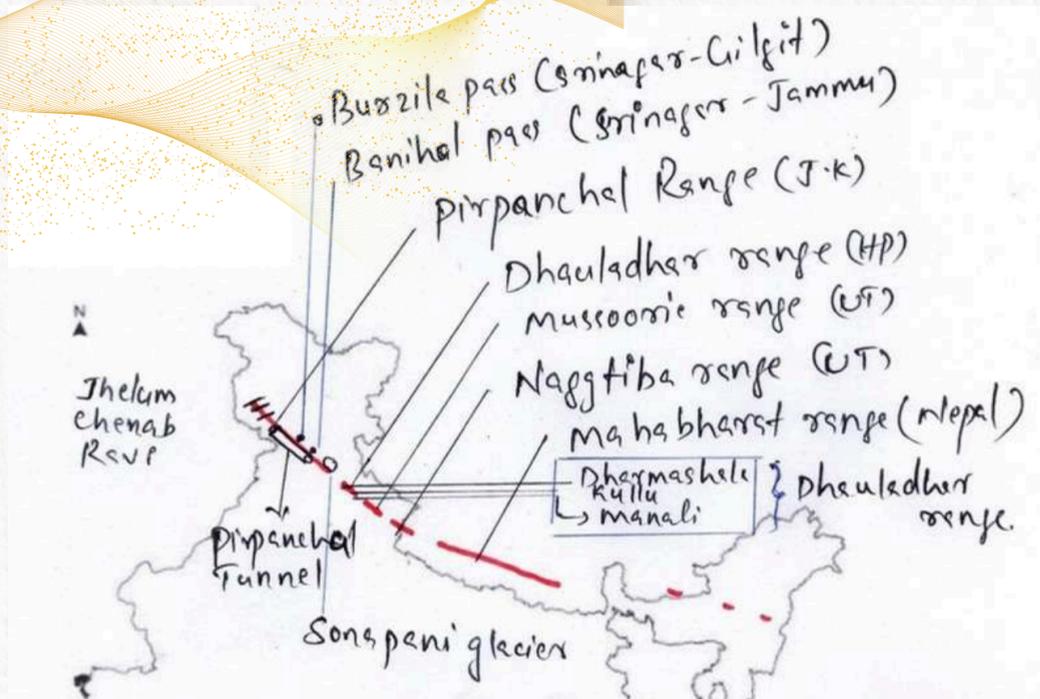
- Tibetan name for Everest: **Chomolungma**.
- Previous name: Peak 15.
- The person who first calculated the height of Everest: Radhanath Sikdar.
- Peak 15 was named Everest in memory of Sir George Everest, who was the Surveyor General of India.
- Edmund Hillary and Tenzing Norgay first conquered it on May 29, 1953.
- May 29 is Everest Day.
- Edmund Hillary is a citizen of New Zealand.
- First Indian to conquer Everest: Avtar Singh Cheema (1965).
- First woman to conquer Everest: Junko Tabei (1975).
- First Indian woman to conquer Everest: Bachendri Pal (1984).

Kanchenjunga (Sikkim)

- **Third highest peak in the world.**
- **Second highest peak in India.**
- **The highest peak located entirely within India.**
- **The highest peak located in undisputed territory.**
- **The second highest Himalayan peak.**
- **Height: 8586 m.**
- **Kanchenjunga is formed by the confluence of five mountain ranges, hence its name means "The five treasures of snow".**

- The peak that allows mountaineers to pass only after assuring them they will not step on the summit.
- Zemu glacier is near Kanchenjunga.
- The largest glacier in East India: **Zemu (Sikkim)**.
- The water from the Zemu glacier fills the Cholaamu Lake (Sikkim), which is the highest lake in India.
- The river originating from Cholaamu Lake is the Teesta.
- The second highest peak located entirely within India: Nanda Devi (7817m, Uttarakhand).
- The Brahmaputra River flows into India through Arunachal Pradesh by taking a bend around the Namcha Barwa peak.
- Deadliest mountain in the world: Annapurna.
- The fourth highest peak in the world: **Mt Lhotse** – Nepal (8516m).
- 5 - Makalu (Nepal).

Himachal (Lesser Himalayas)



- Situated between **Himadri and Shivalik**.
- The range located north of the Shivaliks, with an average elevation of 3500 to 4500 meters above sea level, is the Himachal. It is also known as the Lesser Himalaya. This range has a width of approximately 60 to 80 kilometers.
- The Himachal region is primarily composed of 5 ranges:
 - a. **Pir Panchal – Jammu Kashmir, Himachal Pradesh**
 - b. **Dhauladhar - Himachal Pradesh**
 - c. **Mussoorie – Uttarakhand**
 - d. **Naggtiba - Uttarakhand**
 - e. **Mahabharat - Nepal**
- The **largest range in the Himachal ranges is Pir Panjal**.
- The main rivers flowing through the Pir Panjal range are: **Jhelum, Chenab, and Ravi**.
- The river originating from the Verinag Glacier in the Pir Panjal range is the Jhelum.
- The longest glacier in the Pir Panjal range is the **Sonapani glacier (Chandra valley) (Himachal Pradesh)**.

- The 2 main passes located in the Pir Panchal range are: Burzila and Banihal.
- The main valleys located in the Himachal range are:
 - a. Kashmir valley
 - b. Kangra valley (Himachal Pradesh)
 - c. Kullu valley (Himachal Pradesh)
 - d. Lahaul and Spiti valley (Himachal Pradesh)
- The Kashmir Valley is situated between the Pir Panjal and Himadri ranges.
- Kashmir Valley is known as the Paradise for Tourists.
- The river flowing through the Kashmir Valley, passing through Srinagar, is the Jhelum.
- Known as the Valley of Gods: Kullu valley.
- Manikaran, India's most important Geo thermal energy plant, is located in the Kullu valley (Himachal Pradesh).
- The Great Himalayan National Park is located in the Kullu valley.
- The place where Manu (Manu) resided: Manali.
- The rivers flowing through the Kullu and Manali valleys: Beas.
- The river originating from the Kullu hills: Ravi.
- The smallest tributary of the Indus flowing entirely within India: Beas.
- The only tributary of the Indus flowing entirely through India: Beas.
- The highest cricket stadium in the world is in Dharamsala.
- The highest cricket stadium in Kerala is Krishnagiri - Wayanad.
- The main residence of the Dalai Lama in India is Dharamsala.
- Known as Little Lhasa: Dharamsala.
- The Masoor rock temple, known as the Pyramid of the Himalayas, is located in the Kangra valley (Himachal Pradesh).

- The most important pass in the Himachal range is the Rohtang pass (It connects the Kullu Valley with the Lahaul and Spiti Valleys of Himachal Pradesh).
- The river originating from the Rohtang Pass is the Beas.
- The **Atal Tunnel is located in the Rohtang Pass.**

Atal Tunnel

- The **second longest road tunnel in India.**
- Length: 9.02 km.
- The longest road tunnel in the world situated above 10,000 feet.
- The longest highway tunnel in India.
- Cuts through the Pir Panjal range.
- The Janasu Tunnel (Tunnel No. 8) is India's longest rail tunnel, measuring 14.57 km, located between Devprayag and Janasu on the Rishikesh-Karnaprayag rail project in Uttarakhand. This twin-tube tunnel achieved a breakthrough in April 2025.
- The longest road tunnel in India – The Dr. Syama Prasad Mookerjee Tunnel, formerly known as the Chenani-Nashri Tunnel, is the longest road tunnel in India, measuring 9.28 km.
- The Himalayan range with the most hill stations: Himachal.

The main hill stations of Himachal are

Code: MP GRAND2S2 FUND

- M- Mussoorie (Uttarakhand)
- P- Pahalgam (J&K)
- G- Gulmarg (J&K)
- R - Ranikhet (Uttarakhand)

- A - Almora (Uttarakhand)
- N- Nainital (Uttarakhand)
- D - Dalhousie (Himachal Pradesh)
- D - Darjeeling (Bengal)
- S- Shimla (Himachal Pradesh)
- S- Sonamarg (J&K)
- Lahaul & Spiti - Himachal Pradesh
- Chamba - Himachal Pradesh
- Khajjiar - Himachal Pradesh
- Kullu - Himachal Pradesh
- Manali - Himachal Pradesh
- Dharmashala - Himachal Pradesh

Other Hill stations in India

1. Coonoor - Tamil Nadu
2. Mahendragiri – Tamil Nadu & Odisha
3. Mahabaleshwar - Maharashtra
4. Lonavla - Maharashtra
5. Kal subai - Maharashtra
6. Malabar Hills - Mumbai
7. Pachmarhi – Madhya Pradesh
8. Don Hill station - Gujarat
9. Mt Abu - Rajasthan
10. Mt Guru Shikhar – Rajasthan
11. Soorajkund - Haryana
12. Hazaribagh - Jharkhand
13. Badrinath – Uttarakhand
14. Kedarnath - Uttarakhand
15. Rishikesh - Uttarakhand
16. Haridwar - Uttarakhand
17. Dehradun - Uttarakhand
18. Umiam - Meghalaya
19. Tawang - Arunachal Pradesh

Main hill stations in Kerala

- Ponmudi – Thiruvananthapuram
- Rose mala - Kollam
- Gavi - Pathanamthitta
- Charalkunnu - Pathanamthitta
- Wagamon – Kottayam
- Ilaveezhampoonchira – Kottayam
- Raamakalmedu – Idukki
- Anamudi - Idukki
- Meeshappulimala - Idukki
- Munnar - Idukki
- Devikulam - Idukki
- Peerumed - Idukki
- Malakkappara – Thrissur
- Vythiri - Wayanad
- Chembra kodumudi– Wayanad
- Lakkidi – Wayanad
- Phantom para - Wayanad
- Nelliampathi - Palakkad
- Peruvannamoozhi - Kozhikode
- Ezhimala - Kannur
- Paithalmala - Kannur
- Ranipuram - Kasargod
- The highest hill station situated in India: Gulmarg.
- Known as the **Queen of Hill Stations: Mussoorie.**
- The **Princess of Hill Stations: Kodaikanal.**
- The Lal Bahadur Shastri IAS academy is located in Mussoorie.
- The hill station discovered by the British during the Gorkha War period is Shimla.
- The main trees found in the Himachal range are: **Oak, Pine, Fir, Deodar.**

The Shivalik (Outer Himalayas)

- The southernmost Himalayan range.
- The lowest Himalayan range.
- Average Height: 1220 m.
- The Shivalik range has a width of approximately 60 to 150 kilometers.
- Since this is the outermost part of the Himalayas, this range is also called the Outer Himalaya.
- The Himalayan range running parallel to the Ganga Plain.
- The meaning of the word Shivalik is "Jata of Shiva" (Shiva's matted lock).
- The name by which the Shivaliks were known in the Vedas: Manak Parbat.
- The Himalayan range where the maximum number of 'Duns' are found.
- Broad valleys between two mountain ranges are called Duns.
- The main Duns found in the Shivalik range are:
 - Dehradun - Uttarakhand
 - Kotlidun - Himachal Pradesh, Uttarakhand, Haryana
 - Patlidun - Uttarakhand
- The largest Dun in the world: Dehradun.

Head Quarters of

- Survey of India - Dehradun
- Forest Survey of India - Dehradun
- Wildlife Institute of India - Dehradun
- Indian Forest Research and Education Council - Dehradun
- Indian Military Academy - Dehradun
- Indian Institute of Petroleum - Dehradun
- First tiger cell in India was established at - Dehradun
- Indian Remote sensing Institute - Dehradun

- The Himalayan range where the maximum number of gorges (Gorges) are found: Shivalik.
- The river that creates the maximum number of gorges in India: Indus.
- The Himalayan range with the most fertile land, agriculture, and population: Shivalik.
- The Himalayan range most susceptible to landslides and earthquakes: Shivalik.
- The type of agriculture practiced in the Shivaliks: Terrace cultivation.
- Since the Himalayan rivers cut through this mountain range, continuity is lost in many places.
- The names by which the Shivaliks are known in different regions:
 - Jammu Kashmir – Jammu Hills
 - Uttarakhand – Dhang hills
 - Assam - Cachar hills
 - Arunachal Pradesh - Miri hills, Mishmi hills, Dafla hills
- The most common tree found in the Shivaliks: Saal tree.

Regional Divisions of the Himalayas

- Rivers originating from the Himalayas flow through deep valleys (gorges) carved across the mountain ranges.
- The Himalayas are divided into regional sections based on the rivers flowing across them:
 - a. Western Himalayas (From Indus to Kali)
 - b. Central Himalayas (From Kali to Teesta)
 - c. Eastern Himalayas (From Teesta to Brahmaputra)
- The Western Himalayas, stretching from the Indus River valley in the north of Jammu & Kashmir to the Kali River valley (a tributary of the Ghaghara River) in eastern Uttarakhand, can be further divided into three regions: Kashmir Himalayas, Himachal Himalayas, and Uttarakhand Himalayas.

Kashmir Himalayas

- Covering an area of about 3.5 lakh square kilometers in the Jammu & Kashmir and Ladakh regions, the Kashmir Himalayas are approximately 700 km long and 500 km wide.
- The main mountain ranges in this region, characterized by snow-capped peaks, valleys, and ranges, are the Karakoram, Ladakh, Zaskar, and Pir Panjal ranges.
- **Mount K2 (Godwin Austen - 8611m), the second-highest peak in the world, is located in the Karakoram range.**
- Major glaciers in this region include Siachen and Baltoro. These glaciers ensure a steady water supply throughout the year to the **Indus River and its tributaries like the Ravi, Jhelum, and Chenab.**
- Passes (Churams) are essential for connecting the two sides of the mountains and facilitating transportation by cutting across the ranges. The Banihal Pass across the Pir Panjal range connects the Jammu region with the Kashmir Valley.
- The Kashmir Himalayas are rich in freshwater lakes, with Dal Lake being a significant one. The city of Srinagar is situated on the banks of this lake. Shikara boats and floating markets (markets on boats) in Dal Lake are iconic features of Kashmir tourism.
- Meadows that form on the mountain slopes during the summer are called 'Margas'. These Margas, covered in snow during winter, attract many tourists for winter sports like skiing. Sonmarg and Gulmarg are a few examples.

Himachal Himalayas

- This part of the Himalayas primarily comprises the state of Himachal Pradesh. **The main rivers in this mountainous region are the Chenab, Ravi, and Beas.** The mountain ranges here are the Dhauladhar and Pir Panjal. Numerous freshwater lakes are found in the mountainous areas, such as Chandratal and Surajtal.
- The Baralacha La pass, connecting Himachal Pradesh with Ladakh, and the Rohtang Pass, connecting the Kullu valley with the Lahaul and Spiti valleys, are the main passes in the Himachal Himalayas.
- Beautiful valleys like Kullu, Kangra, and Lahaul, and resorts like Shimla and Manali, attract tourists. Hot springs are found in several places in this region, which experiences cold weather and snowfall.

How are hot springs formed?

- Rainwater seeps underground and becomes part of the groundwater. In areas with active geological processes like mountain formation, the rock layers beneath the surface heat up, warming the groundwater. This heated groundwater emerges on the surface as springs, known as hot springs.
- **Many hot springs are found in the Himalayan regions, e.g., Nubra Valley, Manikaran, Kheerganga.** Geothermal energy from hot springs can be used to generate electricity. Electricity is produced in this manner from the Manikaran hot spring in Himachal Pradesh.

Uttarakhand Himalayas

- The Himalayan region extending from the Satluj River to the Kali River is known as the Uttarakhand Himalayas. Its western part is called Garhwal Himalayas, and the eastern part is called Kumaon Himalayas.
- High peaks like Nanda Devi, Kamet, Badrinath, and Kedarnath are located here. Glaciers like Gangotri and Yamunotri, the sources of the Ganga and Yamuna rivers, and freshwater lakes like Nainital and Bhimtal are also found in this region.
- The flat valleys found between the Lesser Himalayas and the Shivalik ranges are called 'Duns'. Dehradun in Uttarakhand is famous for this. The summer meadows found on the higher mountain slopes here are called 'Bugyals'. Bugyals, which are covered by snow in winter, are utilized for tourism in many places, e.g., Dayara Bugyal, Gorson Bugyal.

Bugyals and Shepherds

- Bugyals, covered in snow during winter, turn into green meadows as the snow melts. During this time, shepherds from the valleys arrive at the Bugyals with their livestock.
- During the dry summer in the valleys, they set up temporary shelters in the lush green Bugyals and reside there with their animals.
- With the onset of winter, they move down to the valleys and stay there until the next season. This seasonal migration of shepherds with their livestock between the valleys and the mountain meadows is called Transhumance.

Central Himalayas

- The region from the **Kali River to the Teesta River** is the **Central Himalayas**, also known as the **Nepal Himalayas**, most of which lies in Nepal.
- **Mount Everest**, the highest peak in the world, is in Nepal. **Kangchenjunga** mountain and the **Nathu La pass**, located on the **India-China border**, are also in this region.

Eastern Himalayas

- The **Eastern Himalayas**, which have lower ranges compared to the **Western Himalayas**, stretch from the **Teesta River** to the **Brahmaputra River** in the east. This region, also known as **Assam Himalayas**, features **Namcha Barwa (7756 M)** as its prominent peak.
- The main rivers are the **Brahmaputra**, **Kameng**, **Lohit**, and **Subansiri**. **Bomdila**, connecting **Arunachal Pradesh** with **Lhasa** in **Tibet**, and **Diphu**, connecting with **Myanmar**, are the main passes in this region.

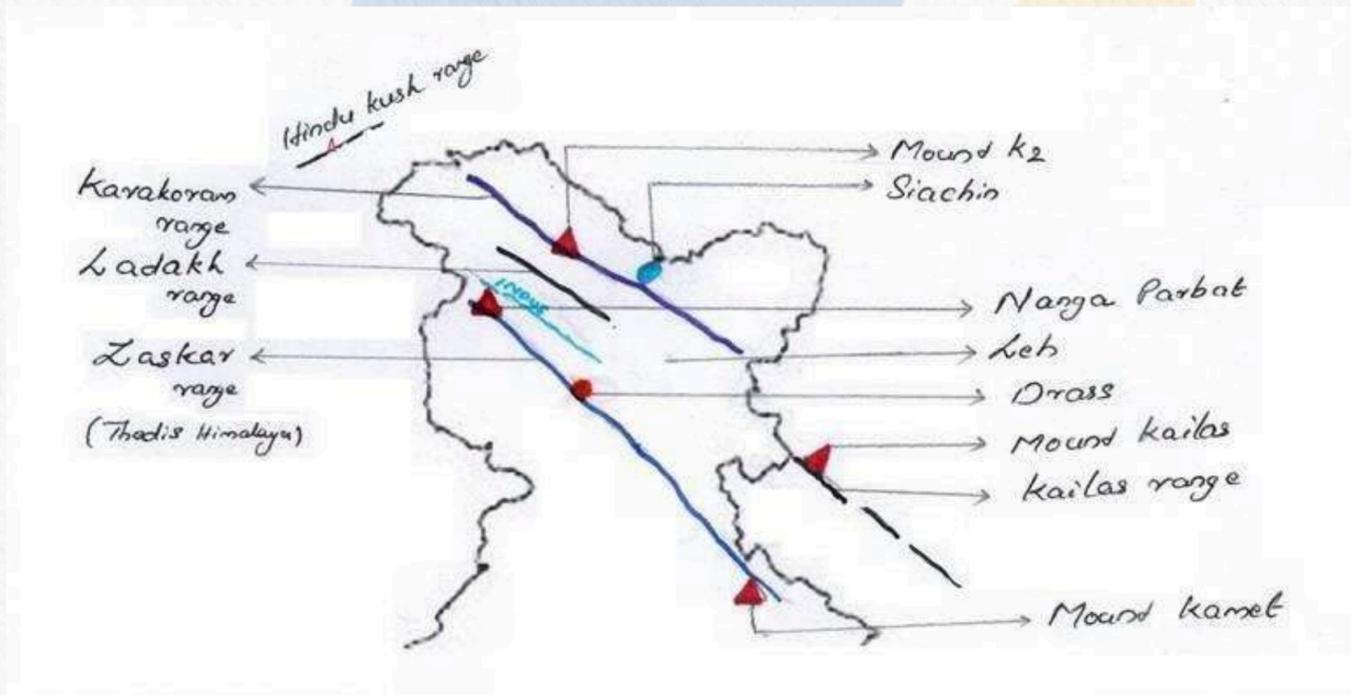
Longitudinal Divisions of Himalayas

- **Sir Sydney Bernard** divided the **Himalayas** into 4 parts based on the **flow of rivers**:
 - a. **Punjab Himalaya (Kashmir Himalaya)** - Between **Indus** and **Sutlej (560 km)**
 - b. **Kumaon Himalaya** - Between **Sutlej** and **Kali (320 km)**
 - c. **Nepal Himalaya (Central Himalaya)** - Between **Kali** and **Tista (800 km)**
 - d. **Assam Himalaya (Eastern Himalaya)** - Between **Tista** and **Dihang (720 km)**

- Longest Himalayan range: Nepal Himalaya
- Shortest Himalayan range: Kumaon Himalaya
- Himalayan range with the highest peaks: Nepal Himalaya
- Western part of Kumaon Himalaya: Known as Garhwal Himalayas
- The highest peak in Punjab Himalaya: **Nanga Parbat (Ladakh)**
- The highest peak in Kumaon Himalaya: **Nanda Devi**
- The highest peak in Nepal Himalaya: **Everest**
- The highest peak in Assam Himalaya: **Namcha Barwa**
- Trans Himalaya and Pirpanchal are part of the Punjab Himalaya

Trans Himalaya

- The Trans-Himalaya, found furthest north in India, is also known as the Tibetan Himalaya. The Trans-Himalaya, which has an average height of 3000 meters, is approximately 40 kilometers wide and 965 kilometers long.
- The Trans-Himalaya is known to be composed of three ranges: Karakoram, Ladakh, and Zaskar.



- The largest part of the Trans-Himalaya is located in the regions of Ladakh and Jammu and Kashmir.
- The **northernmost range of the Trans-Himalaya is the Karakoram.**
- The place where snow cover is most prominent after the poles is the Karakoram.
- The name by which the Karakoram range is known in ancient texts is - Krishna Giri.
- The mountain range mentioned in Rudyard Kipling's novel 'Kim' is the Karakoram.
- The mountain range that forms the border between India and Afghanistan is the Karakoram.
- The Karakoram range connects the Himalayan mountains with the Pamir Knot.
- **Mount K2, the highest peak in India, is located in the Karakoram range.**
- The **second highest peak in the world is Mount K2 (8611 m).**
- Other names known for Mount K2 are - Mount Godwin Austin, Dapsang, Lamba pahar.
- Major glaciers located in the Karakoram range are - **Siachen (76 km), Biafo (67km), Baltoro (63 km) and Hispar (49km).**
- The **highest battlefield in the world is Siachen.**
- The meaning of the word Siachen is - Abundance of Roses.
- Siachen is known as the Third Pole.
- **The river originating from Siachen is the Nubra.**
- The Nubra river merges with the Shyok river, which originates from the Rimo glacier.
- Shyok is a tributary of the Indus.
- The river known as the River of Death is Shyok.
- The range that is a sub-range of the Karakoram mountains is the Saltoro mountain range.

- The Tibetan part of the Karakoram mountain range is known as the Kailash range.
- Lake Mansarovar and Mt Kailas are located in the Kailash range.
- The highest peak in the Kailash range is – Mt Kailas.
- The name by which Mt Kailas is known in Tibet is - Kang Rimpoche.
- Rivers originating from the Kailash range - Indus, Brahmaputra, Sutlej, Ghaghra.
- The cold desert/winter desert of India is known as - Ladakh.
- Ladakh is known as the Land of Passes.
- **The highest plateau in India is - Ladakh.**
- **Dras is known as the gateway to Ladakh.**
- Dras is the coldest region in India.
- Dras is the second coldest inhabited place in the world.
- (First - Siberia)
- **Dras is located in the Zaskar range.**
- Another peak located in the Zaskar range is Mt Kamet (Uttarakhand).
- Another name known for the Zaskar range is - Thedis Himalaya.
- The passes Shipkila, Lipu Lekh, and Mana are located in the Zaskar range.

Eastern Hills / Purvanchal

ARUNA MAMI

- East of the Brahmaputra valley, the Himalayan mountains, running north-south from Arunachal Pradesh to Mizoram, appear as relatively low hills. These hills, ranging from 500 to 3000 meters above sea level, are known as the Purvanchal Hills.
- The main mountain ranges that form the Purvanchal are:
- **Patkai Bum (Arunachal Pradesh), The Naga hills (Nagaland), The Manipur hills, Mizo hills, The Tripura hills and Barail hills in Assam.**
- The mountain range that separates Arunachal Pradesh and Myanmar is - The Patkai-Bum.
- **The highest peak in Purvanchal is – Mount Dapha (Arunachal Pradesh) 4578 m.**
- Lushai hills are located in Mizoram.
- Garo, Khasi, and Jaintia mountain ranges are located on the Shillong Plateau, which is part of the Meghalaya Plateau (Meghalaya).
- Nokrek is the highest peak in Garo Hills.
- Lum Shyllong is the highest peak in the Khasi Hills.
- **The Marangksih Peak is the highest peak in the Jaintia Hills.**
- **Mawsynram and Cherrapunji are located in the Khasi hills.**
- Mawsynram (Meghalaya) is the place that receives the highest rainfall in the world.
- **Second - Cherrapunji (Meghalaya).**
- The new name for Cherrapunji is - Sohra.
- Cherrapunji of South India is known as - Agumbe (Karnataka).
- Cherrapunji of Kerala is known as - Lakkidi.
- Purvanchal is known as Arakan Yoma in Myanmar.
- Andaman and Nicobar - Arakan Yoma lies ahead.
- The method of cultivation found in Purvanchal is - Jhum cultivation (Shifting cultivation).

Keibul Lamjao

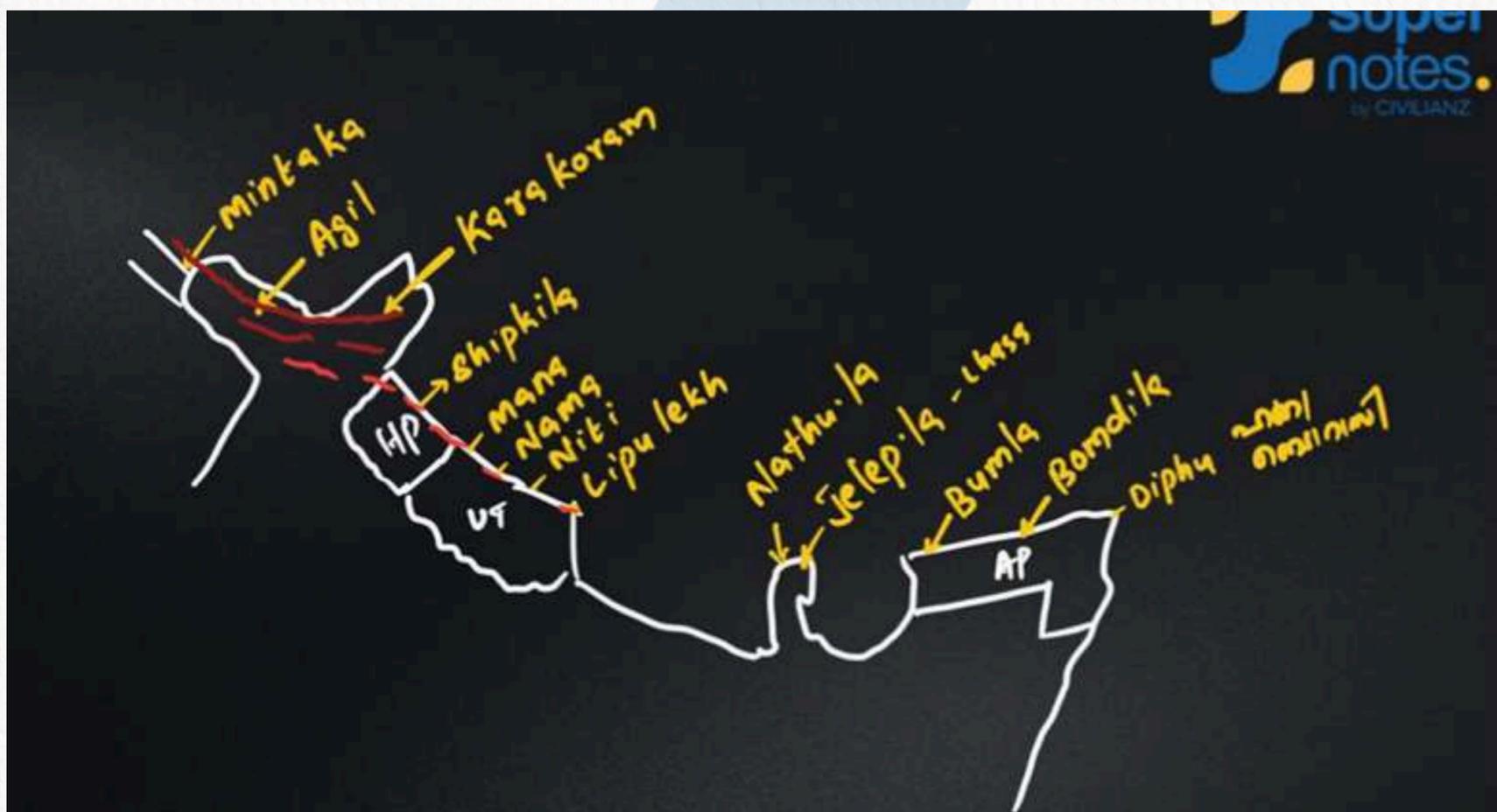
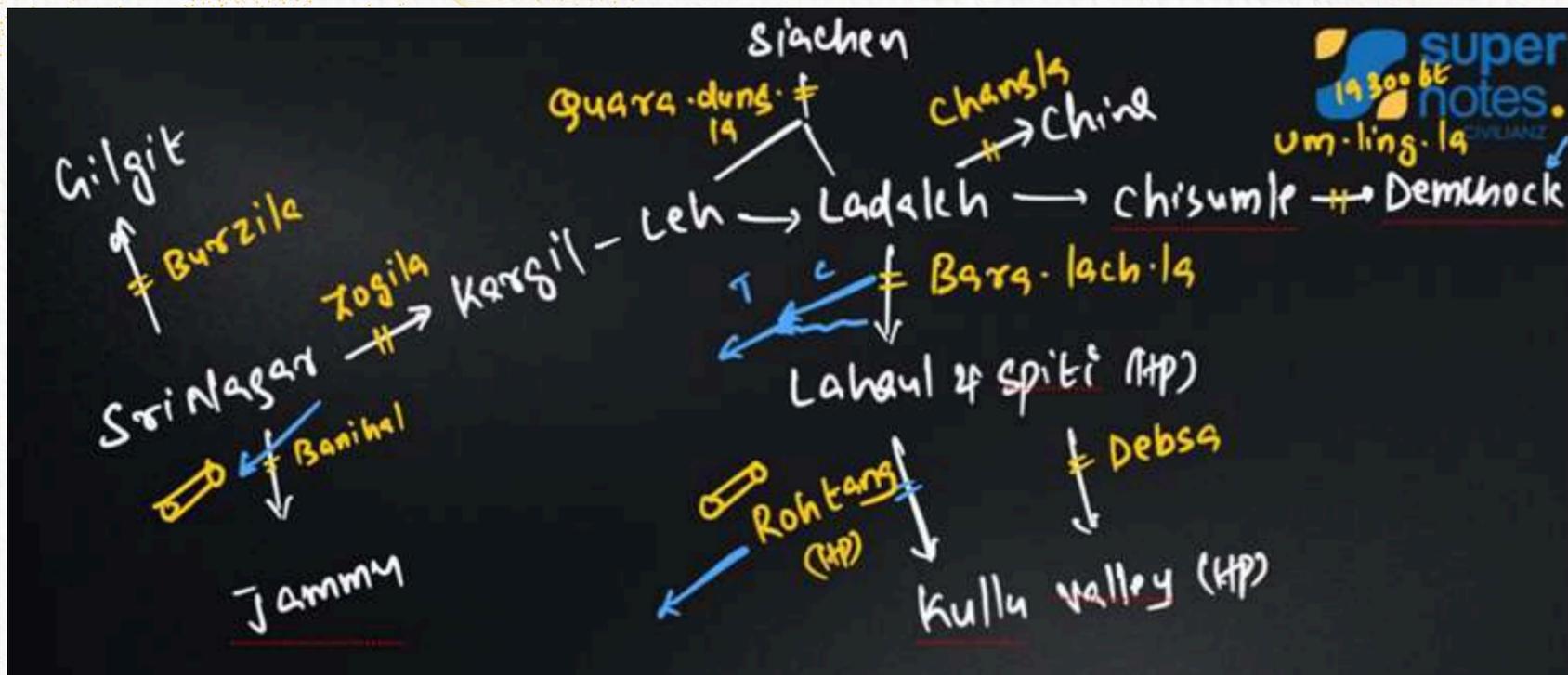
- **Keibul Lamjao National Park is located in Loktak Lake, the largest freshwater lake in Northeast India (Manipur).**
- **Pundis (Pumdi) are the floating islands formed by the accumulation of vegetation and soil on the lake.**
- **The Keibul Lamjao National Park is composed of the Pundis of Loktak Lake, which is a unique ecosystem including plants, small animals, and birds.**
- **This site is also included in the Ramsar list for wetland conservation.**

The Highest

- **The Highest peak in Himalayas – Mount Everest**
- **Second highest peak in Himalayas – Kanchenjunga**
- **Highest peak in Trans Himalayas – Mount K2**
- **Highest peak in Hindukush – Tirich Mir (Pakistan)**
- **The Highest peak in Purvanchal – Mount Dapha (Arunachal Pradesh) 4578 m**
- **The Highest peak in Western Ghat – Anamudi**

- **Second highest peak in Western ghat - Meeshappulimala**
- **The Highest peak in Eastern Ghat – Jindhagada Peak (1690 m) (Andhra Pradesh)**
- **Second highest peak in Eastern Ghat – Seethammakonda / Armakonda (Andhra Pradesh)**
- **The Highest peak in Nilgiri Hills – Dodabetta (2637 m) (Tamil Nadu)**
- **The Highest peak in Aravalli range – Mount Gurusikhar (1722 m) (Rajasthan)**
- **The Highest peak in Satpura range – Dhupgarh (1350 m) (Madhya Pradesh)**
- **The Highest peak in Chota Nagpur – Pareshnath Hills (Jharkhand)**
- **The Highest peak in Vindhya – Goodwill peak / Satbhavana shikhar / Armakonda / Kalumar peak (Madhya Pradesh)**
- **The Highest peak in Maikala ranges – Amarkandak (Madhya Pradesh)**
- **The Highest peak in Andaman & Nicobar – Saddle peak**

HIMALAYAN PASSES



- **Burzil Pass: Srinagar * Gilgit**
- **Banihal Pass: Srinagar * Jammu (Jammu * Kashmir)**
- The two important passes located in the Pir Panjal range are: Burzil, Banihal.
- The pass formed as a result of the Indus River flowing through it – Banihal.
- **The Jawahar Tunnel is located at the Banihal Pass.**
- **Zoji La Pass: Srinagar * Kargil / Leh**
- **Umling La Pass: Chushul * Demchok**
- The world's highest motorable pass – Umling La.
- The place where the Indus River enters India from Tibet – Demchok.
- **Khardung La Pass: Leh / Ladakh * Siachen**
- The second highest motorable pass in the world – Khardung La.
- **The rivers flowing near Khardung La Pass are Shyok, Nubra.**
- **Chang La Pass: Ladakh * China**
- The third highest motorable pass in the world – Chang La.
- **Baralacha La Pass: Ladakh * Lahaul & Spiti (Himachal Pradesh).**
- The river originating from Baralacha La Pass – Chenab.
- **Rohtang Pass: Lahaul & Spiti (Himachal Pradesh) * Kullu Valley (Himachal Pradesh).**
- The most important pass in the Himachal range – Rohtang.
- The river originating from Rohtang Pass – Beas.
- The Atal Tunnel is located at the Rohtang Pass.
- **Atal Tunnel**
 - **The second longest road tunnel in India.**
 - **Length - 9.02 km.**
 - **The world's longest road tunnel located above 10,000 feet.**
 - **The longest highway tunnel in India.**
 - **Crosses the Pir Panjal Range.**

- Debsa Pass: Spiti Valley * Kullu Valley.
- Ladakh is known as the 'Land of Passes'.
- **Mintaka Pass: Known as the tri-junction of India, Afghanistan, and Pakistan.**
- **Agil Pass: Ladakh * China.**
- Karakoram Pass: Ladakh * China.
- The pass where the highest paved road / highway in the world passes through – Karakoram.
- This national highway proceeds towards the Gwadar Port in Pakistan.
- **Shipki La Pass: Himachal Pradesh * Tibet.**
- The river that enters India from Tibet via Shipki La Pass – Satluj (Sutlej).
- Mana Pass: Uttarakhand * Tibet.
- Nang La Pass: Uttarakhand * Tibet.
- Niti Pass: Uttarakhand * Tibet.
- **Lipulekh Pass: Uttarakhand * Tibet.**
- The pass known as the tri-junction of India, Nepal, and Tibet – Lipulekh.
- Lipulekh connects Uttarakhand with Nepal and Tibet.
- Lipulekh is a disputed pass between India and Nepal.
- **Nathu La Pass:**
 - **Sikkim * Tibet.**
 - The most important pass connecting India and China.
 - **Pass that is part of the Silk Route.**
 - Reopened in 2006.

- **Jelep La Pass: Sikkim * Lhasa / Tibet.**
- The river flowing through Jelep La Pass – Tista.
- **Bum La Pass: Arunachal Pradesh * Tibet.**
- The Dalai Lama escaped from Tibet into India through the Bum La Pass.
- **Bomdila Pass: Arunachal Pradesh * Tibet.**
- **Diphu Pass: Arunachal Pradesh * Myanmar.**
- The pass known as the tri-junction of India, Myanmar, and Tibet – Diphu Pass / Haka Borasi.
- **Siliguri Corridor (West Bengal)**
- The corridor that connects the Indian mainland with the North Eastern States.
- Also known as the Chicken's Neck Corridor.

IMPORTANT SOURCES USED

- **Class 6 – Social Science (Geography) - Our Environment (Part 1)**
- **Class 11 – Geography: Fundamentals of Physical Geography,**
- **Class 11 – Geography: India – Physical Environment**
- **Class 12 – Geography: India – People and Economy**

PREVIOUS YEAR QUESTIONS RELATED TO THIS TOPIC

1. Siachen Glacier is situated to the (UPSC PRELIMS 2020)

- (a) East of Aksai Chin
- (b) East of Leh
- (c) North of Gilgit
- (d) North of Nubra Valley

Correct Answer : (d) North of Nubra Valley

2. When you travel in Himalayas, you will see the following: (UPSC PRELIMS 2012)

- 1. Deep gorges
- 2. U-turn river courses
- 3. Parallel mountain ranges
- 4. Steep gradients causing land-sliding

Which of the above can be said to be the evidences for Himalayas being young fold mountains?

- (a) 1 and 2 only
- (b) 1, 2 and 4 only
- (c) 3 and 4 only
- (d) 1, 2, 3 and 4

Correct Answer :(d) 1, 2, 3 and 4

3. The Brahmaputra, Irrawaddy and Mekong rivers originate in Tibet and flow through narrow and parallel mountain ranges in their upper reaches. Of these rivers, Brahmaputra makes a “U” turn in its course to flow into India. This “U” turn is due to (UPSC PRELIMS 2011)

- (a) Uplift of folded Himalayan series
- (b) Syntaxial bending of geologically young Himalayas
- (c) Geo-tectonic disturbance in the tertiary folded mountain chains
- (d) Both (a) and (b) above

Correct Answer : (d) Both (a) and (b) above

4. If there were no Himalayan ranges, what would have been the most likely geographical impact on India? (UPSC PRELIMS 2010)

- 1. Much of the country would experience the cold waves from Siberia.**
- 2. Indo-gangetic plain would be devoid of such extensive alluvial soils.**
- 3. The pattern of monsoon would be different from what it is at present.**

Which of the statements given above is/are correct?

- (a) 1 only**
- (b) 1 and 3 only**
- (c) 2 and 3 only**
- (d) 1, 2 and 3**

Correct Answer :(d) 1, 2 and 3

5. Which of the following mountain ranges is part of the Trans-Himalayas? (UPSC CSE Prelims 2019)

- (a) Vindhya Range**
- (b) Karakoram Range**
- (c) Aravalli Range**
- (d) Western Ghats**

Correct Answer: (b) Karakoram Range

Explanation: The Karakoram Range is part of the Trans-Himalayan Range and contains some of the highest peaks in the world, including K2. The Trans-Himalayas are located north of the Greater Himalayas and include ranges like Zaskar, Ladakh, and Kailash.

6. Which of the following rivers flows through the Eastern Hills? (UPSC CSE Prelims 2020)

- (a) Ganga
- (b) Brahmaputra
- (c) Barak
- (d) Yamuna

Correct Answer: (c) Barak

Explanation: The Barak River flows through Mizoram and Manipur in the Purvanchal/Eastern Hills region, forming part of the local hydrological system.

7. Which of the following National Parks is unique in being a swamp with floating vegetation that supports a rich biodiversity? (UPSC CSE PRELIMS 2015)

- (a) Bhitarkanika National Park
- (b) Keibul Lamjao National Park
- (c) Keoladeo Ghana National Park
- (d) Sultanpur National Park

Correct Answer: (b) Keibul Lamjao National Park

PRACTICE QUESTIONS

1. Analyze the following statements and choose the correct one:

- a. Himalayas are considered the world's youngest fold mountains.
- b. The Shiwaliks, the southernmost range of the Himalayas, were called 'Manak Parbat' in the Vedas.

- A) Statements a and b are correct
- B) Statement a is correct, b is incorrect
- C) Statement b is correct, a is incorrect
- D) Statements a and b are incorrect

Correct Answer: A) Statements a and b are correct

Explanation: Statement (a) is correct (formation began about 40 million years ago, making it the youngest fold mountain). Statement (b) is correct; while it is true that the Shiwaliks were called 'Manak Parbat' in the Vedas, they are the southernmost range of the Himalayas, but rather the outermost range (Outer Himalaya). They run parallel to the Ganga plains in the far south.

2. Which of the following statements is correct?

- 1. The Sonapani Glacier in the Pir Panjal range of the Himachal range is located in the Chandra Valley (Chandra River).
- 2. The Pamir Plateau, known as the 'Roof of the World', is located in Tajikistan.
- 3. Among Himalayan trees, Deodar and Spruce are mammals commonly found between 1000m and 2000m.

- A) Only 1 and 2
- B) Only 2
- C) Only 1 and 3
- D) 1, 2, and 3

Correct Answer: A) Only 1 and 2

Explanation: Statement 3 is incorrect. Deodar and Spruce are coniferous trees typically found above 2000m, not between 1000m and 2000m. Between 1000m and 2000m, Oak and Maple are usually found. Statement 1 (Sonapani Glacier, Chandra Valley) is correct. Statement 2 (Pamir, Tajikistan) is correct.

3. If the Himalayan ranges are arranged according to their average altitude (from highest to lowest altitude), which is correct?

- a) Himadri, Himachal, Shiwalik
- b) Shiwalik, Himachal, Himadri
- c) Himachal, Himadri, Shiwalik
- d) Himadri, Shiwalik, Himachal

Correct Answer: a) Himadri, Himachal, Shiwalik

Explanation: Himadri (above 6100m) > Himachal (3500-4500m) > Shiwalik (approx. 1220m). Therefore, the arrangement from highest to lowest is Himadri, then Himachal, and finally Shiwalik.

4. Considering the Duns (valleys) related to the Himalayan ranges, evaluate the following statements:

- 1. Duns are wide valleys located between two mountain ranges.
- 2. The world's largest Dun is Dehradun.

- A) Only 1 is correct
- B) Only 2 is correct
- C) Both 1 and 2 are correct
- D) Both 1 and 2 are incorrect

Correct Answer: C) Both 1 and 2 are correct

Explanation: Statement 1 is correct; a Dun refers to a wide valley situated between two parallel ranges. Statement 2 is correct; Dehradun is considered the largest Dun in the world.

5. In which of the following Himalayan regions is the shortest river-based division (according to Sydney Burrard) located?

- A) Assam Himalayas
- B) Nepal Himalayas
- C) Punjab Himalayas
- D) Kumaon Himalayas

Correct Answer: D) Kumaon Himalayas

Explanation: The Kumaon Himalayas have the shortest length (320 km) according to Sydney Burrard. The Nepal Himalayas (800 km) are the longest.

6. Which of the following statements most accurately describes the phenomenon of 'Transhumance'?

- A) The phenomenon where Margs in Kashmir get covered with snow for winter tourism.
- B) Military movements through the passes of the Himalayas.
- C) The seasonal migration of shepherds with their livestock to higher meadows when the valleys face drought, and their subsequent return.
- D) The abnormal rise in the temperature of hot springs.

Correct Answer: C) The seasonal migration of shepherds with their livestock to higher meadows when the valleys face drought, and their subsequent return.

Explanation: Transhumance is the seasonal migration of shepherds with their domestic animals to Bugyals and Margs.

7. According to the river basin division (Sydney Burrard), what is the sequence of lengths of the Himalayan sections (from longest to shortest)?

- A) Nepal > Assam > Punjab > Kumaon
- B) Nepal > Punjab > Assam > Kumaon
- C) Assam > Nepal > Punjab > Kumaon
- D) Punjab > Nepal > Assam > Kumaon

Correct Answer: A) Nepal > Assam > Punjab > Kumaon

Explanation: Nepal (800 km), Assam (720 km), Punjab (560 km), Kumaon (320 km).

8. What is the geological significance of the formation of 'Duns' in the Uttarakhand Himalayas?

- A) They are high plateaus where glaciers like Siachen are located.
- B) They are low-lying, elongated flat valleys found between the Lesser Himalayas and the Shivalik ranges.
- C) They mark the eastern boundary of the Nepal Himalayas.
- D) They are the base for freshwater lakes like Dal and Nainital.

Correct Answer: B) They are low-lying, elongated flat valleys found between the Lesser Himalayas and the Shivalik ranges.

Explanation: Dehradun is a famous Dun, which is a valley between the Lesser Himalayas (Middle) and the Shivalik ranges.

9. According to Sir Sydney Burrard's classification, which is the southernmost major mountain range of the Punjab Himalayas (Kashmir Himalayas), hosting the Banihal Pass which connects Jammu with the Kashmir Valley?

- A) Karakoram
- B) Ladakh
- C) Zaskar
- D) Pir Panjal

Correct Answer: D) Pir Panjal

Explanation: The Banihal Pass is located across the Pir Panjal range, which is part of the Punjab Himalayas.

10. Consider the following statements regarding the Trans-Himalayas:

- 1. The main mountain ranges of the Trans-Himalaya are Karakoram, Ladakh, and Zaskar.**
- 2. After the poles, the most snow cover is found in the Zaskar range.**
- 3. The Ladakh region is known as the 'Cold Desert of India' and the 'Land of Passes'.**

Which of the above statements are correct?

- A. 1, 2, 3 are correct.**
- B. 1, 3 are correct only.**
- C. 2 is correct only.**
- D. 1, 2 are correct only.**

Correct Answer: B. 1, 3 are correct only.

Explanation:

Statement 1: Correct. The Trans-Himalaya is composed of the three ranges: Karakoram, Ladakh, and Zaskar.

Statement 2: Incorrect. After the poles, the most snow cover is found in the Karakoram range (glaciers like Siachen, Baltoro, etc.).

Statement 3: Correct. Ladakh is known as the 'Cold Desert/Winter Desert of India' and the 'Land of Passes'.

11. Match the following correctly:

Column A	Column B
1. Dras	a. River of Death
2. Shyok	b. Abundance of Roses
3. Siachen	c. Highest peak in the Kailash range
4. Mount Kailas	d. Coldest place in India

Correct Answer: B. 1-d, 2-a, 3-b, 4-c

Explanation:

1. Dras: Coldest place in India, second coldest inhabited place in the world. (1-d)
2. Shyok: A tributary of the Indus, known as the 'River of Death'. (2-a)
3. Siachen: The highest altitude battlefield in the world. The word means 'Abundance of Roses'. (3-b)
4. Mount Kailas: The highest peak in the Kailash range. (4-c)

12. Consider the following statements regarding the Purvanchal Hills:

1. The Purvanchal hills are located to the west of the Brahmaputra valley.
2. Patkai Bum, Naga hills, and Mizo hills are part of Purvanchal.
3. Mawsynram, which receives the highest rainfall in the world, is located in the Khasi hills, which are part of the Meghalaya Plateau.

Select the correct statements from the above:

- A. 1, 2 are correct only.
- B. 2, 3 are correct only.
- C. 1, 3 are correct only.
- D. 1, 2, 3 are correct.

Correct Answer: B. 2, 3 are correct only.

Explanation:

Statement 1: Incorrect. The Purvanchal hills (Eastern Hills) are located to the east of the Brahmaputra valley.

Statement 2: Correct. Patkai Bum (Arunachal Pradesh), Naga Hills (Nagaland), and Mizo Hills are major ranges that are part of Purvanchal.

Statement 3: Correct. Mawsynram receives the highest rainfall in the world and is located in the Khasi hills, which are part of the Meghalaya Plateau.

13. Which of the following statements regarding the major passes and peaks in the Trans-Himalayan ranges are correct?

- 1. Mount K2 also has the names Mount Godwin Austin and Lamba pahar.**
- 2. The passes Shipkila, Lipu Lekh, and Mana are located in the Ladakh range.**
- 3. The mountain range forming the border between India and Afghanistan is Karakoram.**

Find the correct statements:

- A. 1, 3 are correct only.
- B. 2, 3 are correct only.
- C. 1, 2, 3 are correct.
- D. 1 is correct only.

Correct Answer: A. 1, 3 are correct only.

Explanation:

Statement 1: Correct. Other names for Mount K2 are Mount Godwin Austin, Dapsang, and Lamba pahar.

Statement 2: Incorrect. The passes Shipkila, Lipu Lekh, and Mana are located in the Zaskar range, not the Ladakh range.

Statement 3: Correct. The mountain range forming the border between India and Afghanistan is Karakoram.

14. Examine the statements regarding the highest peaks of various mountain ranges in India:

- 1. The highest peak in the Purvanchal hills is Mount Dapha (4578 m).**
- 2. The highest peak in the Western Ghats is Anamudi, and the highest peak in the Eastern Ghats is Jindhagada Peak.**
- 3. If Dhupgarh is the highest peak in the Aravallis, then Mount Gurusikhar is the highest peak in the Satpura range.**

Which of the statements given below are correct?

- A. 1, 2 are correct only.**
- B. 2, 3 are correct only.**
- C. 1, 3 are correct only.**
- D. 1, 2 are correct only.**

Correct Answer: A. 1, 2 are correct only.

Explanation:

Statement 1: Correct. The highest peak in the Purvanchal hills is Mount Dapha.

Statement 2: Correct. Western Ghats: Anamudi. Eastern Ghats: Jindhagada Peak (Andhra Pradesh).

Statement 3: Incorrect. The highest peak in the Aravallis is Mount Gurusikhar (Rajasthan). The highest peak in the Satpuras is Dhupgarh (Madhya Pradesh). They are reversed in the statement.

15. Which is the correct statement regarding the Trans-Himalayas?

- A. Its easternmost part is known as the Kailash range.**
- B. Its main part is located in Himachal Pradesh and Uttarakhand.**
- C. Ganga, Sutlej, and Brahmaputra rivers originate from it.**
- D. It is the place with the least snow cover after the poles.**

Correct Answer: A. Its easternmost part is known as the Kailash range.

Explanation: The Kailash range is the Tibetan part of the Karakoram range, which is part of the Trans-Himalayan range. Lake Mansarovar and Mount Kailash are located here. Rivers like Brahmaputra, Indus, Sutlej, Ghaghra originate from the Kailash range. The greater part of the Trans-Himalaya is located in the regions of Ladakh and Jammu and Kashmir.

