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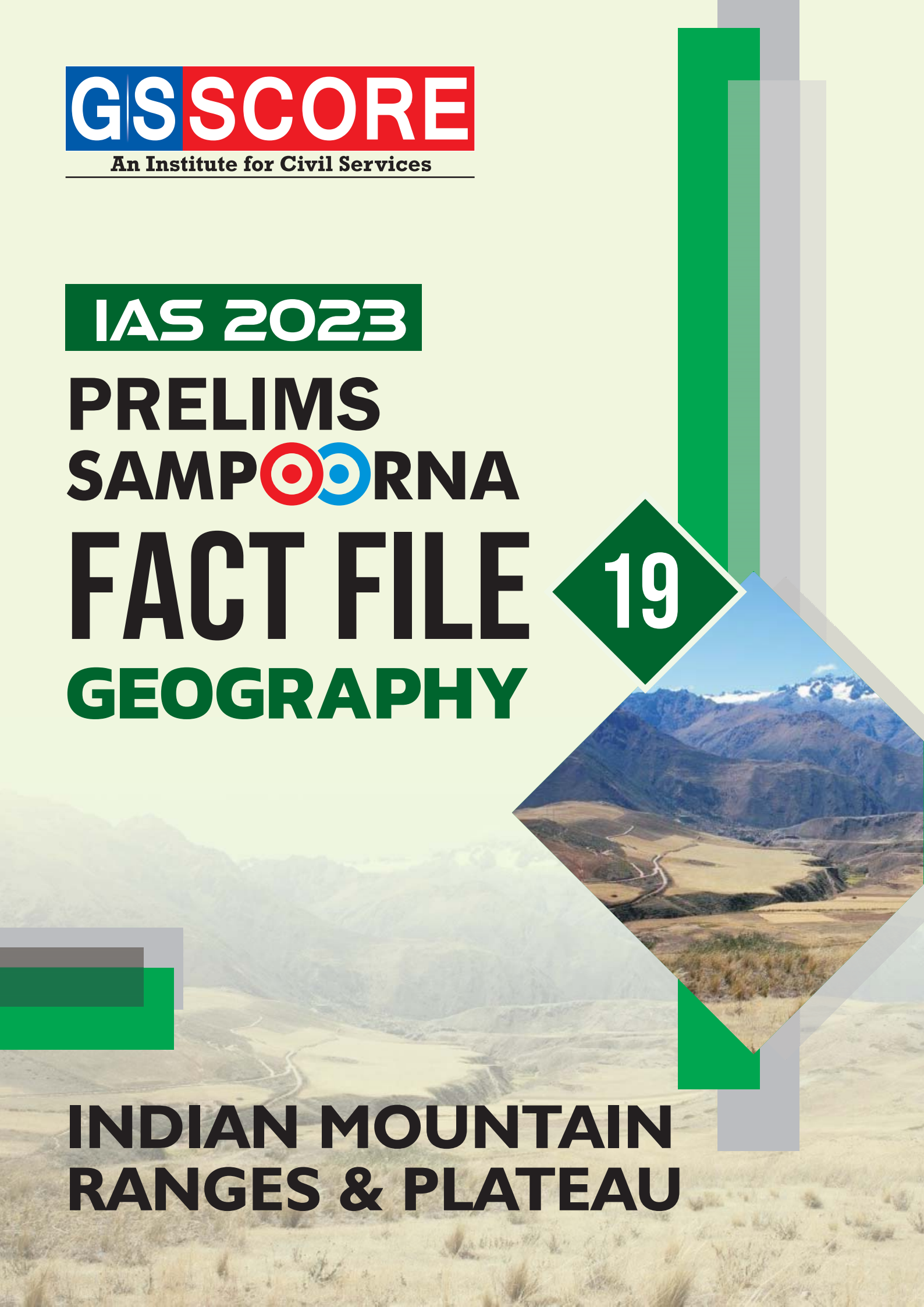
IAS 2023

**PRELIMS
SAMPORNA**

**FACT FILE
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19

**INDIAN MOUNTAIN
RANGES & PLATEAU**





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PRELIMS SAMPOORNA

As IAS Prelims 2023 is right around the corner, jitters and anxiety is a common emotion that an aspirant feels. As a journey, these last few days act most crucial in your preparation. This is the time when one should gather all their strength and give the final punch required to clear this exam. Consolidation of various resources that an aspirant is referring to is the main task here.

GS SCORE brings to you, Prelims Sampoorna, a series of all value-added resources in your prelims preparation, which will be your one-stop solution and will help in reducing your anxiety and boost your confidence. As the name suggests, Prelims Sampoorna is a holistic program, which has 360-degree coverage of high-relevance topics.

It is an outcome-driven initiative that not only gives you downloads of all resources which you need to summarize your preparation but also provides you with All India open prelims mock tests series in order to assess your learning. Let us summarize this initiative, which will include:

- GS Score UPSC Prelims 2023 Yearly Current Affairs Compilation of All 9 Subjects
- Topic-wise Prelims Fact Files (Approx. 40)
- Geography Through Maps (6 Themes)
- Map Based Questions
- Compilation of Previous Year Questions with Detailed Explanation
- 2+ Years Monthly Current Affairs Tests
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Along with this, there will be ALL India Open Prelims Mock Tests Series which includes 10 Tests.

We will be uploading all the resources on a regular basis till your prelims exam. To get the maximum benefit of the initiative keep visiting the website.

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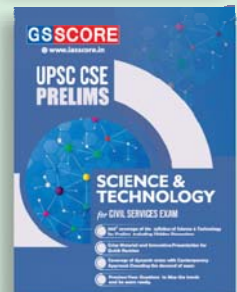
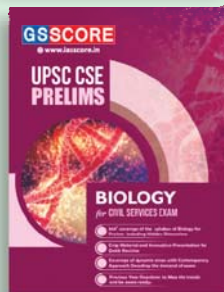
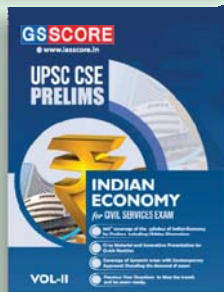
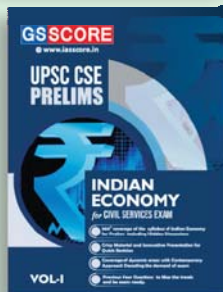
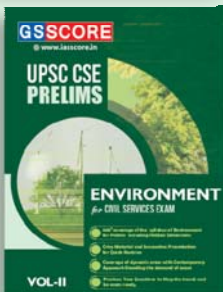
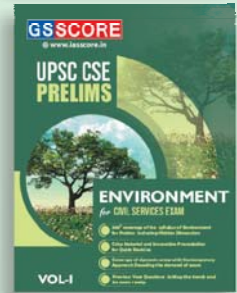
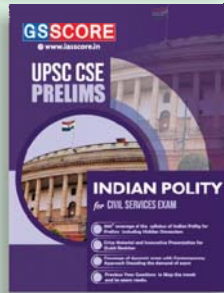
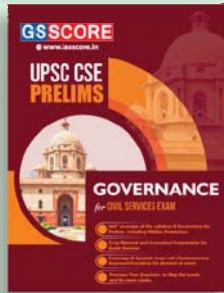
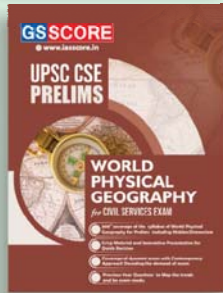
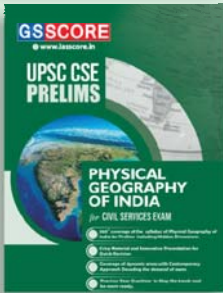
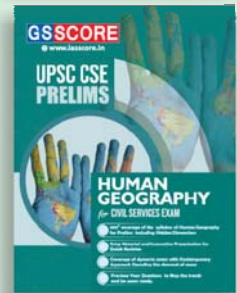
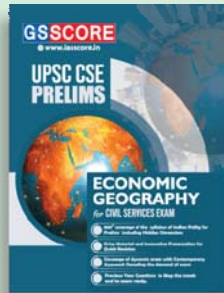
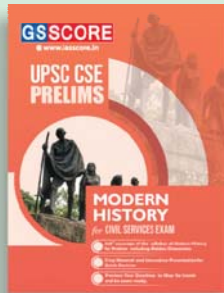
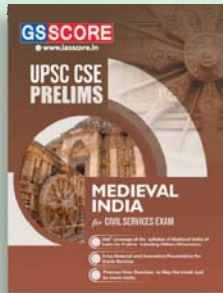
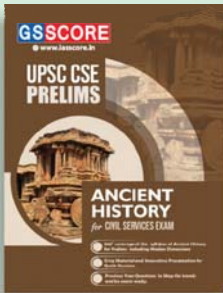
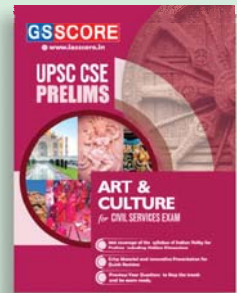
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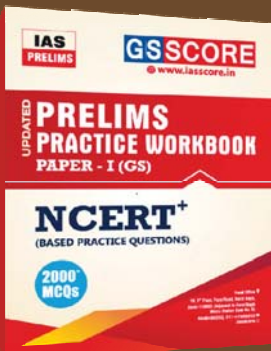
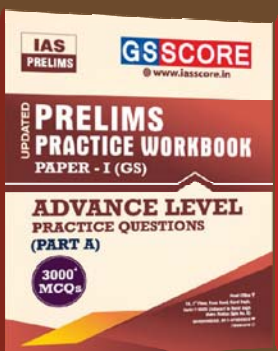
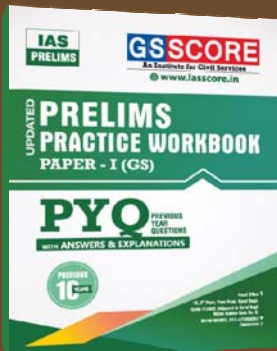
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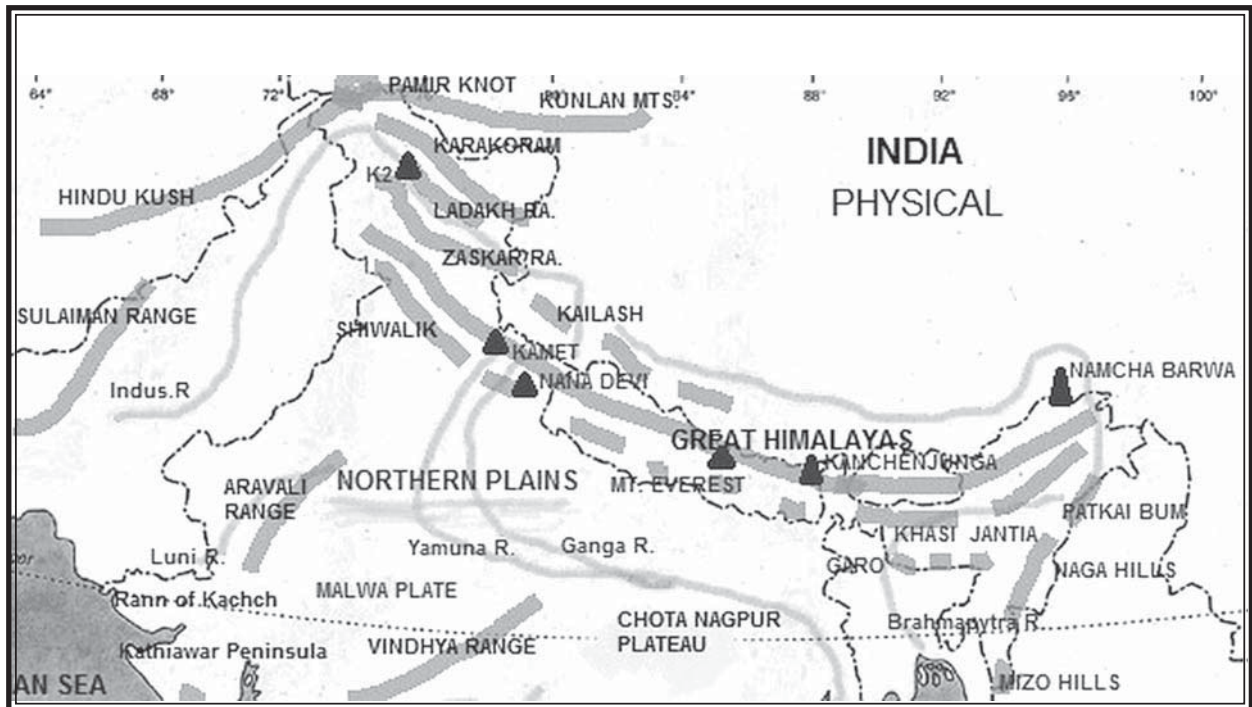
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INDIAN MOUNTAIN RANGES & PLATEAU

Mountain Ranges

- India has some of the **highest mountain ranges** in the world.
- It also has some of the **world's highest mountain roads**.
- The **Great Himalayan mountain** ranges are the famous and highest mountain hills of India.
- The **Himalayan mountain** range bisects India from the rest of Asia, this mountains is the primary source of mighty rivers in India.

The Himalaya Range



- Geography**
 - The Himalayas stretch across the northeastern portion of India. They cover approximately 1,500 mi (2,400 km) and pass through the nations of **India, Pakistan, Afghanistan, China, Bhutan, and Nepal**. The Himalayan range is made up of three parallel ranges often referred to as the **Greater Himalayas, the Lesser Himalayas, and the Outer Himalayas**.
- Ecology**
 - Montane Grasslands and Shrublands, Temperate Coniferous Forest, Temperate Broadleaf and Mixed Forests, Tropical and Sub-tropical Broadleaf Forests.
- Highest Peak**
 - Mount Everest** at 29,029 ft (8,848 m) is not only the highest peak in the Himalayas but the highest peak on the entire planet.
 - Other famous peaks include **Karakoram (K2), Kailash, Kanchenjunga, Nanga Parbat, Annapurna, and Manasklu**.
- Rivers**
 - The Himalayas are the source for the **Indus, the Yangtze, and the Ganga-Brahmaputra**. All three are major river systems for the continent of Asia.

- ▶ The main rivers sourced in the Himalayas are the **Ganges, Indus, Yarlung, Yangtze, Yellow, Mekong, and Nujiang.**

○ Glaciers

- ▶ The Himalayas are the **third-largest deposit of ice and snow** in the world, after Antarctica and the Arctic. There are approximately 15,000 glaciers located throughout the range. At

48 miles (72 km) in length, the Himalayan **Siachen glacier** is the largest glacier outside the poles.

- ▶ Other notable glaciers located in the Himalayas include the **Baltoro, Biafo, Nubra, and Hispur.**

○ Passes

- ▶ Rohtang La, Khardung La, South Col, Zoji La, Nathula etc.

In News

ZOJI LA PASS

- For the first time Border Roads Organisation (BRO) has kept the Zoji mountain pass open beyond 31st December.
- Zoji La Pass is a high mountain pass at an elevation of 3,528 m (11,575ft) above the sea level, located in the Kargil district of Ladakh.
- It is the strategic link connecting Ladakh to Srinagar and the rest of India.
- Zojila Tunnel is being constructed to provide all-weather connectivity to Ladakh.
- Once completed, at 14.15 km, it will be India's longest road tunnel, and Asia's longest bi-directional tunnel.



Sinking of Joshimath

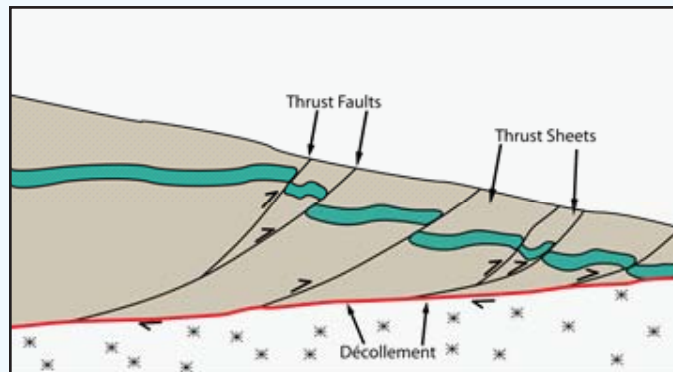
- The ancient Uttarakhand town has become a cause of concern.
- Located at a height of 6,000 feet in Uttarakhand's Chamoli district, the town on the route to Badrinath and Hemkund Sahib falls in **high-risk seismic 'Zone-V'**.
- It is located on the top of **Main Central Thrust (MCT) line**.
- The geography of entire state of Uttarakhand is fragile. And, Joshimath in particular is situated on old land deposits.
- The Jyotirmath Hindu monastery, one of the most important sites in Hinduism, is here.
- It also has nearby one of the closest military stations to the border with China.
- Ground subsidence, Tunnelling and slope cutting, **Tapovan-Vishnugad hydro project** and ongoing construction of **Helang bypass** are considered as the main reasons.

Main Central Thrust (MCT) line

- In simplest terms, the MCT is a crack or geological fault in Himalayas.
- It is formed due to the collision of Indo-Australian plate and Eurasian plate.
- The area underneath the MCT is particularly very fragile due to frequent tectonic activities.
- And, therefore, seismic activities are very common in MCT areas.



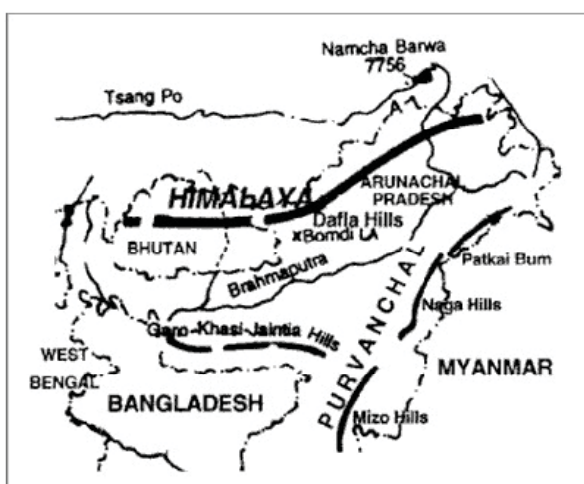
- The MCT extends for over 2200 km across the Himalayas in northwest-southeast direction. Joshimath is located above the MCT.



- The Mishra Committee report of 1976 as saying that “Joshimath lies on an ancient landslide” and that heavy construction work ought to be barred.

The Purvanchal Range

- Geography
 - ▶ They extend over an area of about 37,900 square miles (98,000 square km) in Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, and eastern Assam states.
 - ▶ The area is bounded by Bangladesh to the southwest, Myanmar (Burma) to the southeast, and China to the northeast.
 - ▶ The area is bounded by Bangladesh to the southwest, Myanmar (Burma) to the southeast, and China to the northeast.
- Highest Peak



- The highest peak in the region is Mount Dapha (in Arunachal Pradesh), with an elevation of 15,020 feet (4,578 metres).
 - ▶ The Patkai and other associated mountain ranges (including the Mishmi, Naga, Manipur, Tripura,

and Mizo hills) that run through this region are referred to collectively as Purvachal (Purva, “east,” and achal, “mountain”).

○ Vegetation

- ▶ The vegetation is diverse, ranging from tropical evergreen to temperate evergreen and coniferous, and includes species of oak, chestnut, birch, magnolia, cherry, maple, laurel, and fig; there are also extensive bamboo thickets.



○ Rivers

- ▶ The major rivers are the Lohit, Burhi Dihang, Diyung, Kusiara, Gumti, Kaladan, Manipur, Tixu, Nantaleik, and Naurya.

The Vindhya Range

Geography

- ▶ Vindhya Range, a broken range of hills forming the southern escarpment of the central upland of India.
- ▶ From Gujarat state on the west, it extends about 675 miles (1,086 km) across Madhya Pradesh state to abut on the Ganges (Ganga) River valley near Varanasi, Uttar Pradesh.
- ▶ The mountains form the southern edge of the Malwa Plateau and then divide into two branches: the Kaimur Range, running north of the Son River into western Bihar state, and the southern branch, running between the upper reaches of the Son and Narmada rivers to meet the Satpura Range in the Maikala Range (or Amarkantak Plateau).

Highest Peak

- ▶ **Amarkantak is the tallest peak** of Vindhya Range with an elevation of 1,048 m (3,438 ft) in Madhya Pradesh.

Rivers

- ▶ It gives rise to the main southern tributaries of the Ganges-Yamuna system, including the Chambal, Betwa, Ken, and Tons rivers.

- ▶ The hills stretch for some 560 miles (900 km) across the widest part of peninsular India, through Maharashtra and Madhya Pradesh states.

Rivers

- ▶ Satpura range is triangular with its apex at **Ratnapuri other two sides being parallel to the Tapti and Sacred Narmada River.**
- ▶ The Narmada and the Tapti are the only major rivers that flow into the Arabian Sea.

Highest Peak

- ▶ The highest peak of the Satpura mountain range is Dhupgarh with a height of 1,350 m (4,429 ft) in Madhya Pradesh.
- ▶ With peaks more than 4,000 feet (1,200 metres) high, the Satpura Range includes the Mahadeo Hills to the north, the Maikala Range to the east, and the Rajpipla Hills to the west.

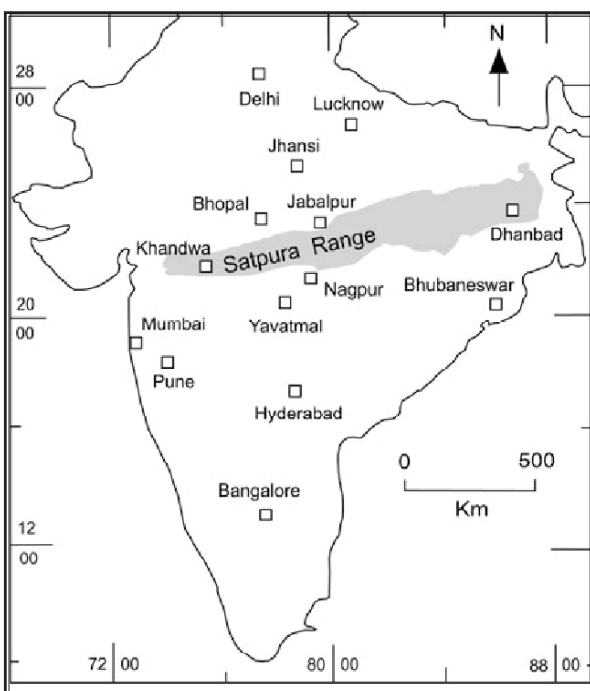
Vegetation

- ▶ It is largely forested, dissected plateau country, and it contains valuable teak stands in the west.

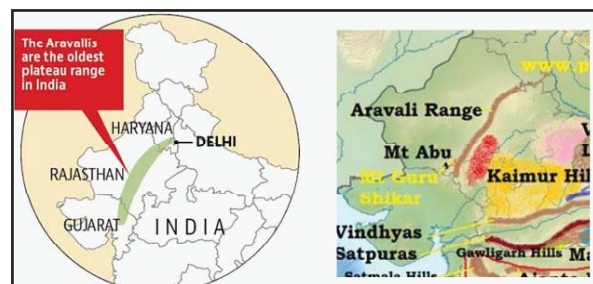
The Satpura Range

Geography

- ▶ Satpura Range, range of hills, part of the Deccan plateau, western India.



The Aravalli Range



Geography

- ▶ Aravalli Range, also spelled Aravali Range, hill system of northern India, running north-easterly for 350 miles (560 km) through Rajasthan state. Isolated rocky offshoots continue to just south of Delhi.
- ▶ The Aravalli Range is the eroded stub of a range **of ancient folded mountains.**

Highest Peak

- ▶ **Guru Peak** on Mount Abu, the highest peak in the Aravalli Range.

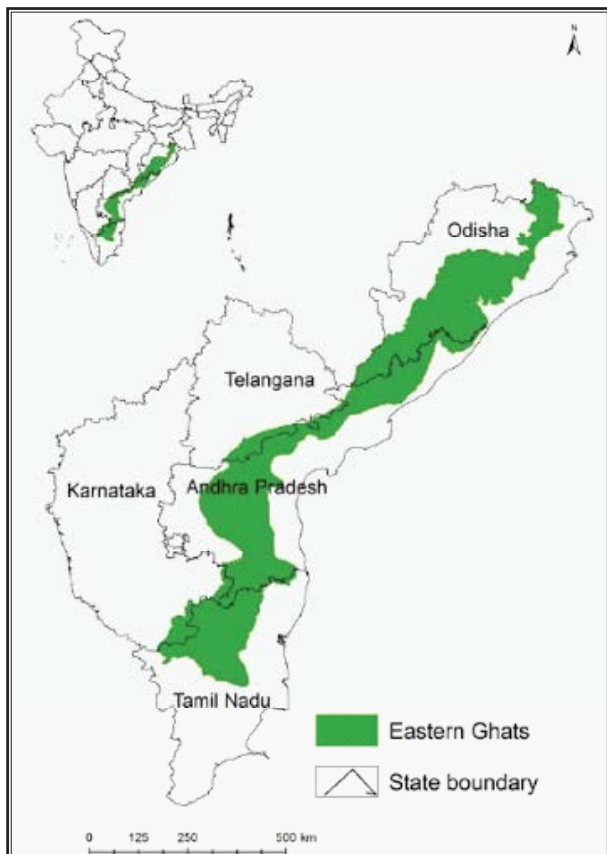
Rivers

- ▶ It gives rise to several rivers, including the Banas, Luni, Sakhi, and Sabarmati.

The Western Ghats



- **Geography**
 - The range starts near the border of Gujarat and ending at Kanyakumari.
 - About sixty percent of the Sahyadri Range is located in the state of Karnataka.
- **Ecology**
 - This area is one of the world's ten **hottest biodiversity hotspots**.
 - ▶ The **Arabian Sea area is known as the Konkan area**, one of the best tourist attractions in India.
 - ▶ Green city Pune is the largest city within this mountain range in Maharashtra.



- ▶ The Western Ghats mountain ranges make up an impressive fortress all along with Kerala.
- ▶ There are several beautiful hill stations and wildlife sanctuaries in Kerala.
- **Highest Peak**
 - ▶ **Anai Mudi in the Anaimalai Hills in Kerala is the highest peak in the Western Ghats.**
 - ▶ The Ghats also offer the best valley's scenery-view throughout the journey.
- **Rivers**
 - The major river systems originating in the Western Ghats are the Godavari, Kaveri, Krishna, Thamiraparani, and Tungabhadra rivers.

The Eastern Ghats

- **Geography**
 - ▶ The Eastern Ghats is an irregular range of mountains, its range starts from West Bengal to Tamil Nadu
- **Rivers**
 - ▶ It includes four major rivers **The Godavari, Mahanadi, Krishna, and Holy Kaveri.**
 - ▶ The **Nilgiri hills "The Blue Mountains" in Tamil Nadu** lies at the junction of the Eastern and Western Ghats.
 - ▶ This area has the largest population of the Indian elephant.
 - ▶ These discontinuous mountain ranges run parallel to the Bay of Bengal.
- **Highest Peak**
 - **The Shevaroy hill** is the highest peak in the Eastern Ghats.

Plateaus

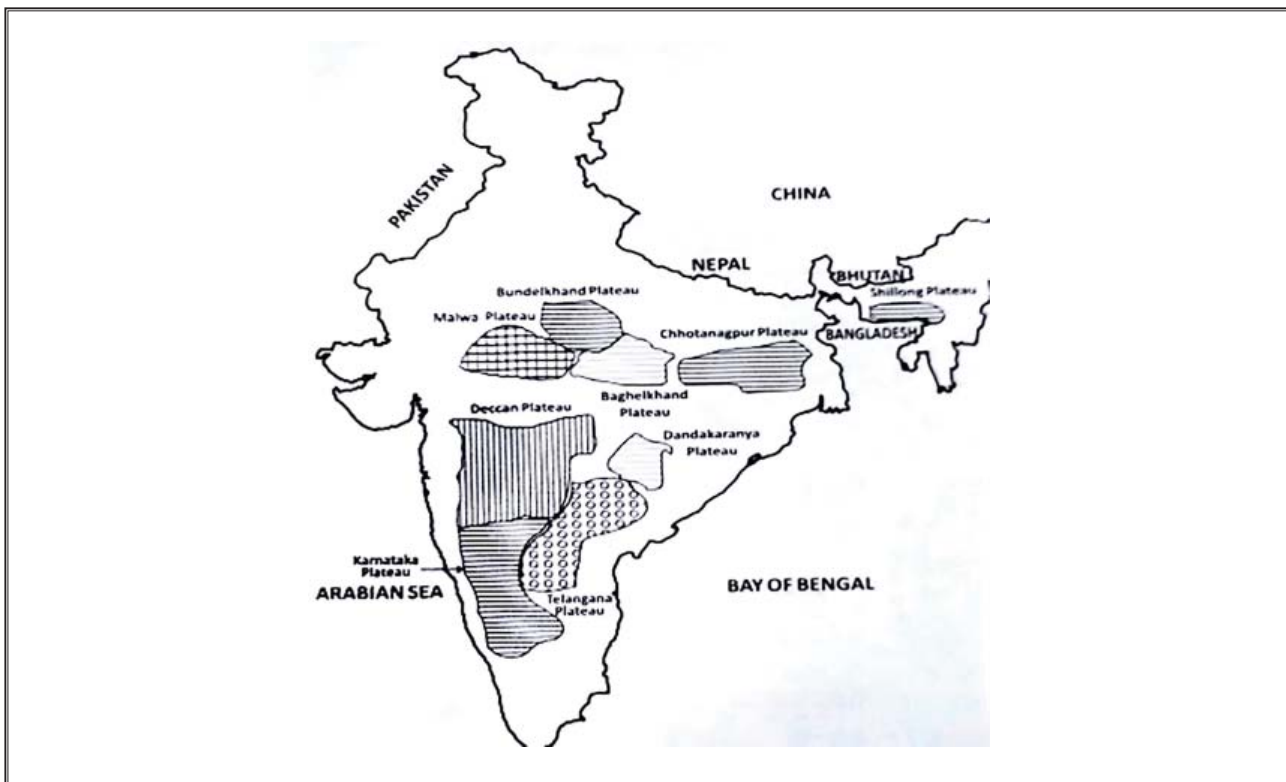
Some of the major plateaus of peninsular India are as follows:

- **The Marwar Upland**
 - ▶ This is also called the **Upland of eastern Rajasthan** as it lies in the **east of the Aravali Range**.
 - ▶ The average elevation of this area is 250-500 m above sea level and it slopes down eastwards.
 - ▶ It is made up of **sandstone, shales, and limestones** of the Vindhayan period.
 - ▶ The **Banas River originates in the Aravali Range** and flows for about 400 km before joining the Chambal River.

- ▶ The area has been carved into a **rolling plain** by the **erosional work of the Banas River** and its **tributaries**.
- **The Central Highland**
 - ▶ Also called the **Madhya Bharat Pathar** is in the **east of the Marwar Upland**.
 - ▶ Most of it comprises of the **basin of the Chambal River** which flows in a rift valley.
 - ▶ **The Sindh and the Parhati** are its main tributaries.
 - ▶ It is an open rolling plateau made of old rocks that are interspersed with rounded hills composed of sandstone.
 - ▶ Thick forests grow here. To the north are the **ravines or badlands of the Chambal River**.
- **The Bundelkhand Upland**
 - ▶ To the **south of the Yamuna river** between the Madhya Bharat Pathar and the Vindhyan Scarplands is the old dissected upland of the **'Bundelkhand gneiss' comprising of granite and gneiss**. This is called **Bundelkhand upland**.
 - ▶ This upland spreads **over five districts of Uttar Pradesh** (Jalaun, Jhansi, Lalitpur, Hamirpur, and Banda) and **four districts of Madhya Pradesh** (Datia, Tikamgarh, Chhatarpur, and Panna).
 - ▶ With an average elevation of 300-600 m above sea level, this area slopes down from the **Vindhyan Scarp** toward the Yamuna River.
 - ▶ The area is recognized by a mass of **rounded hummocky hills** made of **granite and sandstone**.
 - ▶ In the north-west and north-east, the system is covered by **the Ganga-Yamuna alluvium** and in the **south-west by the Deccan Trap**.
 - ▶ The erosional work of the rivers flowing here has converted it into an **undulating area and rendered it unfit for cultivation**.
 - ▶ The region is characterized by **senile topography**.
 - ▶ Streams like **Betwa, Dhasan, and Ken** have carved out steep gorges, precipitous rocky banks, and waterfalls.
- **The Malwa Plateau**
 - ▶ The Malwa Plateau roughly forms a **triangle based on the Vindhyan Hills**, bounded by the **Aravali Range in the west** and sharply defined scarp overlooking **Bundelkhand in the east**. The plateau inherits **complex geology**; scarcely any one of the peninsular groups is unrepresented here.
- ▶ This plateau has **two systems of drainage**:
 - ▶ **One towards the Arabian Sea** (The Narmada, the Tapi, and the Mahi), and
 - ▶ The **other towards the Bay of Bengal** (Chambal and Betwa, joining the Yamuna).
- ▶ In the **north, it is drained by the Chambal** and many of its **right bank tributaries like the Kali, the Sindh, and the Parbati**.
- ▶ It also includes the upper courses of **the Sindh, the Ken, and the Betwa**.
- ▶ It is composed of an **extensive lava flow** and is covered **with black soils**.
- ▶ There are **rolling surfaces and flat-topped hills** dissected by rivers flowing through the area.
- ▶ In the north, the plateau is marked by the **Chambal ravines**.
- **The Baghelkhand**
 - ▶ **East of the Maikal Range is the Baghelkhand** made of **limestones and sandstones** on the **west and granite in the east**.
 - ▶ It is bounded by the **Son River on the north**, and to its **south occurs anticlinal highlands and synclinal valleys of sandstones and limestones**.
 - ▶ The central part of the plateau acts as a **water divide** between the **Son drainage system in the north and the Mahanadi river system in the south**.
 - ▶ The main elements of physiography are **scarps of the Vindhyan sandstones** between the **Ganga plain and the Narmada-Son trough**.
 - ▶ The **Panna and Kaimur** are located close to the trough-axis.
 - ▶ The general horizontality of the strata shows that this area has not undergone any major disturbance.
- **The Chotanagpur Plateau**
 - ▶ East of Baghelkhand, the Chotanagpur plateau represents the **north-eastern projection of the Indian Peninsula**.
 - ▶ It covers areas mostly in **Jharkhand, the northern part of Chhattisgarh, and the Purulia district of West Bengal**.
 - ▶ The Son River flows in the north-west of the plateau and joins the Ganga.

- ▶ This plateau is composed mainly of **Gondwana rocks** with **patches of Archaean granite and gneisses and Deccan Lavas**.
 - ▶ The Chotanagpur plateau virtually consists of a series of plateaus standing at different levels of elevation.
 - ▶ The highest general elevation of about 1,100 m is in the mid-western portion known as the **Pat lands** (high-level laterite plateau).
 - ▶ From here, the land descends in all directions in a series of steps which are marked by **waterfalls across the rivers**.
 - ▶ The plateau is drained by numerous rivers and streams in different directions and presents a **radial drainage pattern**.
 - ▶ Rivers like the **Damodar, the Subarnarekha, the North Koel, the South Koel, and the Barkar** have developed **extensive drainage basins**.
 - ▶ The Damodar River flows through the middle of this region in a rift valley from west to east. Here are found the **Gondwana coal fields** which provide the bulk of coal in India.
 - ▶ North of the Damodar river is the **Hazaribagh plateau** with an average elevation of 600 m above mean sea level. This plateau has isolated hills; **Parasnath** in the east.
 - ▶ The area is **made of granites and gneisses** while the hills have **quartz rocks**. It looks like a **penplain** due to large scale erosion.
 - ▶ The **Ranchi Plateau** to the south of the Damodar Valley rises to about 600 m above mean sea level.
 - ▶ **The Netarhat Pat and Goru** rise to 1,119 and 1,142 m above sea level respectively. Most of the surface is rolling where the city of Ranchi (661 m) is located. At places, it is interrupted by **monadnocks and conical hills**.
 - ▶ The **Rajmahal Hills** forming the northeastern edge of the Chota Nagpur Plateau are mostly made of basalt and are covered by lava flows.
 - ▶ They run in the north-south direction and rise to an average elevation of 400 m (highest mount is 567 m). These hills have been dissected into separate plateaus.
- **The Meghalaya Plateau**
 - ▶ The rocks of the peninsular plateau of India extend further north-east beyond the Rajmahal hills and form a rectangular block known as the **Meghalaya or the Shillong plateau**.
 - ▶ This plateau has been separated from the main block of the peninsular plateau by a wide gap known as the **Garo-Rajmahal Gap**.
 - ▶ This gap was formed by **down-faulting** and was later on filled by sediments deposited by the Ganga.
 - ▶ Extending over an area of about 35 thousand sq km, this plateau is largely formed by **Archaean (Dharwarian) quartzites, shales, and schists with granite intrusions and some basic silt**.
 - ▶ The plateau slopes down to **Brahmaputra valley in the north** and the **Surma and Meghna valleys in the south**.
 - ▶ Its western boundary **more or less coincides with the Bangladesh border**.
 - ▶ The western, central, and eastern parts of the plateau are known as the **Garo Hills, the Khasi-Jaintia Hills and the Mikir Hills. Shillong is the highest point of the plateau**.
 - **The Deccan Plateau**
 - ▶ This is the **largest unit of the Peninsular Plateau** of India covering an area of about five lakh sq km.
 - ▶ This triangular plateau is bounded by the **Satpura and the Vindhya in the north-west**, the **Mahadev and the Maikal in the north**, the **Western Ghats in the west**, and the **Eastern Ghats in the east**.
 - ▶ Its general slope is **from west to east** which is indicated by the flow of its major rivers like the **Mahanadi, the Godavari, the Krishna, and the Cauvery**.
 - ▶ These rivers have further subdivided this plateau into several smaller plateaus described as under:
 - ▶ **The Maharashtra Plateau** lies in Maharashtra and forms the **northern part of the Deccan Plateau**.
 - ▶ Most of the region is underlain by **basaltic rocks of lava origin**.
 - ▶ The area looks like a **rolling plain** due to weathering. The horizontal lava sheets have led to the formation of typical **Deccan Trap topography**.
 - ▶ The broad and shallow valleys of the **Godavari, the Bhima, and the Krishna** are flanked by flat-topped steep-sided hills and ridges.

- ▶ The **Ajanta range** lies to the **south of the Tapi River**. The entire area is covered by **black cotton soil known as regur**.
- ▶ **The Karnataka Plateau** also known as the **Mysore plateau** lies to the south of the Maharashtra plateau.
 - ▶ Made up primarily of **the Archaean formations**, it is a rolling country with an average elevation of 600-900 m.
 - ▶ It is **highly dissected** by numerous rivers rising from the **Western Ghats**. It contains the heads of the **Tungabhadra and the Cauvery rivers**.
 - ▶ The general trend of the hills is either parallel to the Western Ghats or athwart it. The highest peak (1913 m) is at **Mulangiri in Baba Budan Hills in Chikmagalur district**.
 - ▶ The plateau is divided into two parts called **Malnad and Maidan**.
 - ▶ The Malnad in Kannada means the **hill country**. It is dissected into deep valleys covered with dense forests.
 - ▶ The Maidan on the other hand is formed of **rolling plain with low granite hills**. The plateau tapers between the Western Ghats and the Eastern Ghats in the south and merges with the **Niligiri hills there**.
- ▶ **The Telangana plateau in Andhra Pradesh consists of Archaean gneisses** at an average elevation of 500-600 m.
 - ▶ The **southern part is higher than its northern counterpart**.
 - ▶ The region is drained by three river systems, the **Godavari, the Krishna, and the Penneru**.
 - ▶ The entire plateau is divided into two major physiographic regions, namely, the **Ghats and the Peneplains**.
- **The Chhattisgarh Plain**
 - ▶ The **Chhattisgarh plain** is the only plain worth the name in the vast stretch of plateaus and hill ranges of the peninsular plateau.
 - ▶ It is a **saucer-shaped depression** drained by the **upper basin of the Mahanadi**.
 - ▶ The whole basin lies between the **Maikala Range and the Odisha hills**.
 - ▶ The region was once ruled by **Haithavanshi Rajputs** from whose **thirty-six forts (Chhattisgarh)** it derives its name.
 - ▶ The basin is laid with nearly horizontal beds of **limestone and shales** deposited during the **Cuddapah age**.



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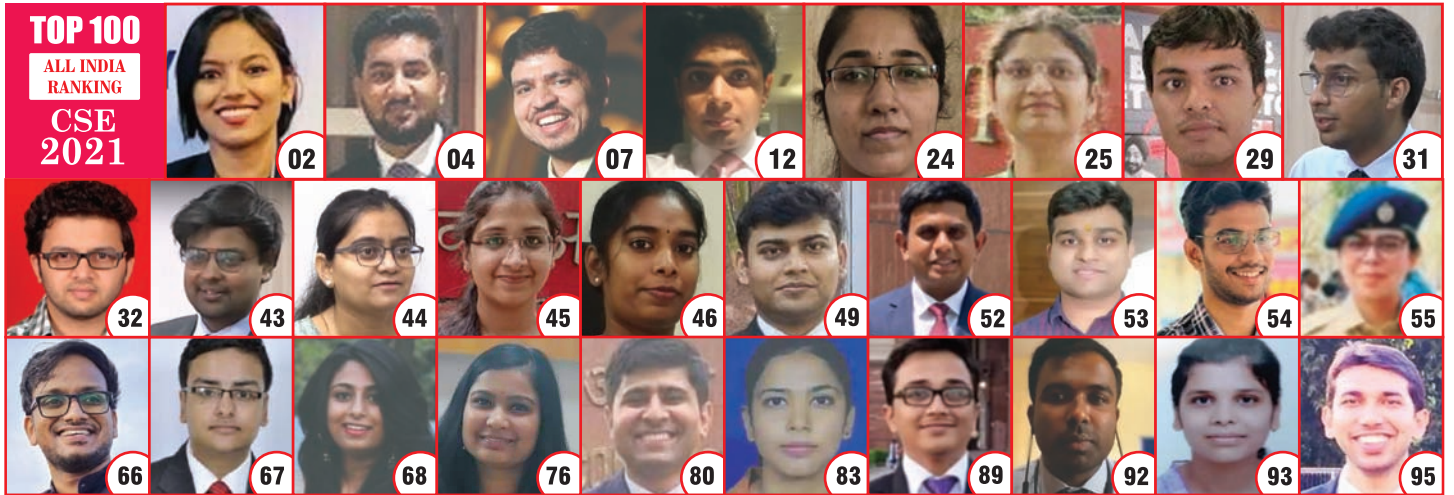
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