



PSPCL

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Volume - 1

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General Knowledge of India & Punjab



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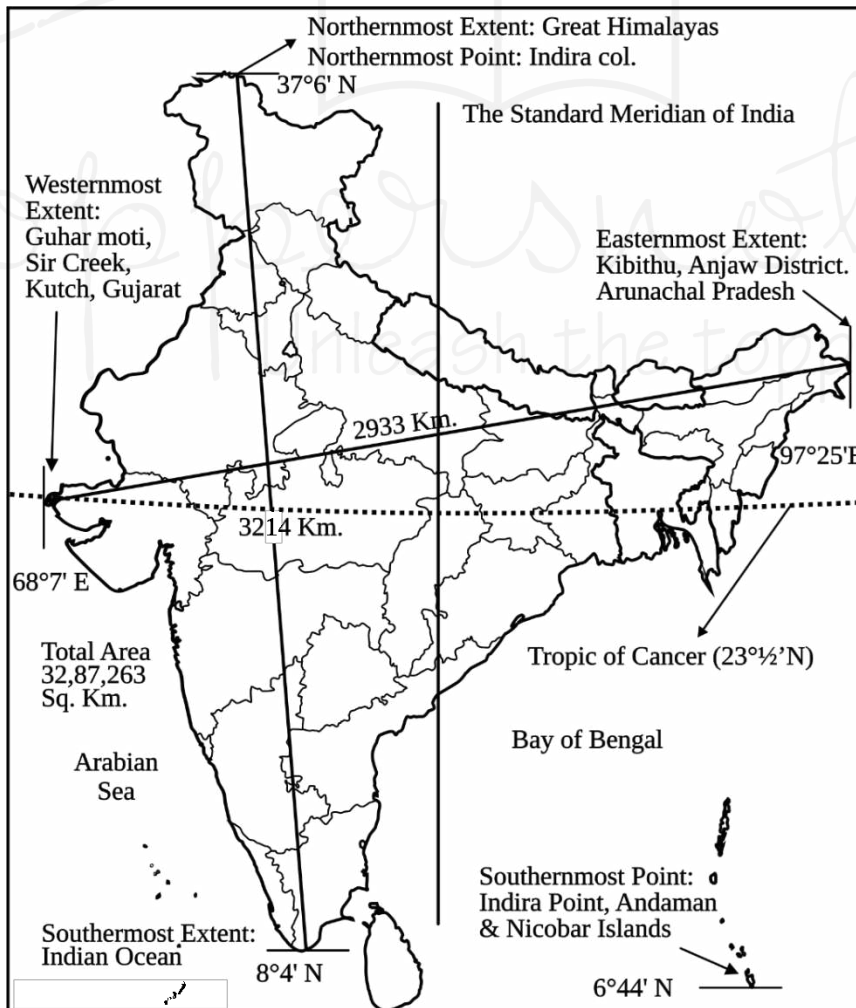
# 1

## CHAPTER

# Indian Geography

### INDIA - AT A GLANCE

| Aspect                              | Details                                       |
|-------------------------------------|---|
| Latitudinal Extent                  | 8°4' N to 37°6' N                             |
| Longitudinal Extent                 | 68°7' E to 97°25' E                           |
| Northernmost Point                  | Indira Col, Ladakh                            |
| Southernmost Point                  | Indira Point, Great Nicobar Island            |
| Easternmost Point                   | Kibithu/Valang, Arunachal Pradesh             |
| Westernmost Point                   | Gaurmukh, Gujarat                             |
| Area                                | 3,287,263 sq km                               |
| World Ranking by Area               | 7th largest country                           |
| Percentage of World Area            | 2.4%  |
| Countries Larger than India by Area | Russia, Canada, China, USA, Brazil, Australia |
| Latitudinal Distance (North–South)  | 3,214 km                                      |
| Longitudinal Distance (East–West)   | 2,933 km                                      |
| Population Ranking                  | Largest in the world                          |



## Coastline of India:

- On 29th April 2025, the Government of India recalculated the country's coastline. Including islands, the total coastline length is **11,098 km**. The coastline touches **9 states** and **66 districts**.
- **Western Coast States:** Gujarat, Maharashtra, Goa, Karnataka, Kerala
- **Eastern Coast States:** Tamil Nadu, Andhra Pradesh, Odisha, West Bengal
- **State-wise Highlights:**
  - ✓ **Longest coastline:** Gujarat (2,340 km)
  - ✓ **Shortest coastline:** Goa (193 km)
  - ✓ On the eastern coast, the **longest coastline** is Tamil Nadu (1,068 km)
- **Maritime Zones (as per International Maritime Organization):**
  - ✓ Territorial Sea
  - ✓ Contiguous Zone
  - ✓ Exclusive Economic Zone (EEZ)
- **Tropic of Cancer in India:**

- ✓ The Tropic of Cancer is located at **23°N latitude**, north of the Equator.
- ✓ It passes through **8 Indian states:** Gujarat, Rajasthan, Madhya Pradesh, Chhattisgarh, Jharkhand, West Bengal, Tripura, and Mizoram.
- ✓ The **Mahi River** crosses the Tropic of Cancer **twice**.

## Standard Time

- The **Standard Time** in India is based on the **82.5° East longitude**, which is the **central meridian** passing through **Naini (Mirzapur), Uttar Pradesh**.
- India's standard time is **5 hours 30 minutes ahead of Greenwich Mean Time (GMT)**, meaning when it is **12:00 noon in England, it is 5:30 PM in India**.
- The **standard meridian** passes through **five states:** Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Odisha, and Andhra Pradesh.

## Bordering Countries

| Country            | Capital   | Border Length with India | Bordering Indian States / Remarks   |
|--------------------|---|--------------------------|---|
| <b>Afghanistan</b> | Kabul   | 106 km                   | Ladakh (via Wakhan Corridor / PoK region)   |
| <b>Bangladesh</b>  | Dhaka   | 4096.7 km                | West Bengal, Assam, Meghalaya, Tripura, Mizoram                                   |
| <b>Bhutan</b>      | Thimphu   | 699 km                   | West Bengal, Sikkim, Assam, Arunachal Pradesh                                     |
| <b>China</b>       | Beijing   | 3488 km                  | Ladakh, Himachal Pradesh, Uttarakhand, Sikkim, Arunachal Pradesh                  |
| <b>Myanmar</b>     | Naypyidaw   | 1643 km                  | Arunachal Pradesh, Nagaland, Manipur, Mizoram                                     |
| <b>Nepal</b>       | Kathmandu   | 1751 km                  | Bihar, Uttar Pradesh, Uttarakhand, West Bengal, Sikkim                            |
| <b>Pakistan</b>    | Islamabad   | 3323 km                  | Jammu & Kashmir, Ladakh, Punjab, Rajasthan, Gujarat                               |
| <b>Sri Lanka</b>   | Colombo (Commercial), Sri Jayawardenepura Kotte (Legislative) | Sea Border               | Separated from India by the <b>Gulf of Mannar</b>                                 |
| <b>Maldives</b>    | Malé  | Sea Border               | Located southwest of India in the <b>Indian Ocean</b> , below Lakshadweep Islands |

## International Boundaries

### Adjacent to India:

- **Radcliffe Line** – Between India and Pakistan
- **24th Parallel** – Between India and Pakistan
- **McMahon Line** – Between India and China

- **LAC (Line of Actual Control)** – Between India and China
- **Durand Line** – Between Afghanistan and Pakistan
- **Johnson Line (1865) & MacDonald Line (1893)** – Between China and India (Ladakh); currently considered illegal by China

## International Disputed Areas

### Involving India:

- **Galwan Valley** – India and China
- **Siachen Dispute** – India and Pakistan
- **Katchatheevu Island** – India and Sri Lanka
- **Kalapani Dispute** – India and Nepal
- **Susta Area Dispute** – India and Nepal

### Administrative Status

- **Administrative Structure:** India currently comprises **28 states** and **8 Union Territories**.
- **Districts:** In 2011, India had a total of **640 districts**, which increased to **780 districts** by 2025 (as of October 2025).

- **Villages:** In 2011, India had approximately **640,000 villages**.

### Political Structure:

- **Lok Sabha Seats:** Maximum 550; currently 543.
- **Rajya Sabha Seats:** Maximum 250; currently 245.
- **Legislative Councils:** Present in six states: Uttar Pradesh (100), Maharashtra (78), Bihar (75), Karnataka (75), Andhra Pradesh (58) and Telangana (40)

## India's Physical Landscape

### Major Himalayan Ranges of India

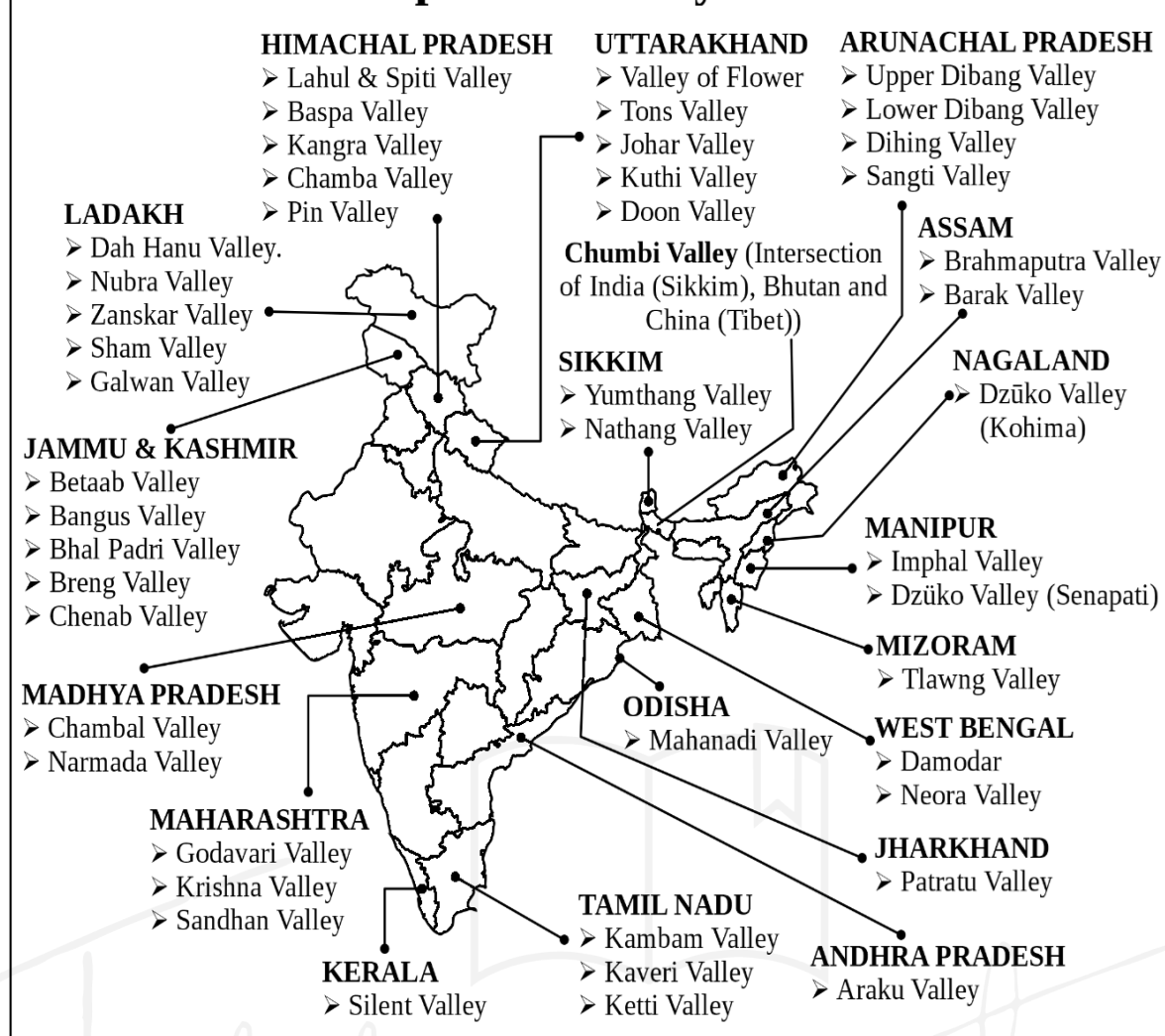
| Mountain Range                  | Location / Extent                           | Key Notes (Description)   | Highest Mountain Peak                     |
|---------------------------------|---|---|---|
| <b>Karakoram Range</b>          | Ladakh (India), China, Pakistan             | One of the world's most rugged mountain systems; contains the greatest concentration of glaciers outside the polar regions (e.g., Siachen Glacier). | <b>K2 (Mount Godwin-Austen)</b> – 8,611 m |
| <b>Ladakh Range</b>             | Ladakh (UT)                                 | Lies between the Indus River and the Karakoram Range; cold desert climate; parallel to the Zaskar Range.  | <b>Lunpo Gangri</b> – ~7,095m             |
| <b>Zaskar Range</b>             | Ladakh & Himachal Pradesh                   | Eastern extension of the Greater Himalayas; acts as a climatic barrier; Zaskar River cuts through it forming deep gorges.                           | <b>Kamet Peak</b> – ~7,756 m              |
| <b>Shiwalik (Siwalik) Range</b> | Outer Himalayas (Punjab to Assam foothills) | Youngest, lowest & outermost Himalayan range; composed of unconsolidated sediments; prone to erosion and landslides.                                | <b>Churdhar Peak</b> – 3,647 m            |
| <b>Pir Panjal Range</b>         | Jammu & Kashmir, Himachal Pradesh           | Largest range of the Lesser Himalayas; separates Kashmir Valley from Himachal Pradesh; famous for passes like Banihal.                              | <b>Indrasan</b> – 6,221 m                 |
| <b>Dhauladhar Range</b>         | Himachal Pradesh                            | Southern branch of the Lesser Himalayas; rises sharply from Kangra Valley; known for steep slopes and snow peaks.                                   | <b>Hanuman Tibba</b> – 5,860 m            |

### Important valleys of India

- **Western Ghats' highest peak** - Anamudi (2695 m), Kerala
- **Eastern Ghats' highest peak** - Jindagarh (1690 m), Andhra Pradesh
- **Western Ghats' highest peak** - Anamudi (2695 m), Kerala

- **Eastern Ghats' highest peak** - Jindagarh (1690 m), Andhra Pradesh
- **Andaman and Nicobar's highest peak** - Saddle Peak (732 m), North Andaman
- **Bihar's highest peak** - Someshwar (874 m)
- **Chhattisgarh's highest peak** - Gaurkata (Samripat, 1225 m)
- **Jharkhand's highest peak** - Parasnath (Giridih district)

## Important Valleys Of India



### Prominent Himalayan Glaciers

| Glacier Name                        | Location           | Important Features   |
|-------------------------------------|--------------------|--|
| <b>Siachen</b>                      | Karakoram ranges   | Nubra Valley of Himalayas; 2nd longest glacier outside Polar region largest glacier of trans-Himalayas   |
| <b>Biafo</b>                        | Karakoram          | Flows into the Shigar River  |
| <b>Gangotri</b>                     | Uttarakhand        | Origin below Chaukhamba Peak; also known as ‘Gomukh’   |
| <b>Hispar</b>                       | Gilgit-Baltistan   | World’s longest glacial system   |
| <b>Zemu</b>                         | Sikkim/Nepal       | Largest glacier of Eastern Himalaya; feeds River Teesta  |
| <b>Sonapani</b>                     | Lahaul & Spiti, HP | Longest glacier in the Pir Panjal range. A glacier stream is a tributary to the Chandra River, which later merges with the Bhaga River to form the Chenab. |
| <b>Milam</b>                        | Uttarakhand        | Major source of River Gori Ganga (Saryu); biggest glacier in Kumaon Himalaya   |
| <b>Chong Kumdan</b>                 | Karakoram, Ladakh  | Feeds Shyok River due to potential blocking  |
| <b>Diamir</b>                       | POK                | Known as the ‘King of Mountains’   |
| <b>Rupal</b>                        | Kashmir            | In Greater Himalayas; flows north eastward   |
| <b>Bhillans, Thajivas, and Prui</b> | Jammu and Kashmir  |  |

## Prominent Himalayan Passes

| Pass Name             | State / UT               | Location / Border                       | Importance  |
|-----------------------|--------------------------|---|---|
| <b>Zoji La</b>        | Jammu & Kashmir, Ladakh  | Greater Himalayas                       | Connects Srinagar–Kargil & Leh; Lying in the middle of India and China  |
| <b>Banihal Pass</b>   | Jammu & Kashmir          | Pir Panjal Range                        | <b>Jawahar Tunnel</b> passes <b>beneath it</b> ; <b>Srinagar–Jammu route</b> ; a <b>pass connecting the rest of India to Kashmir</b> .        |
| <b>Khardung La</b>    | Ladakh                   | Ladakh Range                            | Road to Siachen; one of highest motorable roads   |
| <b>Chang La</b>       | Ladakh                   | Ladakh Range                            | Connects Leh to Pangong Lake  |
| <b>Fotu La</b>        | Ladakh                   | Zaskar Range                            | Highest point on Srinagar–Leh highway   |
| <b>Namika La</b>      | Ladakh                   | Zaskar Range                            | On Kargil–Leh route   |
| <b>Baralacha La</b>   | Himachal Pradesh         | Zaskar Range                            | On Leh–Manali highway   |
| <b>Shipki La</b>      | Himachal Pradesh         | India–Tibet Border (Kinnaur)            | Historic silk route for trade.  |
| <b>Mana Pass</b>      | Uttarakhand              | Chamoli District                        | Road to Kailash–Mansarovar; Indo-China route  |
| <b>Niti Pass</b>      | Uttarakhand              | Chamoli District                        | Old trade route to Tibet  |
| <b>Lipulekh Pass</b>  | Uttarakhand              | Pithoragarh District                    | Kailash–Mansarovar Yatra route; India–Nepal–Tibet tri-junction  |
| <b>Muling La</b>      | Uttarakhand              |   | connects Uttarakhand and Tibet and is situated in the north of Gangotri.  |
| <b>Nathu La</b>       | Sikkim                   | Indo–China Border                       | A border trade post with China; one of the highest motorable roads in the world<br>connects Sikkim with the Tibet Autonomous Region of China. |
| <b>Jelep La</b>       | Sikkim                   | Near Kalimpong                          | Trade route to Lhasa in historical times  |
| <b>Sella Pass</b>     | Arunachal Pradesh        | Tawang District                         | Connects Tawang to rest of state; Sella tunnel world’s Longest twin lane tunnel above 13000 feet altitude.                                    |
| <b>Bum La</b>         | Arunachal Pradesh        | Near Tawang                             | Indo–China sensitive military pass  |
| <b>Dipher Pass</b>    | Arunachal Pradesh        | East Kameng                             | Eastern Himalayas, remote and strategic   |
| <b>Khunjerab Pass</b> | (POK)                    | Gilgit–Baltistan (Pak-Occupied Kashmir) | On China–Pakistan border; on CPEC route   |
| <b>Lanak La</b>       | Ladakh (Disputed Border) | Aksai Chin region (Indo-China)          | Disputed India–China border crossing  |

|  |                      |                                  |  |
|--|----------------------|----------------------------------|--|
| <b>Lekhapani</b>                               | Arunachal Pradesh    | Eastern tip near Assam-Arunachal | Historic WW-II route via Stilwell Road; strategic for eastern sector   |
| <b>Rohtang Pass</b>                            | Himachal Pradesh     | Pir Panjal Range                 | Connects <b>Kullu Valley</b> to <b>Lahaul and Spiti valleys</b> ; separates <b>Chenab and Beas basins</b><br>a famous tourist attraction site                    |
| <b>Debsa Pass</b>                              | Himachal Pradesh     | -                                | Located between <b>Kullu and Spiti districts</b>   |
| <b>Dihang Pass</b>                             | Arunachal Pradesh    | -                                | Connects <b>Arunachal Pradesh</b> to <b>Myanmar</b><br>Beyond this pass, the Himalayas bend sharply to the south and spread along the eastern boundary of India. |
| <b>Khyber Pass</b>                             | Pakistan–Afghanistan |                                  | Connects <b>Peshawar (Pakistan)</b> to <b>Jalalabad (Afghanistan)</b> ; part of the <b>ancient Silk Road trade network</b>                                       |
| <b>Muling La Pass &amp; Mangsha Dhura Pass</b> | Uttarakhand          | Greater Himalayas                | Connects <b>Uttarakhand</b> to <b>Tibet</b>  |

## Geographical Division of Plains

| <b>Geographical Type</b> | <b>Location/Extent</b>  | <b>Characteristics / Special Features</b>   |
|--------------------------|---|---|
| <b>Bhabar Plains</b>     | From Punjab to Assam; located south of the Shivalik hills (foothill region) | Small rivers disappear underground in these plains.   |
| <b>Terai Plains</b>      | South of the Bhabar plains; marshy area                                     | Rivers flow on the surface instead of going underground.  |
| <b>Bangar Plains</b>     | Doab regions situated between two rivers                                    | Composed of gravel, stones, sand, and clay; formed by older alluvium. Also called Bhud, Reh, Dhaya, or Bet in some regions. |
| <b>Khadar Plains</b>     | Formed by new alluvial soil   | Highly fertile; located in flood-prone areas; formed by recent alluvium.  |

## Doab Area

| <b>Doab Name</b> | <b>Rivers It Lies Between</b> |
|------------------|-------------------------------|
| Sind Sagar Doab  | Indus & Jhelum                |
| Jech Doab        | Jhelum & Chenab               |
| Rachna Doab      | Ravi & Chenab                 |
| Bari Doab        | Beas & Ravi                   |
| Bist Doab        | Beas & Sutlej                 |

## Plateau

| <b>Plateau</b>               | <b>Location</b>                          | <b>Special Features / Notes</b>                   | <b>Major Rivers / Highlights</b>    |
|------------------------------|--|---|-------------------------------------|
| <b>Central India Plateau</b> | Rajasthan, Madhya Pradesh, Uttar Pradesh | Known as the "Basket of Mustard" of Central India | Parvati, Chambal, Banas, Kuno, Seep |

|                             |                                      |   |                    |
|-----------------------------|--------------------------------------|---|--------------------|
| <b>Malwa Plateau</b>        | Madhya Pradesh                       | Located between Aravalli and Vindhya ranges; famous for soybean production; rich in black soil; Chinese traveler Faxian called its climate one of the best in the world | –                  |
| <b>Bundelkhand Plateau</b>  | Madhya Pradesh, Uttar Pradesh        | Panna district produces the most diamonds in India; famous tourist sites include Khajuraho, Orchha, Chanderi, and Devgarh   | –                  |
| <b>Baghelkhand Plateau</b>  | Madhya Pradesh, Chhattisgarh         | Red-yellow soil predominates; major rice-producing region; highest concentration of sal trees in India  | –                  |
| <b>Chota Nagpur Plateau</b> | Bihar, Jharkhand, West Bengal        | Rich in minerals; known as the "Ruhr of India"; largest mineral production in India   | –                  |
| <b>Kathiawar Plateau</b>    | Gujarat                              | Region has black soil; famous for peanut and cotton cultivation   | –                  |
| <b>Deccan Plateau</b>       | Maharashtra, Gujarat, Karnataka      | Largest plateau in India; Kalsubai is its highest peak; formed by volcanic activity and basalt rocks  | –                  |
| <b>Dandakaranya Plateau</b> | Odisha, Chhattisgarh, Andhra Pradesh | Famous for rice cultivation; one of the most Naxal-affected regions   | Mahanadi, Tel, Ong |
| <b>Rayalaseema Plateau</b>  | Andhra Pradesh, Telangana            | Red-yellow soil predominates; famous for tobacco and maize cultivation  | –                  |

### Important Facts

- Netarhat in Jharkhand is known as the "Queen of Chotanagpur Plateau."
- The highest peak of the Chotanagpur Plateau is Parasnath Hill.
- The Rashtrapati Bhavan in New Delhi, India, is located on Raisina Hill.

### Indian Coast

#### West Coast (Western Coastal Plains)

| Coastal Plain          | Location / Extent            | Special Features / Notes   |
|------------------------|------------------------------|--|
| <b>Kathiawar Coast</b> | Gujarat to Daman             | Major ports: Pandit Deendayal (Kandla), Dahej, Mundra.                               |
| <b>Konkan Coast</b>    | Daman to Goa                 | Major ports: Mumbai, Nhava Sheva (Jawaharlal Nehru).                                 |
| <b>Canara Coast</b>    | Goa to New Mangalore         | Also called the Kannada Coast. Major ports: New Mangalore, Marmagao (Vasco da Gama). |
| <b>Malabar Coast</b>   | New Mangalore to Kanyakumari | Major port: Kochi (Spice Port). Minerals: sand, thorium, monazite.                   |

#### East Coast (Eastern Coastal Plains)

| Coastal Plain                 | Location / Extent              | Special Features / Notes   |
|-------------------------------|--------------------------------|--|
| <b>Northern Circars Coast</b> | West Bengal to Mahanadi Delta  | Major ports: Haldia, Kolkata.  |
| <b>Utkal Coast</b>            | Mahanadi to Krishna Delta      | Major port: Paradip (Odisha).  |
| <b>Golconda Coast</b>         | Krishna River to Cauvery River | Major port: Vishakhapatnam (India's deepest port).                                 |
| <b>Coromandel Coast</b>       | Cauvery River to Kanyakumari   | Highest rainfall due to retreating monsoon (Nov–Dec). Rice cultivation in Nov–Dec. |

## Major Island Groups of India

- **Andaman & Nicobar Islands (Bay of Bengal):**
  - ✓ Volcanic islands known for pristine beaches, coral reefs, and rich biodiversity (Havelock, Neil, Ross).
  - ✓ The Great Nicobar Island is the largest island in India
  - ✓ 22 islands in Nicobar.
  - ✓ It is believed that Andaman and Nicobar Islands are an elevated portion of submarine mountains.
- **Lakshadweep Islands (Arabian Sea):**
  - ✓ Coral atolls famous for lagoons, marine life, and water sports.

### Arabian Sea Islands

| Island / Island Group | Location                  | Features / Special Notes   |
|-----------------------|---------------------------|--|
| Aliya Wet             | Gulf of Khambhat          | Formed between the mouths of the Narmada and Tapi rivers; famous for petroleum production. |
| Khadiya Wet           | Gulf of Khambhat          | Island formed by the Narmada and Tapi rivers.  |
| Piram Wet             | Gulf of Khambhat          | Located in Bhavnagar district; famous for salt production.                                 |
| Bombay High           | Maharashtra (near Mumbai) | India's largest petroleum source, located near Mumbai.                                     |
| Basin Island          | Maharashtra               | A small petroleum source.  |
| Elephanta Island      | Maharashtra               | Famous for the Elephanta Caves located on this island.                                     |
| Jawahar Island        | Maharashtra               | Also known as Butcher Island.  |
| Salsette Island       | Maharashtra               | Home to the major city of Thane.   |
| Chorão Island         | Goa                       | Location of the Salim Ali Bird Sanctuary.  |
| Willingdon Island     | Kerala                    | Located in Vembanad Lake, Kerala.  |
| Lakshadweep Islands   | Arabian Sea               | Coral-built atoll islands consisting of 36 small islands.                                  |

### Bay of Bengal Islands

| Island Name                 | Location          | Notes / Significance  |
|-----------------------------|-------------------|---|
| New Moore Island            | Bay of Bengal     | Disputed between India and Bangladesh since 1981.   |
| Kalash Island               | Bay of Bengal     | Famous island within Sundarbans National Park.  |
| Ganga Sagar Island          | West Bengal       | Located at the mouth of the Hooghly River; also known as Sagar Island.  |
| Abdul Kalam Island          | Odisha            | India's missile launching center; formerly called Wheeler Island. Nearby are two smaller islands: Chandipur and Balasore. |
| Sriharikota Island          | Andhra Pradesh    | Houses the Satish Dhawan Space Centre.  |
| Pamban Island               | Tamil Nadu        | Located in the Gulf of Mannar.  |
| Barren Island               | Eastern Andaman   | India's only active volcano. Last eruption occurred on 5 November 2020.   |
| Andaman & Nicobar Islands   | Bay of Bengal     | India's largest island group.   |
| Shaheed Dweep               | Andaman & Nicobar | Formerly called Neil Island.  |
| Subhash Chandra Bose Island | Andaman & Nicobar | Formerly called Ross Island.  |
| Swaraj Dweep                | Andaman & Nicobar | Formerly called Havelock Island.  |

## River Islands

| Island Name           | River       | Notable Facts / Description  | Location / State                  |
|-----------------------|-------------|--|-----------------------------------|
| Majuli Island         | Brahmaputra | World's largest river island; declared India's first river island district in 2017 | Assam                             |
| Umanand Island        | Brahmaputra | Famous for the Golden Langur   | Assam                             |
| Srirangapatnam Island | Kaveri      | Located on an island in Tamil Nadu   | Tamil Nadu                        |
| Mandhata Island       | Narmada     | Historical/Geographical significance   | Khargone/Khandeva, Madhya Pradesh |

## Rivers and Water Resources of India

### Important River of India

| Rivers                  | Description  |
|-------------------------|--|
| <b>Indus</b>            | <ul style="list-style-type: none"> <li>➤ <b>Origin:</b> Near <b>Mount Kailash</b> in Tibet (China)</li> <li>➤ <b>Major Tributaries:</b> Jhelum River, Chenab River, Ravi River, Beas River, Sutlej (Satluj) River, etc.</li> <li>➤ <b>Course:</b> Enters India through Ladakh (UT of Ladakh) and flows northwest into Pakistan and finally drains into the Arabian Sea.</li> <li>➤ According to the 1960 Indus Waters Treaty, the eastern rivers of the water system - Sutlej, Ravi and Chenab were to be with India</li> <li>➤ <b>North to South Sequence:</b> Indus, Chenab, Ravi, Beas, Satluj</li> </ul> |
| <b>Ganga</b>            | <ul style="list-style-type: none"> <li>➤ <b>Origin:</b> Gangotri Glacier near Gaumukh in Uttarakhand.</li> <li>➤ <b>Total length:</b> 2,525 km (longest river in India).</li> <li>➤ Empties into the Bay of Bengal through the Sunderbans Delta</li> <li>➤ <b>Major Tributaries:</b> Yamuna, Son, Kosi, Ghaghara etc.</li> <li>➤ Distributary: Bhagirathi-Hooghly (formed at Farakka)</li> <li>➤ At Devprayag the Bhagirathi is Joined by Alaknanda.</li> </ul>  |
| <b>Yamuna (1375 km)</b> | <ul style="list-style-type: none"> <li>➤ <b>Source:</b> <b>Yamunotri Glacier</b> in Uttarakhand.</li> <li>➤ <b>Role:</b> Westernmost &amp; longest tributary of the Ganga, joining it at Prayag (Allahabad).</li> <li>➤ <b>Right-bank tributaries:</b> Chambal, Sind, Betwa (480 km), Ken.</li> <li>➤ <b>Left-bank tributaries:</b> Hindan, Rind, Senger, Varuna, Tons (Longest tributary, its tributaries- Pabbar, Asan)</li> </ul>   |
| <b>Son(780km)</b>       | <ul style="list-style-type: none"> <li>➤ <b>Origin:</b> Amarkantak Plateau in Madhya Pradesh.</li> <li>➤ <b>Note:</b> Large south bank tributary of the Ganga.</li> </ul>  |
| <b>Chambal (1050km)</b> | <ul style="list-style-type: none"> <li>➤ <b>Source:</b> Near Mhow, Madhya Pradesh.</li> <li>➤ <b>Confluence:</b> Joins Yamuna.</li> <li>➤ <b>Feature:</b> Famous for ravines and badland topography.</li> <li>➤ Tributaries: Banas, Kali Sindh, Parvati</li> <li>➤ Border of Madhya Pradesh and Uttar Pradesh and Madhya Pradesh and Rajasthan</li> </ul>  |
| <b>Kosi(730km)</b>      | <ul style="list-style-type: none"> <li>➤ <b>Type:</b> Antecedent river.</li> <li>➤ <b>Source:</b> Arun River from Everest region, merging to form Saptakoshi in Nepal.</li> <li>➤ <b>Nickname:</b> "Sorrow of Bihar" due to flooding.</li> <li>➤ <b>Plain Elevation:</b> 30 metres above sea level.</li> </ul>   |
| <b>Narmada (1312km)</b> | <ul style="list-style-type: none"> <li>➤ <b>Origin:</b> Amarkantak Plateau</li> <li>➤ <b>Flow:</b> Flows through fault valleys between the Satpura and Vindhya ranges; forms the boundary between North and South India</li> <li>➤ <b>Feature:</b> Dhuandhar Waterfall; formation of an estuary</li> <li>➤ <b>Tributaries:</b> Tawa, Sher, Shakkar</li> </ul>  |

|                                  |  |
|----------------------------------|--|
| <b>Tapti</b>                     | <ul style="list-style-type: none"> <li>➤ <b>Origin:</b> Multai, fault valley of the Satpura Range (Betul, Madhya Pradesh)</li> <li>➤ <b>Flow:</b> Passes through Madhya Pradesh, Maharashtra, and Gujarat</li> <li>➤ <b>Feature:</b> Flows parallel to the Narmada; about 80% of its basin lies in Maharashtra</li> <li>➤ <b>Tributaries:</b> <b>Waghur, Aner, Girna, Purna, Panzara and Bori.</b></li> </ul>  |
| <b>Brahmaputra</b>               | <ul style="list-style-type: none"> <li>➤ <b>Origin:</b> Chemayungdung Glacier, near Mount Kailash (Northern Himalayas)</li> <li>➤ <b>Total length:</b> ~2,900 km (one of the longest rivers of Asia).</li> <li>➤ Finally drains into the Bay of Bengal, forming the Ganga–Brahmaputra–Meghna Delta.</li> <li>➤ <b>Major Tributaries:</b> Subansiri, Manas, Sankosh, Dihang, Lohit, Burhi dihing etc.</li> <li>➤ It has the least storage capacity of usable water.</li> </ul>              |
| <b>Mahanadi (858km)</b>          | <ul style="list-style-type: none"> <li>➤ <b>Origin</b> → Sihawa range, Chhattisgarh</li> <li>➤ <b>States</b> → Chhattisgarh, Odisha (The largest river here)</li> <li>➤ <b>Tributaries</b> → Seonath, Hasdeo, Mand, Ib, Ong, Tel, Jonk</li> </ul>  |
| <b>Godavari (1465km)</b>         | <ul style="list-style-type: none"> <li>➤ <b>Origin</b> → Kasu bai hill, Nashik (MH - About 50 percent of the basin area is in this state, longest peninsular river.</li> <li>➤ <b>Tributaries</b> → Pranhita, Indravati, Penganga, Manjra</li> <li>➤ Peninsular India's longest river, the Old Ganga or Ganga of the South, the country's second largest basin.</li> </ul>   |
| <b>Krishna (1400km)</b>          | <ul style="list-style-type: none"> <li>➤ <b>Origin:</b> Mahabaleshwar, located in the Sahyadri Range (Maharashtra)</li> <li>➤ <b>Tributaries:</b> Bhima, Tungabhadra, Koyna, Munsri, Malaprabha, Panchganga, Dudhaganga, Ghataprabha</li> <li>➤ <b>Feature:</b> It has the largest drainage basin among the peninsular rivers.</li> <li>➤ <b>Note:</b> The Krishna–Godavari water dispute is between Karnataka and Andhra Pradesh.</li> </ul>  |
| <b>Cauvery / Kaveri (805km)</b>  | <ul style="list-style-type: none"> <li>➤ <b>Origin:</b> Brahmagiri Hills (Karnataka); known as <i>Ponni</i> in Tamil Nadu; the fourth-largest river in South India</li> <li>➤ <b>States:</b> Karnataka, Kerala, Tamil Nadu (The Cauvery water dispute is between Tamil Nadu and Karnataka)</li> <li>➤ <b>Feature:</b> Shivanasamudra Waterfall (largest in terms of volume); total length – 800 km</li> <li>➤ <b>Tributaries:</b> Kabini, Bhavani, Amaravati, Hemavati, Shimsha</li> </ul> |
| <b>Luni (450km)</b>              | <ul style="list-style-type: none"> <li>➤ Origin: Aravalli Range</li> <li>➤ Feature: Seasonal River; ends in the Rann of Kutch;</li> <li>➤ major tributaries include Jojari, Sukri, and Jawai</li> </ul>  |
| <b>Jhelum (725 km)</b>           | Origin: Verinag Spring → passes through Wular Lake → Joins chenab<br>In the <b>Vedas – Vitasta</b>   |
| <b>Chenab (974 km)</b>           | Formed by confluence of Chandra + Bhaga rivers at Tandi (Himachal) → Largest tributary of Indus → Joins Sutlej before finally merging with Indus<br>In the <b>Vedas</b> , it is referred to as <b>Asikni</b> .   |
| <b>Ravi (720 km)</b>             | Origin: Kullu Hills near Rohtang pass → drains area between Pir Panjal & Dhaola Dhar ranges  |
| <b>Beas (470 km)</b>             | Origin: Near Rohtang pass → Joins Sutlej River   |
| <b>Sutlej (1050km) (Sutudri)</b> | Origin: Rakas's lake (Tibet) → enters Punjab via Shipki La pass → Antecedent River cutting through the Himalayas before uplift   |

**Fact to Know:**

- Nandi river flows through Tiruttani a famous pilgrimage place of South India.
- Berach River, a southern-side tributary of Banas River, originates from the hills in Udaipur, Rajasthan.
- The Galwan River is a strategic river in Ladakh, India, flowing from disputed Aksai Chin (controlled by China) to join the Shyok River, an Indus tributary.
- Pindar River is the tributary of Alaknanda.

**Lakes In India**

| Lake  | State/Union Territory         | Main Features  |
|---|-------------------------------|--|
| <b>Wular Lake</b>                             | Jammu and Kashmir             | India's largest and Asia's second-largest freshwater natural lake; formed due to tectonic activity; the Jhelum River flows through it. |
| <b>Kodaikanal Lake</b>                        | Tamil Nadu                    | Artificial freshwater lake.  |
| <b>Dal Lake</b>                               | Jammu and Kashmir             | Famous for houseboats and Shikaras; known as the "Jewel of Srinagar."  |
| <b>Pangong Tso</b>                            | Ladakh                        | Salt Lake extending into China.  |
| <b>Tso Moriri, Tso Kar</b>                    | Ladakh                        | High-altitude freshwater lakes.  |
| <b>Chilika Lake</b>                           | Odisha (Mahanadi Delta)       | Asia's largest brackish water lake; famous for flamingos; India's first Ramsar site.   |
| <b>Kanwar Lake</b>                            | Bihar                         | Asia's largest freshwater oxbow lake.  |
| <b>Chandra Tal Lake</b>                       | Himachal Pradesh              | "Lake of the Moon"; Parashar Lake is also located in Himachal Pradesh.   |
| <b>Sasthamkotta Lake</b>                      | Kerala                        | "Queen of Lakes"; the largest freshwater lake in Kerala.   |
| <b>Loktak Lake</b>                            | Manipur                       | The largest freshwater lake in Northeast India; famous for <i>phumdis</i> ; home to the world's only floating national park.           |
| <b>Pookode Lake</b>                           | Kerala                        | The smallest lake in India.  |
| <b>Bhojtal Lake</b>                           | Madhya Pradesh                | Asia's largest artificial lake.  |
| <b>Govind Ballabh Pant Sagar (Rihand Dam)</b> | Uttar Pradesh                 | India's largest artificial lake.   |
| <b>Cholamu Lake</b>                           | Sikkim                        | The highest-altitude lake in India.  |
| <b>Pulicat Lake</b>                           | Andhra Pradesh and Tamil Nadu | India's second-largest brackish lagoon; shared by two states.  |
| <b>Vembanad Lake (Lagoon)</b>                 | Kerala                        | The longest lake in India; the largest lake in Kerala.   |
| <b>Sambhar Lake</b>                           | Rajasthan                     | India's largest inland Salt Lake.  |
| <b>Kolleru Lake</b>                           | Andhra Pradesh                | Seasonal freshwater lake located between the Krishna and Godavari rivers.  |
| <b>Nainital Lake</b>                          | Uttarakhand                   | Crescent-shaped natural freshwater lake.   |
| <b>Naukuchia Tal</b>                          | Nainital, UK                  |  |
| <b>Bhimtal Lake</b>                           | Uttarakhand                   | Larger than Nainital Lake.   |
| <b>Renuka Lake</b>                            | Himachal Pradesh              | Named after Goddess Renuka.  |
| <b>Tsongmo (Changu) Lake</b>                  | Sikkim                        | Glacial lake located near the Nathu La Pass.   |
| <b>Rudrasagar Lake</b>                        | Tripura                       | Wetland designated under the Ramsar Convention.  |

|                                 |               |  |
|---------------------------------|---------------|--|
| <b>Roopkund Lake</b>            | Uttarakhand   | Glacial lake; known as the “Mystery Lake” due to hundreds of human skeletons found around it.          |
| <b>Jaisamand Lake</b>           | Rajasthan     | Asia’s second-largest artificial freshwater lake; Pichola Lake is another prominent lake in Rajasthan. |
| <b>Gurudongmar Lake</b>         | Sikkim        | Mountain lake; a sacred pilgrimage site in Buddhism.   |
| <b>Keetham Lake</b>             | Uttar Pradesh | Also known as <i>Sur Sarovar</i> ; designated as a Ramsar site.  |
| <b>Lonar Lake (Crater Lake)</b> | Maharashtra   | India’s only lake formed by a meteor impact; the largest crater lake in the world.                     |
| <b>Hussain Sagar Lake</b>       | Telangana     | Artificial lake built on the Musi River; connects the twin cities of Hyderabad and Secunderabad.       |
| <b>Bhopal Lake</b>              | MP            | one of the largest artificial lake of its time was built in 11 <sup>th</sup> C                         |

## Waterfalls in India

| <b>Waterfall</b>                    | <b>Location</b> | <b>Description</b>  |
|-------------------------------------|-----------------|---|
| <b>Nohkalikai Waterfall</b>         | Meghalaya       | India’s highest plunge (vertical drop) waterfall.   |
| <b>Dudhsagar Waterfall</b>          | Goa             | Four-tiered waterfall located on the Mandovi River.   |
| <b>Jog Waterfall</b>                | Karnataka       | Situated on the Sharavathi River; also known as Gersoppa Falls.   |
| <b>Dhuandhar Waterfall</b>          | Madhya Pradesh  | World-famous waterfall flowing through marble rocks; falls from the narrow stream of the Narmada River. |
| <b>Rajrappa Waterfall</b>           | Jharkhand       | Formed at the confluence with the Damodar River; known for its fascinating rock formations.             |
| <b>Hundru Waterfall</b>             | Jharkhand       | Located in Ranchi district; surrounded by varied rock formations.                                       |
| <b>Kempty Waterfall</b>             | Uttarakhand     | Situated in Tehri Garhwal district.   |
| <b>Shivanasamudra Waterfall</b>     | Karnataka       | Located on the banks of the Cauvery River; the second-largest waterfall in India.                       |
| <b>Kapildhara Waterfall</b>         | Madhya Pradesh  | Formed at the confluence of the Kapila and Erandi rivers with the Narmada River.                        |
| <b>Kunchikal Waterfall</b>          | Karnataka       | The highest waterfall in India; formed by the Varahi River.   |
| <b>Duduma Waterfall</b>             | Odisha          | Located on the Machkund River.  |
| <b>Tirathgarh Waterfall</b>         | Chhattisgarh    | The highest waterfall in Chhattisgarh, situated on the Kanger River.                                    |
| <b>Chitrakote Waterfall</b>         | Chhattisgarh    | Known as the “Niagara Falls of India”; located on the Indravati River.                                  |
| <b>Gatha (Gatha Seha Waterfall)</b> | Madhya Pradesh  | Fed by the Ken River.   |
| <b>Magod Falls</b>                  | Karnataka       | A group of waterfalls where the Bedti River descends.   |
| <b>Thalaiyar Falls</b>              | Tamil Nadu      | The tallest waterfall in Tamil Nadu; also known as Rat Tail Falls.                                      |
| <b>Athirappilly Waterfall</b>       | Kerala          | The largest waterfall in Kerala.  |

## Dams & Reservoirs

- A dam is a barrier across flowing water that obstructs, directs or retards the flow, often creating a reservoir, lake or impoundment.

| Name of Dam                           | State                         | River                    | Main Feature   |
|---------------------------------------|-------------------------------|--------------------------|--|
| <b>Nagarjuna Sagar Dam</b>            | Andhra Pradesh /<br>Telangana | Krishna                  | The largest stone–masonry dam in Asia.   |
| <b>Srisaïlam Dam</b>                  | Andhra Pradesh /<br>Telangana | Krishna                  | Constructed in a deep gorge for hydroelectric power generation.  |
| <b>Sardar Sarovar Dam</b>             | Gujarat                       | Narmada                  | Part of the Narmada Valley Project; multipurpose dam.  |
| <b>Ukai Dam</b>                       | Gujarat                       | Tapi                     | The second-largest water project in Gujarat.   |
| <b>Bhakra Dam</b>                     | Himachal Pradesh / Punjab     | Sutlej                   | The highest gravity dam in Asia; part of the Bhakra–Nangal Project.  |
| <b>Baglihar, Salal, Dulhasti Dams</b> | Jammu & Kashmir               | Chenab                   | Built for hydroelectric power generation.  |
| <b>Almatti Dam</b>                    | Karnataka                     | Krishna                  | Major dam of Karnataka; disputed with Maharashtra and Andhra Pradesh; also known as Lal Bahadur Shastri Dam. |
| <b>Tungabhadra Dam</b>                | Karnataka                     | Tungabhadra              | Used for irrigation and hydroelectric power generation.  |
| <b>Krishnarajasagar Dam</b>           | Karnataka                     | Cauvery                  | Lifeline of the Mysore region.   |
| <b>Idukki Dam</b>                     | Kerala                        | Periyar                  | The largest hydroelectric dam in Kerala.   |
| <b>Mullaperiyar Dam</b>               | Kerala / Tamil Nadu           | Periyar                  | A disputed dam between Kerala and Tamil Nadu.  |
| <b>Banasura Sagar Dam</b>             | Kerala                        | Karamanasha Tributary    | The largest earthen dam in India.  |
| <b>Indira Sagar Dam</b>               | Madhya Pradesh                | Narmada                  | Largest reservoir in India by surface area.  |
| <b>Gandhi Sagar Dam</b>               | Madhya Pradesh / Rajasthan    | Chambal                  | The first dam of the Chambal Valley Project.   |
| <b>Koyna Dam</b>                      | Maharashtra                   | Koyna                    | The largest hydroelectric dam in Maharashtra.  |
| <b>Hirakud Dam</b>                    | Odisha                        | Mahanadi                 | The longest earthen dam in Asia.   |
| <b>Ranjit Sagar Dam</b>               | Punjab                        | Ravi                     | Used for irrigation and power generation.  |
| <b>Rana Pratap Sagar Dam</b>          | Rajasthan                     | Chambal                  | Part of the Chambal Valley Project.  |
| <b>Bisalpur Dam</b>                   | Rajasthan                     | Banas                    | Main source of drinking water for Jaipur.  |
| <b>Mettur Dam</b>                     | Tamil Nadu                    | Cauvery                  | The oldest and most important dam in Tamil Nadu.   |
| <b>Rihand Dam</b>                     | Uttar Pradesh                 | Rihand                   | The largest multipurpose dam in India.   |
| <b>Tehri Dam</b>                      | Uttarakhand                   | Bhagirathi and Bhilangna | The highest dam in India (~260 meters).  |
| <b>Farakka Barrage</b>                | West Bengal                   | Ganga                    | Maintains water flow in the Kolkata port.  |

|                                    |                         |         |  |
|------------------------------------|-------------------------|---------|--|
| <b>Maithon Dam</b>                 | West Bengal / Jharkhand | Barakar | Part of the Damodar Valley Corporation project.          |
| <b>Panchet Dam</b>                 | West Bengal / Jharkhand | Damodar | A component of the Damodar Valley Corporation project.   |
| <b>Tilaiya Dam</b>                 | Jharkhand               | Barakar | The first project under the Damodar Valley Corporation.  |
| <b>Kallanai (Grand Anicut) Dam</b> | Tamil Nadu              | Cauvery | The oldest dam in India, also known as the Grand Anicut. |

## Transportation in India

### Road Transport

- **State with the highest number of roads:** Maharashtra
- **State with the lowest number of roads:** Sikkim
- **State with the highest number of paved roads:** Maharashtra
- **State with the highest number of unpaved roads:** Odisha
- **State with the highest road density:** Goa
- **State with the lowest road density:** Jammu & Kashmir
- **Longest road tunnel in India:** Dr. Shyama Prasad Mukherjee Tunnel, Jammu & Kashmir (9.2 km)

- **Longest road bridge in India:** Bhupen Hazarika Bridge, Assam (9.15 km)
- **Second longest National Highway in India:** NH-27, Porbandar (Gujarat) to Silchar (Assam), 3,507 km
- **State with the highest number of National Highways:** Maharashtra (102)
- **State with the lowest number of National Highways:** Meghalaya (5)
- **Shortest National Highway in India:** NH-327B, West Bengal (1.2 km)
- **Golden Quadrilateral cities:** Delhi, Mumbai, Chennai, Kolkata

### National Highways

| National Highway         | Connects   | Key Features   |
|--------------------------|--|--|
| NH-44                    | Srinagar (Jammu & Kashmir) – Kanyakumari (Tamil Nadu)      | India's longest National Highway; approximately 3,745 km; passes through 12 states and Union Territories (from Jammu & Kashmir to Kanyakumari (Tamil Nadu))<br>7 NHs were merged to form National Highway 44 (NH 44) |
| NH-27                    | Silchar (Assam) – Porbandar (Gujarat)                      | India's second-longest highway; East–West corridor   |
| NH-19 (formerly NH-2)    | Delhi – Kolkata (via Jhansi, Prayagraj, Varanasi, Dhanbad) | Part of the Golden Quadrilateral; runs parallel to the Ganga   |
| NH-48                    | Delhi – Mumbai – Bengaluru – Chennai                       | Major part of the Golden Quadrilateral   |
| NH-16 (formerly NH-5)    | Kolkata – Chennai (via Odisha and Andhra coasts)           | Eastern Coastal Highway; main route for Andhra Pradesh and Odisha  |
| NH-8 (now part of NH-48) | Delhi – Mumbai   | Busiest industrial corridor  |
| NH-1 (now part of NH-44) | Delhi – Amritsar (Wagah Border)                            | Key route in North India; historically significant / Sher Shah Suri Route  |

**Fact to Know:**

- **National Highways Authority of India (NHAI):** An autonomous body under the Ministry of Road Transport and Highways, established in 1995, maintains National Highways.
- At present, the Grand Trunk Road extends from Amritsar to Kolkata in India.
- Roads are classified in 6 categories in India.

**Railway Transport:**

- The first train in India ran on **16 April 1853** between **Mumbai and Thane**. This train was named "**Black Beauty**."
- **Founder of Railways in India: Lord Dalhousie** is considered the father of railways in India.

**Metro Services in India:**

- The first metro in India was inaugurated in **Kolkata (Calcutta Metro)**.
- In **2011**, **Namma Metro** in **Bengaluru** was launched with support from **Japan**.

**Important facts related to Railways**

- **Longest train route in India:** Vivek Express (Kanyakumari to Dibrugarh)
- **Fastest train in India:** Vande Bharat Express (Varanasi to Delhi)
- **Longest railway platform in India:** Hubli / Siddharudha Swami Railway Station, Karnataka (since 2020)
- **Largest railway station in India:** Howrah, West Bengal

- **India's first solar-powered railway station:** Guwahati (2018)
- **Railway services between India and Bangladesh:** Maitree Express and Bandhan Express
- **Railway services between India and Pakistan:** Thar Express and Samjhauta Express
- **Mountain railway services in India:** Kalka–Shimla (Himachal Pradesh), Darjeeling (West Bengal), and Nilgiri (Tamil Nadu)
- **India's first private railway station:** Rani Kamalapati Station, Habibganj, Madhya Pradesh
- **Proposed bullet train service in India:** Ahmedabad to Mumbai
- **Konkan Railway Service (1990):** Operates between Roha (Maharashtra) and Mangaluru (Karnataka) covering 760 km
- **Indian Railways in UNESCO World Heritage List:**
  - ✓ Darjeeling Himalayan Railway
  - ✓ Nilgiri Mountain Railway
  - ✓ Kalka–Shimla Railway
- **Konkan Railway:** Started in 1990; serves Maharashtra (Roha), Goa, and Karnataka (Mangaluru); 760 km long.

**Fact to Know:**

- The Indian Railways has integrated its helpline numbers into a single number, that is 139.

**Railway Zone**

| Railway Zone                | Headquarters          | States/Regions Covered  |
|-----------------------------|-----------------------|---|
| Northern Railway            | Delhi                 | Delhi, Haryana, Uttar Pradesh, Punjab, Rajasthan, Jammu & Kashmir         |
| North Central Railway       | Prayagraj (Allahabad) | Uttar Pradesh, Madhya Pradesh, Rajasthan                                  |
| North Eastern Railway       | Gorakhpur             | Uttar Pradesh, Bihar, part of West Bengal                                 |
| North East Frontier Railway | Maligaon, Guwahati    | Assam, Arunachal Pradesh, Nagaland, part of West Bengal, Bihar, Meghalaya |
| North Western Railway       | Jaipur                | Rajasthan, Punjab, Haryana, part of Uttar Pradesh                         |
| Eastern Railway             | Kolkata               | West Bengal, Jharkhand, Bihar   |
| East Central Railway        | Hajipur               | Bihar, Jharkhand, part of Uttar Pradesh                                   |

|                            |                       |   |
|----------------------------|-----------------------|---|
| East Coast Railway         | Bhubaneswar           | Odisha, Andhra Pradesh, Chhattisgarh                                  |
| Southern Railway           | Chennai Central       | Tamil Nadu, Kerala, Puducherry, parts of Andhra Pradesh and Karnataka |
| South Central Railway      | Secunderabad          | Telangana, Andhra Pradesh, Maharashtra, parts of Karnataka            |
| South Coast Railway        | Visakhapatnam         | Coastal Andhra Pradesh (Visakhapatnam, Vijayawada divisions)          |
| South Eastern Railway      | Garden Reach, Kolkata | West Bengal, Jharkhand, Odisha  |
| South East Central Railway | Bilaspur              | Chhattisgarh, Odisha, Maharashtra, parts of Madhya Pradesh            |
| South Western Railway      | Hubli                 | Karnataka, Tamil Nadu, Andhra Pradesh, parts of Maharashtra           |
| Western Railway            | Mumbai                | Maharashtra, Gujarat, parts of Rajasthan                              |
| West Central Railway       | Jabalpur              | Madhya Pradesh, Uttar Pradesh, parts of Rajasthan                     |
| Central Railway            | Mumbai                | Maharashtra, Madhya Pradesh, Karnataka, parts of Andhra Pradesh       |
| Konkan Railway             | Navi Mumbai           | Konkan region of Maharashtra, Goa, Karnataka (started in 1998)        |
| Metro Railway (Kolkata)    | Kolkata               | West Bengal (Kolkata Metropolitan Area; announced in 2010)            |

### Railways Tunnel

| Tunnel Name                      | Track Length (meters) | Location         | Railway Division |
|----------------------------------|-----------------------|------------------|------------------|
| Pir Panjal Railway Tunnel        | 11,215 m              | Jammu & Kashmir  | Northern Railway |
| Atal Tunnel (Rohtang passageway) | 9,020 m               | Himachal Pradesh | Northern Railway |
| Sangaldaan Tunnel                | 8,000 m               | Jammu & Kashmir  | Northern Railway |
| Karbude Tunnel (T-35)            | 6,505 m               | Maharashtra      | Konkan Railway   |
| Nathu Wadi Tunnel (T-6)          | 4,390 m               | Maharashtra      | Konkan Railway   |
| Tike Tunnel (T-39)               | 4,078 m               | Maharashtra      | Konkan Railway   |
| Barviewadi Tunnel (T-49)         | 4,000 m               | Maharashtra      | Konkan Railway   |
| Savarde Tunnel (T-17)            | 3,429 m               | Maharashtra      | Konkan Railway   |
| Barsem Tunnel (T-73)             | 3,343 m               | Goa              | Konkan Railway   |
| Karwar Tunnel (T-80)             | 2,950 m               | Karnataka        | Konkan Railway   |

### Waterways

- The **Inland Waterways Authority of India (IWAI)** was established in 1986 under the **Inland Waterways Authority of India Act, 1985** as an autonomous organization for the development, maintenance, and regulation of national waterways.
- Under the **National Waterways Act, 2016**, 111 inland waterways were declared as National Waterways.

#### **Major National Waterways of India:**

| Serial No. | National Waterway (NW) No. | Name                                  | Length (km) | Location (States)   |
|------------|----------------------------|---------------------------------------|-------------|---|
| 1          | NW-1                       | Ganga–Bhagirathi–Hooghly River System | 1,620       | Uttar Pradesh, Bihar, Jharkhand, West Bengal (Allahabad-Haldia stretch) |
| 2          | NW-2                       | Brahmaputra River                     | 891         | Assam   |

|   |        |  |     |                                |
|---|--------|--|-----|--------------------------------|
| 3 | NW-3   | West Coast Canal, Champakara, and Udyogmandal Canals | 205 | Kerala                         |
| 4 | NW-4   | Krishna River  | 82  | Andhra Pradesh                 |
| 5 | NW-100 | Tapi River   | 436 | Gujarat and Maharashtra        |
| 6 | NW-96  | Subarnarekha River                                   | 314 | Odisha, Jharkhand, West Bengal |
| 7 | NW-97  | Sundarbans Waterway                                  | 172 | West Bengal                    |
| 8 | NW-99  | Tamiraparani River                                   | 62  | Tamil Nadu                     |

## Types of Ports in India

### Major Ports:

- Directly administered by the Central Government.
- Operate under the **Major Port Authorities Act, 2021**.
- **Major Ports: 13. Examples:** Mumbai, Chennai, Visakhapatnam, Kolkata, Kandla

| Port                                  | State                   | Key Features   |
|---------------------------------------|-------------------------|--|
| Kandla (Deendayal Port Trust)         | Gujarat (Gulf of Kutch) | Protected natural tidal port; largest state-operated cargo port developed as a major port to cater to the needs of western and north-western parts of the country and also to reduce the pressure at Mumbai port.  |
| Mumbai Port Trust                     | Maharashtra             | Busiest and largest natural port   |
| Jawaharlal Nehru (Nhava Sheva)        | Maharashtra             | India's largest artificial and container port; satellite port  |
| Mormugao Port                         | Goa                     | Developed for iron ore export; natural port  |
| New Mangalore Port                    | Karnataka               | Karnataka's only major port; deepest inland port on the western coast  |
| Cochin Port                           | Kerala                  | India's largest international container transshipment terminal; known as the "Queen of the Arabian Sea"  |
| Chennai Port                          | Tamil Nadu              | Largest port on the Bay of Bengal and India's second-largest container port  |
| Kamarajar (Ennore) Port               | Tamil Nadu              | India's first corporatized or corporate-managed major port   |
| Paradip Port                          | Odisha                  | Located at the confluence of Mahanadi and Bay of Bengal; deep-water port   |
| Visakhapatnam Port                    | Andhra Pradesh          | Second-largest cargo port; deepest land-locked port  |
| Tuticorin (V.O. Chidambaranar)        | Tamil Nadu              | India's third-largest container terminal   |
| Kolkata (Syama Prasad Mukherjee) Port | West Bengal             | India's oldest operational and only major river port; dual dock system (Haldia-Kolkata)  |
| Vadhavan (Proposed) Port              | Maharashtra             | Main greenfield port under the Sagarmala Project<br><b>Ports to be developed under the Sagarmala Project:</b> Vadhavan (Maharashtra), Ennore (Tamil Nadu), Tajpur (West Bengal), Paradip Outer Harbor (Odisha), Sirikazhi (Tamil Nadu), Belekeri (Karnataka) |

## Air Transport:

- **Beginning:** 1911, between Allahabad and Naini (10 km); **Tata Airlines** was established in 1932.
- **Operation & Regulation:** Managed by the **Airports Authority of India**, established in 1992 under the Ministry of Civil Aviation.
- **Nationalization:** 1953
- From **January 2022**, **Air India** became a **private company**.

## Other Important Facts

- **India's first airport:** Santacruz / Juhu Airport, Mumbai

- **India's first solar-powered airport:** Cochin (Kochi) International Airport
- **India's first green airport:** Rajiv Gandhi International Airport
- **India's busiest airport:** Indira Gandhi International Airport
- **Largest airport in India by area:** Rajiv Gandhi International Airport, Hyderabad
- **Largest proposed airport in India:** Jewar (Noida) Airport
- **India's 100th airport:** Pakyong Airport

