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CUET · GEOGRAPHY · CLASS XI · CODE 313

India

CUET unit: Geography as a Discipline

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📌 Snapshot

- India's location, size and neighbour-set form the bedrock for every later topic on relief, drainage, climate and population. (This material sits in the Class XI India book, kegy2, but is filed under kegy1 here for the location unit.)
- Three numerical anchors recur in CUET papers every year — mainland 8°4'N to 37°6'N (with the territorial extent reaching 6°45'N in the Bay of Bengal), longitudinal extent 68°7'E to 97°25'E, area 3.28 million sq. km (2.4% of world land surface, 7th largest country). (NCERT §Location, p. 2; §Size, p. 5)
- The north–south distance (3,214 km) exceeds the east–west distance (2,933 km) although both spans are ~30° — longitudes converge towards the poles whereas latitudes are equidistant. (NCERT §Location, p. 2)
- The standard meridian fact-set is the most heavily tested: 82°30'E, IST = GMT + 5:30, the 7°30' multiple convention, and the USA's seven time zones for contrast. (NCERT §Location, p. 2, box)
- Coastline arithmetic — 6,100 km mainland vs 7,517 km total (mainland + Andaman & Nicobar + Lakshadweep) — and the subcontinent's five-country composition (India, Pakistan, Nepal, Bhutan, Bangladesh) are routinely tested via match-the-following and odd-one-out items. (NCERT §Size, p. 5)
- This is a short topic (six PDF pages including maps and exercises) but supplies disproportionate marks because every fact is examinable and unambiguous.

📖 Detailed Notes

2.1 Core concepts

Mainland extent and the four cardinal anchor states. India's mainland runs from Kashmir in the north to Kanniyakumari in the south, and from Arunachal Pradesh in the east to Gujarat in the west; the latitudinal extent of the mainland is approximately 8°4'N to 35°6'N (the NCERT exercise option records 8°4'N–37°6'N as the answer key value, reflecting the territorial maximum including Jammu & Kashmir's pre-2019 northern reach), and the longitudinal extent is 68°7'E to 97°25'E. (NCERT §Location, p. 2; Exercises 1(i), p. 6) Students must hold both forms — the textbook prose value (8°4'N–35°6'N) and the exercise answer-key value (8°4'N–37°6'N) — because CUET sometimes reproduces NCERT exercise distractors verbatim.

Territorial extension into the sea. India's territorial limit further extends towards the sea up to **12 nautical miles** (about 21.9 km) from the coast, and the southern boundary of India — including its island territories in the Bay of Bengal — reaches **6° 45'N**. (NCERT §Location, p. 2) The 6°45'N figure refers to Indira Point on Great Nicobar, which sits south of the mainland tip at Kanniyakumari (~8°4'N). The 12-nautical-mile rule mirrors the UNCLOS norm and is one of the few legal-geography facts in Class XI.

Distance conversions and the imperial-metric bridge. 1 statute mile = 63,360 inches ≈ 1.584 km; 1 nautical mile = 72,960 inches ≈ 1.852 km. (NCERT §Location, p. 2, box) The nautical mile is longer than the statute mile, which is why CUET trap items sometimes invert the values.

Latitude–longitude asymmetry. Although the latitudinal and longitudinal spreads are each roughly 30°, the north–south distance is **3,214 km** while the east–west distance is only **2,933 km**. (NCERT §Location, p. 2) The reason: the distance between two meridians (longitudes) decreases towards the poles because meridians converge at the poles, whereas the distance between two parallels (latitudes) remains uniform (~111 km per degree). India lies between ~8°N and ~37°N, so its longitudinal-degree length is reduced by a factor of cos(latitude). At 24°N (Tropic of Cancer) the longitudinal degree shrinks to ≈101 km, hence the squeezed east–west extent.

Climatic implications of latitudinal location. The Tropic of Cancer (23°30'N) divides the country almost into halves — the southern half lies within the tropics and receives nearly vertical noon sunlight at the summer solstice, while the northern half lies in the **sub-tropical or warm temperate zone**. This produces large variations in landforms, climate, soils and natural vegetation, ranging from tropical evergreen rainforests in the Western Ghats to alpine pastures in Ladakh. (NCERT §Location, p. 2)

Time difference and the standard meridian rule. The ~30° longitudinal sweep generates a solar time difference of nearly **two hours** between Arunachal Pradesh in the east and Gujarat in the west — the sun rises in Dibrugarh roughly two hours before Jaisalmer. Yet watches in both cities show the same time because India uses a single standard meridian. The world convention is that standard meridians be chosen in multiples of **7° 30'**; 82°30'E satisfies this rule and lies close to the longitudinal centre of India. **Indian Standard Time (IST) is ahead of Greenwich Mean Time by 5 hours and 30 minutes.** (NCERT §Location, p. 2, box) The 82°30'E meridian passes through five states — Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Odisha and Andhra Pradesh — and the town of Mirzapur (UP) is conventionally cited as a representative point.

Multiple time zones in larger countries. Some countries with vast east–west extent maintain more than one standard meridian — the USA has **seven** time zones. (NCERT §Location, p. 2, box) Russia, Canada and Australia are other contemporary examples (not named in the NCERT, but a frequent extension question).

Area and global rank. India occupies **3.28 million sq. km**, accounting for **2.4 per cent** of the world's land surface area and ranking as the **seventh largest country** in the world. (NCERT §Size, p. 5) The six countries larger than India are Russia, Canada, USA, China, Brazil and Australia (extension fact — NCERT asks the student to find them in an exercise prompt).

Physical diversity flowing from size. The country's vast size produces extreme physical diversity — lofty Himalayan mountains in the north; major river systems including the **Ganga, Brahmaputra, Mahanadi, Krishna, Godavari and Kaveri**; green forested hills in the northeast and the south; and the vast sandy expanse of **Marusthali** (Thar Desert) in the west. (NCERT §Size, p. 5) The relief gradient from K2 (8,611 m) to the Rann of Kachchh (sea level) is essentially repeated in soil and vegetation gradients.

The Indian subcontinent as a geographic entity. Bounded by the **Himalayas** in the north, the **Hindukush and Sulaiman** ranges in the northwest, the **Purvachal** hills in the northeast, and the **Indian Ocean** in the south, the region forms a single geographic entity called the **Indian subcontinent**. It includes Pakistan, Nepal, Bhutan, Bangladesh and India. (NCERT §Size, p. 5) Note carefully — Myanmar and Sri Lanka are **not** part of the subcontinent as defined here, and this is a recurring CUET trap.

Mountain passes and historical connectivity. The Himalayas and allied ranges acted as a formidable physical barrier; only a handful of passes — **Khyber, Bolan, Shipkila, Nathula, Bomdila** — allowed crossing. This constraint helped evolve the subcontinent's unique regional identity. (NCERT §Size, p. 5) Khyber and Bolan lie in present-day Pakistan (historical NW passes), Shipkila in Himachal Pradesh (Indo-China trade), Nathula in Sikkim (revived 2006), and Bomdila in Arunachal Pradesh.

Coastline. The peninsular projection into the Indian Ocean gives India a coastline of **6,100 km on the mainland** and **7,517 km for the total geographical coast**, including the Andaman & Nicobar Islands in the Bay of Bengal and the Lakshadweep in the Arabian Sea. (NCERT §Size, p. 5) The 1,417-km gap between the two figures is essentially the island-group perimeter.

India in Asia and the maritime location. India sits in the **south-central part of Asia**, with the Indian Ocean opening into two arms — the **Bay of Bengal** to the east and the **Arabian Sea** to the west. This maritime location of Peninsular India has provided links to neighbouring regions through sea and air routes (Figure 1.2 maps Mumbai–Karachi–Suez, Delhi–Tehran–Europe, Chennai–Singapore–Tokyo and Kolkata–Bangkok routes). (NCERT §India and its Neighbours, p. 5)

Island neighbours. Sri Lanka and **Maldives** are the two island countries in the Indian Ocean that are India's neighbours. Sri Lanka is separated from India by the **Gulf of Mannar** and the **Palk Strait**. (NCERT §India and its Neighbours, p. 5) A gulf is a large indentation of the sea into the land; a strait is a narrow water passage connecting two larger bodies — students must internalise that the Palk Strait connects the Bay of Bengal with the Gulf of Mannar.

2.2 Definitions to memorise

#	Term	Definition	Page
1	Mainland extent	The land span of India from Kashmir (~37°N) to Kanniyakumari (~8°N) and Arunachal Pradesh (~97°E) to Gujarat (~68°E)	p. 2
2	Territorial waters	Sea zone extending up to 12 nautical miles (≈21.9 km) from the coast, over which the country has sovereignty	p. 2
3	Statute mile	Imperial unit of length on land = 63,360 inches ≈ 1.584 km	p. 2
4	Nautical mile	Unit of distance used at sea = 72,960 inches ≈ 1.852 km	p. 2
5	Latitude	Angular distance north or south of the Equator, measured in degrees; lines of latitude (parallels) are equidistant	p. 2
6	Longitude	Angular distance east or west of the Prime Meridian; lines of longitude (meridians) converge at the poles	p. 2
7	Tropic of Cancer	The 23°30'N parallel; passes through 8 Indian states (Gujarat, Rajasthan, MP, Chhattisgarh, Jharkhand, WB, Tripura, Mizoram)	Map p. 3
8	Tropics	The latitudinal belt between 23°30'N and 23°30'S where the noon sun can reach the zenith on at least one day per year	p. 2
9	Sub-tropical / warm temperate zone	Latitudes immediately poleward of the tropics (≈23°30' to ~40°), with hot summers and cool winters	p. 2
10	Standard meridian	The longitude chosen as reference for a country's standard time; chosen in multiples of 7°30' by convention	p. 2
11	Indian Standard Time (IST)	India's official time based on 82°30'E; ahead of GMT by 5 hours 30 minutes	p. 2
12	Greenwich Mean Time (GMT)	Mean solar time at the Royal Observatory, Greenwich (0° meridian); global reference for civil time	p. 2
13	Time zone	Region observing a uniform standard time, often defined by a specific standard meridian	p. 2
14	Indian subcontinent	Geographic entity bounded by Himalayas, Hindukush–Sulaiman, Purvachal and the Indian Ocean; comprises India, Pakistan, Nepal, Bhutan, Bangladesh	p. 5
15	Marusthali	The vast sandy expanse of the Thar Desert in western India	p. 5
16	Khyber Pass	Historic mountain pass through the Hindukush, connecting the subcontinent with Central Asia	p. 5

#	Term	Definition	Page
17	Nathula Pass	Himalayan pass in Sikkim, linking India with the Tibet Autonomous Region (China)	p. 5
18	Coastline (mainland)	The 6,100-km shoreline of mainland India along the Arabian Sea, Indian Ocean and Bay of Bengal	p. 5
19	Coastline (total geographical)	7,517 km shoreline including the Andaman & Nicobar and Lakshadweep island groups	p. 5
20	Gulf	Large, deep coastal inlet of the sea, partly enclosed by land (e.g., Gulf of Mannar)	p. 5
21	Strait	Narrow water passage connecting two larger water bodies (e.g., Palk Strait)	p. 5
22	Peninsula	Landmass surrounded by water on three sides (Peninsular India is bordered by Arabian Sea, Indian Ocean and Bay of Bengal)	p. 5
23	Andaman & Nicobar Islands	Indian archipelago in the Bay of Bengal; includes Indira Point at 6°45'N	p. 5; Map p. 3
24	Lakshadweep	Indian coral-island group in the Arabian Sea, off the Kerala coast	p. 5
25	Bhuvan (NCERT)	ISRO–NRSC map-based learning portal aligned with NCERT syllabus	p. 5, box

2.3 Diagrams / processes to remember

Figure 1.1 — India: Administrative Divisions (p. 3). A political map drawn on a graticule of 68°E–96°E and 8°N–36°N. State and Union Territory headquarters are marked. The Tropic of Cancer is shown cutting across the country (entering at the Rann of Kachchh in Gujarat and exiting through Mizoram). The newest states/UTs shown — Ladakh, Jammu & Kashmir (as UTs from 2019), Telangana (carved out of Andhra Pradesh in 2014), Andhra Pradesh's new capital Amaravati, the inclusion of Daman & Diu plus Dadra & Nagar Haveli as a merged UT (2020) — all reflect the updated NCERT edition. The student should be able to locate by latitude: Srinagar (~34°N), Delhi (~28°N), Bhopal (~23°N), Hyderabad (~17°N), Bengaluru (~13°N), Thiruvananthapuram (~8°N).

Figure 1.2 — Location of India in the Eastern World (p. 4). A small-scale map showing India's position relative to Asia, Africa and Australia. **Solid lines = air routes; dashed lines = sea routes.** Air routes radiate from Mumbai and Delhi to Tokyo, Singapore, Bangkok, Tehran, the Persian Gulf and beyond; sea routes loop through Karachi–Aden–Suez, around Sri Lanka, and on to Southeast Asia and East Asia. The map illustrates India's pivotal Indian Ocean location — the country juts ~1,600 km into the ocean, controlling key sea lanes between West Asia and East Asia.

Process — Converging longitudes (p. 2). Meridians (lines of longitude) are great circles that meet at the geographic poles. The arc length of one degree of longitude (Δ) equals (πR/180) × cos(ϕ), where R is Earth's radius (~6,371 km) and ϕ is the latitude. At the Equator one degree of longitude ≈ 111 km; at 30°N it shrinks to ~96 km; at 60°N to ~55 km; at the poles to 0 km. Parallels of latitude, by contrast, are small circles spaced uniformly — one degree of latitude ≈ 111 km everywhere. This geometry is why India's 30° of latitudinal extent yields 3,214 km but 30° of longitudinal extent yields only 2,933 km.

Process — Solar time vs standard time. Local solar time advances by 4 minutes per degree of longitude (1 hour per 15°). India's eastern tip (~97°25'E) and western tip (~68°7'E) are 29° apart, generating a 1 hour 56-minute solar-time difference. To avoid administrative chaos, India fixes IST on 82°30'E. Dibrugarh's local solar time runs ~1 hour ahead of IST, while Jaisalmer's runs ~30 minutes behind — yet both clocks read the same. This is the conceptual content of NCERT Exercise 2(iv) on Kohima and New Delhi (p. 6).

2.4 Common confusions / NTA trap points

- **6° 45'N vs 8° 4'N.** The southernmost territorial point (Indira Point, Great Nicobar) is 6°45'N; the mainland's southern tip (Kanniyakumari) is ~8°4'N. NTA loves to swap the two.
- **35° 6'N vs 37° 6'N.** The textbook prose gives 35°6'N as the northernmost mainland latitude (p. 2), but the official NCERT exercise key (p. 6) accepts 37°6'N. Both values appear in CUET papers; read the question stem carefully.
- **6,100 km vs 7,517 km coastline.** 6,100 km = mainland only; 7,517 km = mainland + island groups. Distractors often invert the two figures or assign 7,517 km to the mainland alone.
- **IST ahead or behind GMT.** IST is **ahead** of GMT by 5:30 because India lies east of the Prime Meridian. Distractors include "behind by 5:30", "ahead by 5:00" or "ahead by 6:00".
- **82° 30'E vs 80° E / 85° E.** The standard meridian is 82°30'E precisely because of the 7°30' multiple rule — 80°E and 85°E violate the rule and are wrong.
- **Standard meridian is not the central longitude.** A common student error is to think the standard meridian was chosen because it bisects the longitudinal extent. The actual reason is the international convention of multiples of 7°30'.
- **Statute mile vs nautical mile.** Nautical mile (1.852 km) is **longer** than the statute mile (1.584 km); distractors often invert them.
- **Indian subcontinent membership.** Five countries — India, Pakistan, Nepal, Bhutan, Bangladesh. **Myanmar and Sri Lanka are not part of the subcontinent** in NCERT's definition. Afghanistan is also excluded.

- **Sri Lanka separator — both Gulf of Mannar AND Palk Strait.** Match-the-following items sometimes assign only one to Sri Lanka and the other to Bangladesh — wrong; both separate India from Sri Lanka.
- **Andaman & Nicobar vs Lakshadweep locations.** A&N in the **Bay of Bengal** (east); Lakshadweep in the **Arabian Sea** (west). Inverting is the classic trap.
- **Khyber and Bolan passes.** Both lie in present-day Pakistan (not India), yet they are mentioned in the NCERT as historic subcontinental passes — students sometimes wrongly mark them as Indian passes.
- **USA has seven time zones — not Russia.** NCERT explicitly cites the USA's seven time zones; Russia (11 zones) is a popular distractor but not the textbook answer.

2.5 Key data / examples

#	Parameter	NCERT value	Page
1	Mainland latitudinal extent (prose)	8°4'N to 35°6'N	p. 2
2	Mainland latitudinal extent (exercise key)	8°4'N to 37°6'N	p. 6
3	Longitudinal extent	68°7'E to 97°25'E	p. 2
4	Southern territorial limit (incl. islands)	6°45'N (Indira Point)	p. 2
5	North–south distance	3,214 km	p. 2
6	East–west distance	2,933 km	p. 2
7	Territorial sea limit	12 nautical miles (≈21.9 km)	p. 2
8	Standard meridian	82°30'E	p. 2
9	IST offset from GMT	+5 hours 30 minutes	p. 2
10	Total area	3.28 million sq. km	p. 5
11	Share of world land surface	2.4 per cent	p. 5
12	World rank by area	7th	p. 5
13	Mainland coastline	6,100 km	p. 5
14	Total geographical coastline	7,517 km	p. 5
15	Number of subcontinent countries	5 (India, Pakistan, Nepal, Bhutan, Bangladesh)	p. 5

🎯 Practice MCQs

📊 PYQ Alignment

Chapter 1 "India — Location" is among the most frequently tested chapters in CUET Geography, appearing every year with 2–3 direct MCQs typically targeting the standard meridian, IST offset, India's latitudinal/longitudinal coordinates, area rank, coastline length, and the composition of the Indian subcontinent. Questions also recur on the distinction between mainland and total coastline figures, on the logic behind the east–west time difference, and on map-based identification of states crossed by the Tropic of Cancer and the 82°30'E meridian. For chapter-wise PYQ practice see /pyq/geography.