

INDIAN GEOGRAPHY — ACTIVE RECALL TEST SOLUTIONS

Section 1 India: Location, Extent and Frontiers

Q1. Arrange from west to east the eight states through which the Tropic of Cancer passes.

Ans. Gujarat → Rajasthan → Madhya Pradesh → Chhattisgarh → Jharkhand → West Bengal → Tripura → Mizoram.

Q2. Write India's four extreme points (north, south, east, west) with the state/UT and the standard meridian of IST.

Ans. North: Indira Col, Ladakh ($\sim 37^{\circ}6'N$). **South:** Indira Point, Great Nicobar ($6^{\circ}45'N$); mainland tip Kanyakumari ($8^{\circ}4'N$).

East: Kibithu, Arunachal Pradesh ($97^{\circ}25'E$). **West:** Sir Creek, Gujarat ($68^{\circ}7'E$).

Standard meridian: $82^{\circ}30'E$, near Mirzapur (UP) → IST = GMT + 5:30. East-west time gap ≈ 2 hours ($1^{\circ} = 4$ min).

Q3. Arrange India's land neighbours in descending order of border length.

Ans. Bangladesh (4,096.7 km) > China (3,488) > Pakistan (3,323) > Nepal (1,751) > Myanmar (1,643) > Bhutan (699) > Afghanistan (106).

Longest border: Bangladesh. Shortest: Afghanistan (only Ladakh).

Q4. Arrange the Indian states/UTs along each border: (a) China, west to east; (b) Nepal, west to east; (c) Bhutan, west to east; (d) Pakistan, north to south; (e) Myanmar, north to south.

Ans. (a) **China:** Ladakh → Himachal Pradesh → Uttarakhand → Sikkim → Arunachal Pradesh.

(b) **Nepal:** Uttarakhand → Uttar Pradesh → Bihar → West Bengal → Sikkim.

(c) **Bhutan:** Sikkim → West Bengal → Assam → Arunachal Pradesh.

(d) **Pakistan:** Ladakh → Jammu & Kashmir → Punjab → Rajasthan → Gujarat.

(e) **Myanmar:** Arunachal Pradesh → Nagaland → Manipur → Mizoram.

Q5. Arrange the top three coastal states in descending order of coastline length as per the revised 2023–24 measurement. Which state has the shortest coastline, and which state/UT the longest overall?

Ans. Revised (total 11,098.81 km): Gujarat (2,340.62 km) > Tamil Nadu (1,068.69 km) > Andhra Pradesh (1,053.07 km). Tamil Nadu has overtaken Andhra Pradesh.

Shortest among states: Goa (193.95 km). **Longest overall:** Andaman & Nicobar Islands (3,083.50 km). **Largest % rise:** West Bengal (157.5 → 721 km).

Old figure (7,516.6 km) order was Gujarat > Andhra Pradesh > Tamil Nadu — watch which data a question uses.

Map Activity 1 key · India's frame and frontiers

Feature	Where to mark
Indira Col	Northernmost point, Siachen area, Ladakh
Indira Point	Southern tip of Great Nicobar
Kibithu	Easternmost, Anjaw district, Arunachal Pradesh
Sir Creek	Westernmost, Kutch–Sindh border, Gujarat

Feature	Where to mark
Kanyakumari	Southern tip of mainland, Tamil Nadu
Siliguri Corridor	North Bengal; links NE states to mainland
Doklam	India-Bhutan-China trijunction near Sikkim
Diphu Pass	India-China-Myanmar trijunction, Arunachal
Pangong Tso	Eastern Ladakh; 1/3 India, 2/3 China
Aksai Chin	NE Ladakh, under Chinese control
Shaksgam Valley	North of Karakoram; ceded by Pakistan to China, 1963
Palk Strait	Between Tamil Nadu and Sri Lanka
Rama Setu	Dhanushkodi (Pamban Island) to Talaimannar
Lipulekh	India-Nepal-China trijunction, Uttarakhand

Section 2 Geological Structure

Q6. Write India's rock systems in chronological order, oldest to youngest. (Hint: A P D A)

Ans. Archaean gneisses & schists (~4 bn yrs) → Dharwar (4-1 bn yrs) → Purana: Cuddapah → Vindhyan (1,400-600 Ma) → Dravidian (600-300 Ma; Cambrian-Carboniferous) → Aryan: Gondwana → Triassic → Jurassic → Cretaceous → Deccan Traps (end-Cretaceous-Eocene) → Tertiary (Eocene, Oligocene, Shivalik) → Pleistocene/Recent.

Q7. Match each rock system with its identifying resource or feature: Dharwar, Cuddapah, Vindhyan, Gondwana, Deccan Traps, Shivalik.

Ans.

Rock system	Resource / feature
Dharwar	High-grade iron ore, manganese, gold; most important economically
Cuddapah	Cement-grade limestone; iron, copper, cobalt, nickel
Vindhyan	Panna and Golconda diamonds; building stone, glass sand
Gondwana	~98% of India's coal (younger, low-carbon coal)
Deccan Traps	Basalt that weathers into black (regur) soil
Shivalik	Mammal fossils ('Age of Mammals')

Q8. Arrange from north to south: Singareni coalfield, Damodar valley coalfields, Neyveli lignite field, Talcher coalfield, Cuddapah basin.

Ans. Damodar valley (Jharkhand-WB, ~23.7°N) → Talcher (Mahanadi valley, Odisha, ~21°N) → Singareni (Godavari valley, Telangana, ~17.5°N) → Cuddapah basin (Andhra Pradesh, ~14.5°N) → Neyveli (Tamil Nadu, ~11.6°N; Tertiary lignite, not Gondwana).

Map Activity 2 key · Rocks, minerals and coal

Feature	Where to mark
Deccan Traps extent	Kutch, Saurashtra, Maharashtra, Malwa plateau, northern Karnataka
Dharwar-Bellary-Mysore belt	Northern and central Karnataka
Cuddapah basin	Kadapa-Kurnool, Andhra Pradesh
Panna	Madhya Pradesh (Bundelkhand)
Damodar valley	Jharkhand-West Bengal (Jharia, Raniganj, Bokaro)
Mahanadi valley	Odisha-Chhattisgarh (Talcher, Ib, Korba)
Godavari valley	Telangana-Maharashtra (Singareni)
Aravalli range	Delhi to Palanpur (Gujarat), NE-SW

Feature	Where to mark
Vindhyan range	North of Narmada, Gujarat to Bihar
Chotanagpur plateau	Jharkhand, north Chhattisgarh, Purulia (WB)

Section 3 The Himalayan Ranges

Q9. Arrange the Himalayan ranges from north to south with the average height of each, and name the three Trans-Himalayan ranges from north to south.

Ans. **Trans-Himalaya** (~3,000 m) → **Greater Himalaya/Himadri** (~6,000 m) → **Lesser/Middle Himalaya/Himachal** (3,500–4,500 m) → **Shiwaliks/Outer Himalaya** (900–1,100 m). Height descends from north to south.
Trans-Himalayan ranges, north → south: Karakoram → Ladakh → Zaskar (Kailas Range is in Tibet).

Q10. Arrange from west to east: (a) the Lesser Himalayan ranges; (b) the local names of the Shiwaliks.

Ans. (a) Pir Panjal (J&K-HP) → Dhauladhar (HP) → Mussoorie and Nag Tibba (Uttarakhand) → Mahabharat Lekh (Nepal) → Dofla → Miri → Abor → Mishmi (Arunachal Pradesh).
(b) Jammu Hills (J&K) → Shiwalik Hills (HP) → Dhang and Dundwa ranges (Uttarakhand) → Churia Ghat Hills (Nepal); almost absent east of the Teesta.

Q11. Arrange the regional divisions of the Himalayas from west to east with the rivers that bound each.

Ans. Punjab/Kashmir Himalaya (Indus-Sutlej) → Kumaon Himalaya (Sutlej-Kali) → Nepal/Central Himalaya (Kali-Teesta) → Assam/Eastern Himalaya (Teesta-Dihang/Brahmaputra).

Q12. (a) Arrange from west to east: Kangchenjunga, K2, Namcha Barwa, Nanda Devi, Nanga Parbat, Everest, Kamet. (b) Arrange K2, Kangchenjunga, Nanda Devi and Kamet in descending order of height.

Ans. (a) Nanga Parbat (~74.6°E) → K2 (~76.5°E) → Kamet (~79.6°E) → Nanda Devi (~80°E) → Everest (~86.9°E, Nepal) → Kangchenjunga (~88.1°E, Sikkim) → Namcha Barwa (~95°E, eastern syntaxial bend).
(b) K2 (8,611 m) > Kangchenjunga (8,586 m) > Nanda Devi (7,816 m) > Kamet (7,756 m). K2 is the highest in the Indian Union; Kangchenjunga highest within India's administered territory; Nanda Devi is in the Kumaon Himalaya.

Q13. Arrange the Purvanchal hills from north to south, and write the highest peak of each north-eastern state.

Ans. Patkai Bum → Naga Hills → Manipur Hills → Mizo (Lushai) Hills. The Barail Range separates the Naga and Manipur hills.

Peaks: Arunachal – Kangto; Nagaland – Saramati; Manipur – Mt Iso (Tempu); Mizoram – Phawngpui (Blue Mountain); Tripura – Betling Sib; Meghalaya – Shillong Peak.

Map Activity 3 key · Himalayan and north-eastern peaks and hills

Feature	Where to mark
K2	Karakoram, PoK/Gilgit-Baltistan (claimed Ladakh)
Nanga Parbat	Western syntaxial bend, Gilgit-Baltistan
Kamet	Chamoli, Uttarakhand (Garhwal)
Nanda Devi	Chamoli, Uttarakhand (Kumaon Himalaya)

Feature	Where to mark
Kangchenjunga	Sikkim-Nepal border
Namcha Barwa	Tibet, near the Brahmaputra's U-turn
Kangto	Arunachal Pradesh (India-China border)
Saramati	Nagaland (India-Myanmar border)
Mt Iso	Manipur (Senapati)
Phawngpui	South-eastern Mizoram
Betling Sib	Northern Tripura (Jampui hills)
Pir Panjal	J&K-HP, Jhelum to upper Beas
Dhauladhar	HP: Dalhousie-Dharamshala to near Manali
Dafla-Miri-Abor-Mishmi	Arunachal Pradesh, west to east
Patkai Bum	Arunachal-Nagaland along Myanmar border
Dehra Dun	Uttarakhand, between Lesser Himalaya and Shiwaliks

Section 4 Passes, Glaciers and Lakes (with Himachal focus)

Q14. Arrange these passes from west to east: Nathu La, Shipki La, Zoji La, Bom Di La, Rohtang, Diphu, Lipulekh.

Ans. Zoji La (J&K-Ladakh) → Rohtang (HP) → Shipki La (HP) → Lipulekh (Uttarakhand) → Nathu La (Sikkim) → Bom Di La (Arunachal) → Diphu (Arunachal; India-China-Myanmar trijunction).

Q15. Arrange these passes from north to south: Rohtang, Khardung La, Lipulekh, Banihal, Shipki La.

Ans. Khardung La (Ladakh, $\sim 34.3^\circ\text{N}$) → Banihal (J&K, $\sim 33.4^\circ\text{N}$) → Rohtang (HP, $\sim 32.4^\circ\text{N}$) → Shipki La (HP, $\sim 31.8^\circ\text{N}$) → Lipulekh (Uttarakhand, $\sim 30.2^\circ\text{N}$).

Q16. Match each Himachal pass with what it connects: Rohtang, Bara Lacha La, Shipki La, Shingo La (Shinku La), Pin Parvati, Debsa.

Ans.

Pass	Connects / key fact
Rohtang	Kullu-Lahaul; Leh-Manali road; Atal Tunnel beneath
Bara Lacha La	Manali-Leh highway; Chandra and Bhaga rise from its faces
Shipki La	Kinnaur (HP)-Tibet; Sutlej enters India; border trade point
Shingo La (Shinku La)	Lahaul (HP)-Zaskar (Ladakh); Shinku La tunnel
Pin Parvati	Parvati valley (Kullu)-Pin valley (Spiti)
Debsa	Kullu-Spiti; easier alternative to Pin Parvati

Q17. Write the glacier or glacial lake that feeds each river: Chandra, Bhaga, Beas, Parbati, Pabbar, Ravi, Bhagirathi, Alaknanda, Gori Ganga, Nubra, Lidder, Teesta.

Ans.

River	Source	River	Source
Chandra	Bara Shigri (largest in HP)	Alaknanda	Satopanth
Bhaga	Suraj Tal (near Bara Lacha La)	Gori Ganga	Milam
Beas	Beas Kund (near Rohtang)	Nubra	Siachen
Parbati	Mantalai lake / Parbati glacier	Lidder	Kolahoi
Pabbar	Chandranahan lake	Teesta	Teesta Khangse (Zemu glacier also feeds)

River	Source	River	Source
Ravi	Bhadal, Rai and Tantgari glaciers	Bhagirathi	Gangotri (snout: Gomukh)

Q18. Arrange these lakes from north to south: Tso Moriri, Wular, South Lhonak, Pangong Tso, Dal, Chorabari Tal.

Ans. Wular (J&K) → Dal (Srinagar) → Pangong Tso (Ladakh) → Tso Moriri (Ladakh) → Chorabari Tal (Uttarakhand; 2013 Kedarnath GLOF) → South Lhonak (Sikkim; 2023 GLOF).

Map Activity 4 key · Himalayan passes and glaciers of India

Feature	Where to mark
Khardung La	Ladakh: Leh-Nubra valley
Zoji La	J&K-Ladakh: Srinagar-Kargil
Banihal	J&K: Jammu-Srinagar, Pir Panjal
Mana	Uttarakhand, north of Badrinath
Niti	Uttarakhand (Chamoli)
Lipulekh	Uttarakhand (Pithoragarh), trijunction
Nathu La	Sikkim-Tibet (Chumbi valley)
Jelep La	Sikkim, 4 km south of Nathu La
Sela	Arunachal: Itanagar-Tawang road
Bum La	Arunachal: Tawang-Tibet
Pangsau	Arunachal-Myanmar
Siachen	Ladakh, Karakoram (Nubra source)
Gangotri	Uttarkashi, Uttarakhand
Milam	Pithoragarh, Uttarakhand
Pindari	Bageshwar, Uttarakhand
Zemu	North Sikkim

Map Activity 5 key · Himachal Pradesh special

Feature	Where to mark
Rohtang Pass	Kullu-Lahaul, eastern Pir Panjal, ~51 km from Manali
Bara Lacha La	Lahaul-Spiti, on Manali-Leh road
Shipki La	Kinnaur, HP-Tibet border
Shingo La	Lahaul-Zaskar (Ladakh) border
Pin Parvati Pass	Between Kullu (Parvati) and Spiti (Pin)
Atal Tunnel	Under Rohtang, Kullu-Lahaul
Bara Shigri	Lahaul, left bank of the Chandra
Chhota Shigri	Lahaul, near Rohtang, Pir Panjal
Beas Kund	Near Rohtang, Kullu district
Suraj Tal	Near Bara Lacha La, Lahaul-Spiti
Mantalai	Head of Parvati valley, Kullu
Chandranahan	Shimla district (Pabbar source)
Tandi	Lahaul; Chandra + Bhaga form Chenab
Pong Dam	Beas, Kangra district
Bhakra Dam	Sutlej, Bilaspur district

Feature	Where to mark
Kangra Valley	Between Dhauladhar and Shiwaliks, Kangra

Section 5 The Northern Plains

Q19. Arrange the belts of the Northern Plains from the Shiwalik foothills southwards, with the width or key feature of each.

Ans. Bhabar (8–10 km; porous pebbles, streams vanish) → Terai (10–20 km; streams re-emerge, marshy forests) → Bhangar (older alluvium above flood level, kankar) → Khadar (new floodplain alluvium, very fertile) → Delta plains.

Q20. Arrange the five doabs of the Punjab plain from west to east, with the rivers enclosing each.

Ans. Sind Sagar (Indus-Jhelum) → Chaj/Jech (Jhelum-Chenab) → Rechna (Chenab-Ravi) → Bari/Majha (Ravi-Beas) → Bist/Jalandhar (Beas-Sutlej).

The Indus-Ganga watershed lies near Ambala (~291 m); the Ghaggar is the only river between the Yamuna and Sutlej.

Q21. Arrange the regional units of the Ganga plain from west to east.

Ans. Upper plain: Ganga-Yamuna Doab and Rohilkhand (western UP) → Middle plain: Avadh (eastern UP) → Mithila (north Bihar) and Magadh (south Bihar) → Lower plain: West Bengal (Barind, delta, Sundarbans).

Q22. Write the location (state/region) and one fact for each: Sambhar, Didwana, Luni, Ghaggar, Majuli, Barind, Chambal ravines, Sundarbans.

Ans.

Feature	Location and fact
Sambhar	Near Jaipur, Rajasthan; largest inland saline lake
Didwana	Nagaur, Rajasthan; saline lake
Luni	Rises near Ajmer (Sagarmati); endorheic, lost in the Rann of Kachchh
Ghaggar	Haryana-Rajasthan; seasonal, believed successor of Saraswati
Majuli	Brahmaputra, Assam; world's largest river island
Barind	NW of Padma-Jamuna confluence, Bengal delta; older reddish alluvium
Chambal ravines	MP-Rajasthan-UP; badland topography
Sundarbans	Ganga-Brahmaputra-Meghna delta, WB-Bangladesh; largest mangrove delta

Map Activity 6 key · Northern Plains and Thar

Feature	Where to mark
Bhabar-Terai belt	Shiwalik foothills, Indus to Teesta
Jim Corbett NP	Nainital-Pauri, Uttarakhand
Kaziranga NP	Golaghat-Nagaon, Assam
Five Punjab doabs	Between Indus, Jhelum, Chenab, Ravi, Beas, Sutlej
Ganga-Yamuna Doab	Western UP, Haridwar to Prayagraj
Rohilkhand	North-western UP (Bareilly, Moradabad)
Mithila	North Bihar and Nepal Terai
Magadh	South Bihar (Patna, Gaya)
Sambhar Lake	Jaipur-Nagaur-Ajmer, Rajasthan
Didwana	Nagaur, Rajasthan

Feature	Where to mark
Luni river	Ajmer → Barmer → Rann of Kachchh
Ghaggar river	Shiwaliks (HP) → Haryana → Rajasthan
Majuli	Brahmaputra, upper Assam
Sundarbans	South 24 Parganas (WB) and Bangladesh

Section 6 The Peninsular Plateau

Q23. Arrange these peaks in descending order of height: Guru Shikhar, Anai Mudi, Dhupgarh, Doda Betta, Jindhagada, Shillong Peak, Mullayanagiri, Girnar.

Ans. Anai Mudi (2,695 m, Kerala) > Doda Betta (2,637 m, Nilgiris, TN) > Shillong Peak (1,961 m, Meghalaya) > Mullayanagiri (1,913 m, Karnataka) > Guru Shikhar (1,722 m, Aravalli, Rajasthan) > Jindhagada (1,690 m, Eastern Ghats, AP) > Dhupgarh (1,350 m, Satpura, MP) > Girnar (1,117 m, Gujarat).

Q24. Arrange these uplands from south to north: Rajmahal Hills, Javadi Hills, Palghat Gap, Bhore Ghat, Nilgiri Hills, Cardamom Hills, Nallamala Hills, Satpura Range.

Ans. Cardamom Hills (~9.5°N) → Palghat Gap (~10.7°N) → Nilgiri Hills (~11.4°N) → Javadi Hills (~12.6°N) → Nallamala Hills (~15.5°N) → Bhore Ghat (~18.7°N) → Satpura Range (~22°N) → Rajmahal Hills (~25°N).

Q25. Arrange from west to east: (a) the parts of the Satpura Range; (b) the continuation of the Vindhyas; (c) the hills of the Meghalaya Plateau.

Ans. (a) Rajpipla Hills → Mahadeo Hills (Dhupgarh, Pachmarhi) → Maikal Range (Amarkantak).
 (b) Jobat (Gujarat) → Vindhyan scarp north of Narmada → Bharner → Kaimur → Sasaram (Bihar).
 (c) Garo Hills → Khasi-Jaintia Hills → Mikir Hills (Karbi Anglong). The Garo-Rajmahal gap separates this plateau from the main peninsula.

Q26. Arrange along the Western Ghats from north to south: Palghat Gap, Mahabaleshwar, Anai Mudi, Salher, Bhore Ghat, Kudremukh, Thal Ghat, Doda Betta.

Ans. Salher (~20.7°N) → Thal Ghat (~19.7°N) → Bhore Ghat (~18.7°N) → Mahabaleshwar (~17.9°N) → Kudremukh (~13.2°N) → Doda Betta (~11.4°N) → Palghat Gap (~10.7°N) → Anai Mudi (~10.2°N).

From Anai Mudi: Anaimalai (north), Palani (north-east), Cardamom (south).

Q27. Arrange the ranges of the Eastern Ghats from north to south, and name the highest peak of the Eastern Ghats.

Ans. Maliya Range (Mahendragiri, Odisha) → Madugula Konda Range (Jindhagada, Gali Konda, Arma Konda; AP) → Nallamala → Palkonda → Javadi Hills → Shevaroy Hills (TN).

Highest: Jindhagada (1,690 m). Between the Godavari and Krishna the Ghats lose their hill character.

Map Activity 7 key · Peninsular peaks, passes and plateaus

Feature	Where to mark
Guru Shikhar	Mt Abu, Sirohi, Rajasthan
Dhupgarh	Pachmarhi, Mahadeo Hills, MP
Amarkantak	Maikal Range, Anuppur, MP
Kalsubai	Ahmednagar-Nashik, Maharashtra (highest in Maharashtra)

Feature	Where to mark
Mahabaleshwar	Satara, Maharashtra (Krishna source)
Mullayanagiri	Baba Budan Hills, Chikkamagaluru, Karnataka
Kudremukh	Chikkamagaluru, Karnataka
Doda Betta	Nilgiris, Tamil Nadu
Anai Mudi	Idukki, Kerala
Mahendragiri	Gajapati, Odisha (Maliya Range)
Jindhagada	Visakhapatnam region, AP (Madugula Konda)
Gali Konda	Madugula Konda Range, AP
Shillong Peak	East Khasi Hills, Meghalaya
Girnar	Junagadh, Gujarat
Thal Ghat	Nashik-Mumbai (Kasara)
Bhor Ghat	Pune-Mumbai (Khandala)
Palghat Gap	Palakkad, Kerala-Coimbatore, TN
Chhattisgarh Plain	Upper Mahanadi basin, Raipur-Bilaspur
Malwa Plateau	Western MP-SE Rajasthan
Garo-Rajmahal Gap	Malda region, West Bengal

Section 7 Coasts, Ports and Islands

Q28. Arrange the segments of (a) the western coastal plain and (b) the eastern coastal plain from north to south.

Ans. (a) Kachchh and Kathiawar → Gujarat Plain → Konkan (Daman-Goa) → Karnataka/Kanara coast (Goa-Mangalore) → Malabar/Kerala (Mangalore-Kanyakumari).

(b) Utkal Plain (Odisha) → Andhra Plain (to Pulicat) → Tamil Nadu Plain (Pulicat-Kanyakumari). Northern Circars = Mahanadi-Krishna; Carnatic = Krishna-Cauvery.

Q29. Arrange from north to south: (a) the coastal lakes Pulicat, Chilika, Kolleru; (b) the west-coast ports Kochi, Kandla, Mormugao, Mumbai, New Mangalore; (c) the east-coast ports Chennai, Paradip, Tuticorin, Kolkata, Visakhapatnam.

Ans. (a) Chilika (Odisha) → Kolleru (AP) → Pulicat (AP-TN). Vembanad is the largest kayal on the Kerala coast.

(b) Kandla (Deendayal) → Mumbai/JNPT → Mormugao → New Mangalore → Kochi.

(c) Kolkata-Haldia → Paradip → Visakhapatnam → Chennai → Tuticorin (V.O. Chidambaranar).

Q30. Arrange from north to south the islands and channels of (a) the Andaman & Nicobar group and (b) Lakshadweep.

Ans. (a) North Andaman (Saddle Peak, 737 m) → Middle Andaman → South Andaman (Port Blair) → Duncan Passage → Little Andaman → Ten Degree Channel → Car Nicobar → Great Nicobar (Indira Point) → Six Degree Channel → Sumatra.

(b) Amini (northernmost) → Eleven Degree Channel → Kavaratti (capital) and Agatti (airport) → Nine Degree Channel → Minicoy (southernmost) → Eight Degree Channel → Maldives.

Q31. Write the location and one fact of each island: Barren, Narcondam, Sriharikota, Sagar, New Moore, Pamban, Andrott.

Ans.	Island	Location and fact
	Barren	East of Andamans; India's only active volcano
	Narcondam	NE of Andamans; dormant volcano
	Sriharikota	AP coast, encloses Pulicat Lake; ISRO launch site
	Sagar	Mouth of Hooghly, WB; Gangasagar Mela
	New Moore	Ganga delta, Bay of Bengal; emerged after the 1970 Bhola cyclone, once disputed with Bangladesh, since submerged
	Pamban	Tamil Nadu; Dhanushkodi, start of Rama Setu
	Andrott	Lakshadweep; largest island of the group

Map Activity 8 key · Coastline, lagoons, ports and islands

Feature	Where to mark
Gulf of Kachchh	Between Kachchh and Saurashtra, Gujarat
Gulf of Khambhat	Between Saurashtra and south Gujarat mainland
Konkan coast	Maharashtra and Goa
Malabar coast	Kerala (and coastal Karnataka)
Coromandel coast	Tamil Nadu and southern AP
Northern Circars	Coastal AP–Odisha, Mahanadi to Krishna
Chilika	Puri–Ganjam, Odisha
Kolleru	Between Godavari and Krishna deltas, AP
Pulicat	AP–TN border north of Chennai
Vembanad	Alappuzha–Kottayam–Kochi, Kerala
Sriharikota	Tirupati district, AP
Gulf of Mannar	Between TN and Sri Lanka, south of Rama Setu
Duncan Passage	South Andaman–Little Andaman
Ten Degree Channel	Little Andaman–Car Nicobar
Nine Degree Channel	Kavaratti group–Minicoy
Eight Degree Channel	Minicoy–Maldives
Barren Island	East of Middle/South Andaman
Port Blair	South Andaman
Kavaratti	Central Lakshadweep
Paradip	Jagatsinghpur, Odisha, Mahanadi mouth

Section 8 Rivers and Dams

Q32. Write the Panch Prayags in downstream order with the river that joins the Alaknanda at each.

Ans. Vishnuprayag (Dhauliganga) → Nandprayag (Nandakini) → Karnaprayag (Pindar) → Rudraprayag (Mandakini) → Devprayag (Bhagirathi; Ganga begins).

Q33. Arrange the five Punjab rivers of the Indus system from west to east, and write which of them India controls under the Indus Waters Treaty.

Ans. Jhelum → Chenab → Ravi → Beas → Sutlej.

Eastern rivers (India): Ravi, Beas, Sutlej. **Western rivers (Pakistan):** Indus, Jhelum, Chenab. Treaty signed 1960 (World Bank); India placed it in abeyance in April 2025.

- Q34.** Arrange from west to east the points where these left-bank tributaries join the Ganga: Kosi, Gomti, Ramganga, Gandak, Mahananda, Ghaghara. Also arrange the right-bank tributaries Yamuna and Son from west to east.
- Ans. Left bank:** Ramganga (near Kannauj) → Gomti (near Ghazipur) → Ghaghara (Chhapra) → Gandak (Sonpur-Patna) → Kosi (Kursela, Bihar) → Mahananda (last, West Bengal).
- Right bank:** Yamuna (Prayagraj) → Son (near Patna).
- Q35.** Arrange the right-bank tributaries of the Yamuna from west to east by their confluence, and write where the Yamuna meets the Ganga.
- Ans.** Chambal (near Etawah) → Sind → Betwa (Hamirpur) → Ken (near Banda). Tons is its largest tributary (near Dehradun). The Yamuna joins the Ganga at Prayagraj.
- Q36.** Trace the Brahmaputra from source to sea by writing its names in order along its course.
- Ans.** Chemayungdung glacier → Tsangpo/Yarlung Zangbo (Tibet) → U-turn at Namcha Barwa → Siang/Dihang (Arunachal) → Brahmaputra (after Dibang and Lohit join, Assam) → Jamuna (Bangladesh) → Padma (after joining the Ganga) → Meghna → Bay of Bengal.
- Q37.** Arrange the mouths of these east-flowing rivers from north to south: Cauvery, Mahanadi, Pennar, Subarnarekha, Godavari, Vaigai, Krishna, Brahmani.
- Ans.** Subarnarekha (WB-Odisha border) → Brahmani (Odisha) → Mahanadi (Odisha) → Godavari (AP) → Krishna (AP) → Pennar (Nellore, AP) → Cauvery (TN) → Vaigai (Palk Bay, TN).
- Q38.** Arrange the mouths of these west-flowing rivers from north to south: Periyar, Tapi, Sabarmati, Sharavati, Narmada, Mahi, Netravati, Mandovi.
- Ans.** Sabarmati → Mahi (both Gulf of Khambhat) → Narmada (Bharuch) → Tapi (Surat) → Mandovi (Goa) → Sharavati (Honnavar) → Netravati (Mangaluru) → Periyar (Kochi). The Luni ends inland in the Rann of Kachchh.
- Q39.** Arrange these rivers in descending order of length within India: Narmada, Krishna, Yamuna, Godavari, Ganga, Mahanadi, Cauvery, Tapi.
- Ans.** Ganga (2,525 km) > Godavari (1,465) > Krishna (1,400) > Yamuna (1,376) > Narmada (1,312) > Mahanadi (851) > Cauvery (800) > Tapi (724). (Indus 1,114 km and Brahmaputra 916 km within India.)
- Q40.** Arrange these river basins in ascending order of area: Godavari, Narmada, Pennar, Krishna, Tapi, Cauvery, Mahanadi.
- Ans.** Pennar (~55,000 km²) < Tapi (~65,000) < Cauvery (~81,000) < Narmada (~99,000) < Mahanadi (~1.42 lakh) < Krishna (~2.59 lakh) < Godavari (~3.13 lakh; largest peninsular basin). The Ganga basin (~26% of India) is the largest overall.
- Q41.** Arrange these dams from north to south and write the river of each: Hirakud, Tehri, Mettur, Pong, Indira Sagar, Koyna, Bhakra, Idukki, Nagarjuna Sagar, Ranjit Sagar, Ukai, Gandhi Sagar.
- Ans.** Ranjit Sagar (Ravi) → Pong (Beas) → Bhakra (Sutlej) → Tehri (Bhagirathi) → Gandhi Sagar (Chambal) → Indira Sagar (Narmada) → Hirakud (Mahanadi) → Ukai (Tapi) → Koyna (Koyna) → Nagarjuna Sagar (Krishna) → Mettur (Cauvery) → Idukki (Periyar).
- Tallest: Tehri. Longest (earthen, with dykes): Hirakud. Largest reservoir: Indira Sagar.

Map Activity 9 key · River sources, confluences, dams and cities

Feature	Where to mark
Verinag	Jhelum source, Anantnag, J&K
Rakas Tal	Sutlej source, near Mansarovar, Tibet

Feature	Where to mark
Gomukh	Bhagirathi source, Gangotri glacier, Uttarkashi
Amarkantak	Narmada and Son source, Anuppur, MP
Multai	Tapi source, Betul, MP
Trimbakeshwar	Godavari source, Nashik
Mahabaleshwar	Krishna source, Satara
Talakaveri	Cauvery source, Brahmagiri, Kodagu
Devprayag	Bhagirathi + Alaknanda, Tehri Garhwal
Prayagraj	Ganga + Yamuna, UP
Farakka	Ganga splits into Hooghly and Padma, WB
Tandi	Chandra + Bhaga, Lahaul
Tehri Dam	Bhagirathi, Uttarakhand
Hirakud Dam	Mahanadi, Sambalpur, Odisha
Sardar Sarovar	Narmada, Narmada district, Gujarat
Nagarjuna Sagar	Krishna, Telangana-AP border
Cuttack	Mahanadi
Surat	Tapi
Hyderabad	Musi
Madurai	Vaigai

Section 9 Indian Monsoon

Q42. Write in sequence the events from March to mid-June that lead to the 'burst' of the south-west monsoon.

Ans. STJ south of the Himalayas; its ridge keeps a sub-tropical high over NW India (March-May, dry) → Tibet heats up; STJ weakens and shifts north of the Himalayas/Tibet (late May-early June) → ITCZ moves north as the monsoon trough over the Ganga plain → Tropical Easterly Jet forms over the peninsula and strengthens the Mascarene High → Somali Jet pumps in moisture → monsoon cell forms rapidly → burst over Kerala (~1 June).

Q43. Write the normal onset dates of the south-west monsoon in order from the Andamans to the whole country, and the order of withdrawal.

Ans. Andaman & Nicobar (~20 May) → Kerala (~1 June) → Kolkata (~7 June) → Mumbai (~10-11 June) → Delhi (~27 June; both branches merge) → whole country (~8 July, revised from 15 July).

Withdrawal: north-west India from ~mid-September → peninsula by October → south-eastern tip by December.

Q44. Arrange IMD's monsoon rainfall categories in ascending order with their range as a percentage of the Long Period Average (LPA). What is the current LPA?

Ans. Deficient (< 90%) → Below normal (90-96%) → Normal (96-104%) → Above normal (104-110%) → Excess (> 110%).

Current LPA ≈ 87 cm (1971-2020 average; earlier 89 cm).

Q45. Match each with its effect on the Indian monsoon and cyclones: El Niño, La Niña, positive IOD, negative IOD, suppressed MJO.

Ans.

Phenomenon	Effect
El Niño	Weak monsoon, droughts; fewer Bay of Bengal cyclones, more in Arabian Sea
La Niña	Strong monsoon, floods; more Bay of Bengal cyclones
Positive IOD	Warm Arabian Sea; good for monsoon, can offset El Niño
Negative IOD	Weaker monsoon
Suppressed MJO	Can trigger a monsoon break

Map Activity 10 key · Monsoon and climate map

Feature	Where to mark
Arabian Sea branch – 3 streams	Western Ghats; Narmada-Tapi trough to central India; parallel to Aravallis
Bay of Bengal branch – 2 streams	Delta → Meghalaya; deflected west along Himalayan foothills
Onset point (Kerala)	South Kerala coast
Mawsynram	East Khasi Hills, Meghalaya (~1,221 cm)
Cherrapunji	Sohra, East Khasi Hills (~1,102 cm)
Mount Abu	Sirohi, Rajasthan (~170 cm)
Jaisalmer	Western Rajasthan (< 12 cm)
Leh	Ladakh (rain-shadow cold desert)
Dras	Kargil, Ladakh (–45 °C recorded)
Phalodi	Jodhpur, Rajasthan (51 °C, 2016)
Coromandel coast	Tamil Nadu coast, Oct-Dec rain
Kalbaisakhi zone	WB, Odisha, Jharkhand, Assam
Mango shower zone	Kerala and coastal Karnataka
Blossom shower zone	Kodagu-Chikkamagaluru coffee belt, Karnataka
Western Disturbance entry	From the west into J&K, Punjab, Haryana
Palghat Gap	Palakkad, Kerala-TN

Section 10 Indian Climate

Q46. In July and August, the Ganga delta and the coastal plains of Odisha receive intense rainfall, while the Coromandel Coast (Tamil Nadu and southern Andhra Pradesh) stays dry. — True or False?

Ans. True. The Coromandel coast lies in the rain-shadow of the south-west monsoon and gets most of its rain from the north-east monsoon (October–December).

Q47. Answer the following on temperature ranges in India:

- Name the region with the highest **diurnal** range of temperature, and the region with the highest **annual** range.
- Name the region where both ranges are the lowest.

Ans. (a) Highest diurnal range: **Thar Desert** (western Rajasthan). Highest annual range: **Himalayan regions** (such as Ladakh, Dras and Leh).

(b) Coastal regions, especially the Kerala coast, where both diurnal and annual ranges are the lowest.

Q48. Arrange Kolkata, Delhi, Patna, Jaisalmer and Prayagraj in descending order of monsoon rainfall, and write the reason for the pattern in one line.

Ans. Kolkata > Patna > Prayagraj > Delhi > Jaisalmer — rainfall falls from east to west across the plains because the Bay branch loses moisture as it moves west up the Ganga plain. (Winter Western Disturbance rain shows the opposite: highest in the west.)

Q49. Match each local weather phenomenon with its region and season: Loo, Andhi, Kalbaisakhi, Bardoli Chheerha, Mango showers, Blossom showers.

Ans.

Phenomenon	Region	Season
Loo	North and north-west plains	May-June afternoons
Andhi	Rajasthan, Punjab, Haryana, Delhi, UP	Pre-monsoon
Kalbaisakhi (Norwester)	West Bengal, Odisha, Jharkhand, Assam	Pre-monsoon, peaking in Baisakh (April-May)
Bardoli Chheerha / Tea showers	Assam	Pre-monsoon
Mango showers	Kerala and coastal Karnataka	Pre-monsoon (April-May)
Blossom showers	Karnataka (coffee areas)	Pre-monsoon

Q50. Match each Köppen climate type with its region in India: Amw, As, Aw, BShw, BWhw, Cwg, Dfc, E.

Ans.

Type	Region
Amw	West coast south of Mumbai
As	Coromandel coast (Tamil Nadu)
Aw	Most of the Peninsular plateau
BShw	Rain-shadow Deccan; parts of Rajasthan, Haryana, Gujarat
BWhw	Western Rajasthan
Cwg	Ganga plain, eastern Rajasthan, Assam, Malwa
Dfc	Arunachal Pradesh, Sikkim
E / Et	Higher J&K, HP; high Uttarakhand

Section 11 Natural Vegetation and Forest Cover

Q51. Write the forest type for each rainfall band, in descending order of rainfall.

Ans. > 250 cm: tropical wet evergreen → 200–250 cm: semi-evergreen → 100–200 cm: moist deciduous → 50–100 cm: dry deciduous/savanna → 25–50 cm: thorn scrub → < 25 cm: desert.

Q52. Arrange the Himalayan vegetation zones in ascending order of altitude, from the foothills to the snowline.

Ans. Tropical moist deciduous – sal (Shiwaliks, Bhabar-Terai) → sub-tropical pine/broad-leaved hill (1,000–2,000 m) → Himalayan moist temperate conifers – deodar, fir, spruce (1,500–3,300 m) → sub-alpine – fir, rhododendron → moist alpine scrub (3,000 m+) → dry alpine scrub – juniper (> 3,500 m) → snowline.

Alpine vegetation reaches higher in the eastern Himalayas because they get more monsoon rain.

Q53. Arrange these forest types in descending order of area in India: tropical wet evergreen, tropical dry deciduous, Himalayan moist temperate, tropical semi-evergreen, tropical moist

deciduous.

Ans. Tropical dry deciduous (~39%) > tropical moist deciduous (~18%) > tropical semi-evergreen (~10%) > Himalayan moist temperate (~4%) > tropical wet evergreen (~3%).

Q54. As per ISFR 2023, write in descending order the top three states/UTs by (a) forest cover area, (b) forest cover as % of geographical area, and (c) forest and tree cover area.

Ans. (a) **Forest cover area:** Madhya Pradesh (77,073 km²) > Arunachal Pradesh (65,882 km²) > Chhattisgarh (55,812 km²).

(b) **% of area:** Lakshadweep (91.33%) > Mizoram (85.34%) > Andaman & Nicobar (81.62%).

(c) **Forest + tree cover:** Madhya Pradesh > Arunachal Pradesh > Maharashtra.

Eight states/UTs have > 75% forest cover: Mizoram, Lakshadweep, A&N, Arunachal, Nagaland, Meghalaya, Tripura, Manipur. Largest increase in forest cover: Mizoram > Gujarat > Odisha.

Map Activity 11 key · Forests and vegetation

Feature	Where to mark
Top 3 states by forest area	Madhya Pradesh, Arunachal Pradesh, Chhattisgarh
Top 3 by forest %	Lakshadweep, Mizoram, A&N Islands
Tropical wet evergreen belts	Windward Western Ghats, NE hills, A&N
Tropical thorn forests	W Rajasthan, Kutch, Deccan rain-shadow
Tropical dry evergreen	Tamil Nadu coast
Sundarbans mangroves	Ganga delta, West Bengal
Coringa mangroves	Godavari delta, AP
Chir pine belt	Western Himalaya, 1,000–2,000 m
Himalayan dry temperate	Ladakh, Lahaul, Kinnaur, inner Garhwal
Hasdeo Arand	Korba–Surguja, Chhattisgarh

Section 12 Soils

Q55. Arrange India's major soil groups in descending order of area.

Ans. Alluvial (~45.6%) > Black (~16.6%) > Red (~10.6%) > Forest/Mountain (~8.7%) > Laterite (~7.5%) > Arid/Desert (~4.3%) > Saline/Alkaline > Peaty/Marshy. (Some sources rank red soils second when minor groups are added.)

Q56. Arrange the soil horizons from top to bottom.

Ans. O (organic litter) → A (topsoil) → E (eluviated/leached) → B (subsoil; illuviated clay, iron, aluminium) → C (weathered parent material) → R (bedrock).

Q57. Write the main regions (states) of each soil type: alluvial, black, red, laterite, arid, saline/alkaline, peaty/marshy.

Soil	Main regions
Alluvial	Indo-Gangetic-Brahmaputra plains; Mahanadi, Godavari, Krishna, Cauvery deltas; Narmada-Tapi valleys
Black (regur)	Maharashtra, Malwa (MP), Gujarat, Telangana, north Karnataka, interior Tamil Nadu
Red	Tamil Nadu, Karnataka, Chotanagpur, Odisha, east Rajasthan (Mewar), parts of NE

Soil	Main regions
Laterite	Western Ghats summits, Eastern Ghats, Rajmahal Hills, Malwa, south Maharashtra, Karnataka
Arid/Desert	Western Rajasthan, SW Punjab and Haryana
Saline/Alkaline	Canal areas of Punjab-Haryana-UP, Gulf of Khambhat estuaries, coastal AP-TN
Peaty/Marshy	Kottayam-Alappuzha (Kerala), Sundarbans, coastal Odisha-TN, Almora

Map Activity 12 key - Soil distribution

Feature	Where to mark
Alluvial soil	Northern plains and eastern deltas
Black soil	Deccan Trap region: Maharashtra, Malwa, Gujarat, N Karnataka
Red soil	Tamil Nadu, Karnataka, Chotanagpur, Odisha, E Rajasthan
Laterite soil	Western Ghats crest, Rajmahal, Malwa uplands
Desert soil	Western Rajasthan
Saline soil	Punjab-Haryana canal areas, Kachchh-Khambhat
Peaty soil - Kuttanad	Alappuzha-Kottayam, Kerala
Forest/Mountain soil	Himalaya, Western and Eastern Ghats