Adda247

Study Notes of GEOGRAPHY

For SSC EXAMINATION 2017-18

PRACTICE BOOK

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PREFACE

SSC examinations have evolved a lot from 2016, with changes in pattern now SSC recruitment exams are dynamic in lieu of their conventional hold. ADDA 247 is proud to present you the new constructive eBook which caters to the need of ever-progressing demands and pattern for the upcoming examinations. The eBook is designed meticulously by the most prominent individuals in this sector and promises to provide you with an escapade that will broaden your horizons. We should never be confined by the limits of our brain and this eBook which is thoroughly revised and covers every crucial aspect of the examination assures you that it will help you in transcending your limits. Our ultimate aim is to help students develop de rigueur skills for success with proper approach.

General awareness is one section which finds itself at the heart of this examination. Answering questions based on **GEOGRAPHY** can sometimes be an uphill task; therefore **ADDA 247** presents you an eBook on **GEOGRAPHY** for **SSC 2017** examination which will serve as an elixir for our SSC aspirants. This eBook attempts to cover every topic of **GEOGRAPHY** which is expected to dominate the SSC exams this year with the hope to equip candidates with basic knowledge of what to expect in the upcoming SSC exam 2017. In this edition of **eBook** there are **CLASSROOM NOTES OF GEOGRAPHY**

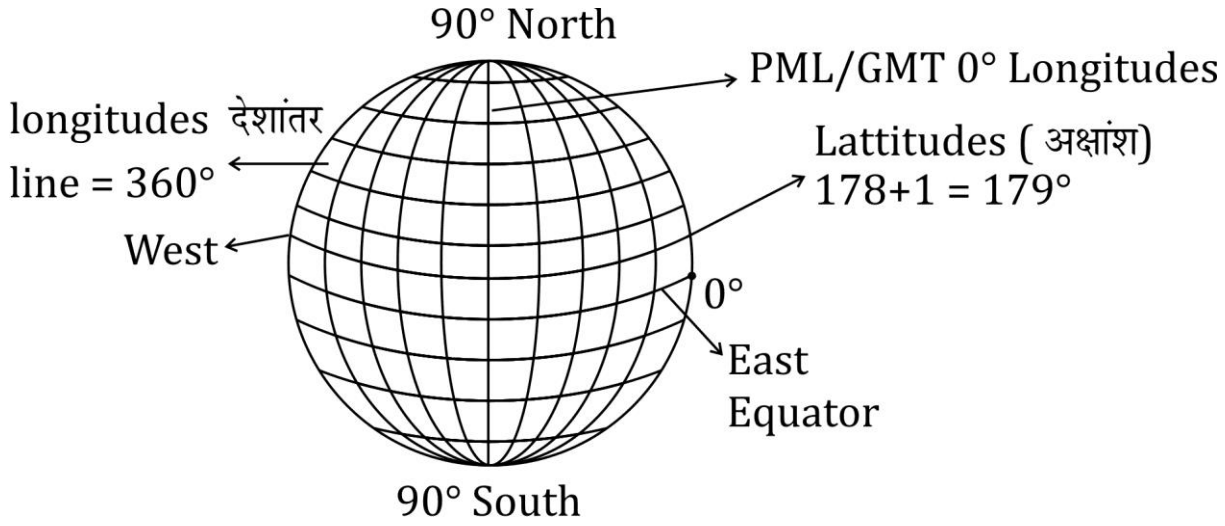
The aim of this book is to help students learn and understand the new pattern of SSC recruitment exam which will help them to maximize their scores in the competitive examination. Desire is the key to motivation, but its determination and commitment to an unrelenting pursuit of your goal - a commitment to excellence - that will enable you to attain the success you seek. This eBook is designed so that you can unlock your hidden potentials.

"A pessimist sees the difficulty in every opportunity; an optimist sees the opportunity in every difficulty."

Sir Winston Leonard Spencer/Churchill

Team Adda247

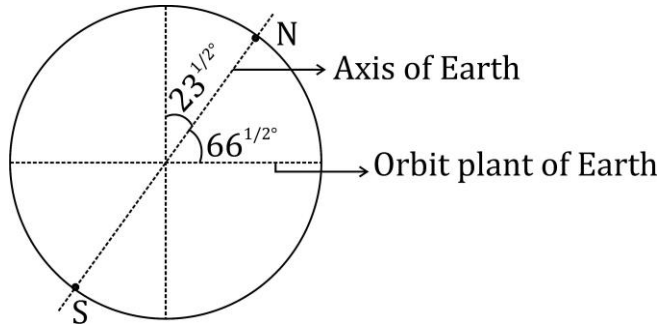
1. Time and Distance



PML → Prime Meridian line
GMT→ Greenwich mean time
→ 0° longitude

Longitudes/Meridians →imaginary semicircle from pole to pole
Latitudes/ Parallels→ imaginary circles running parallel to the equator
Zero degree latitude → Equator (Great circle of Earth)
90° North→ North pole 90°s → South pole

Meridians → (1) equal length
(2) semi circles (pole to pole)
GMT → Greenwich Mean Time (London)
Europe, Africa, Antarctica
Ques → Where is 0 point → Atlantic Ocean.
Globe→ Real image of Earth



Earth Shape → Spherical oblate

चपटी गोलाकर

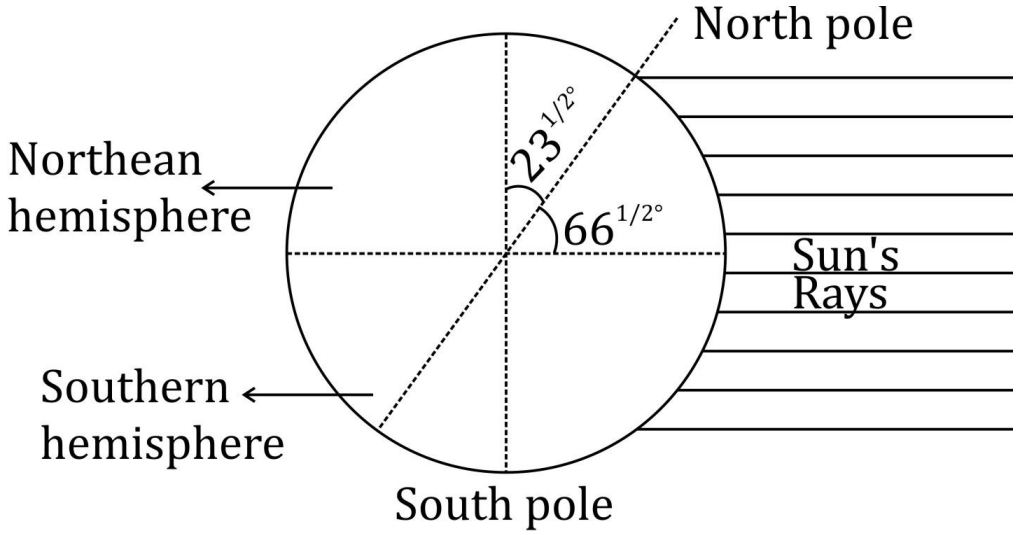
or

Geoid

Axis of Earth → A line which connects North pole and south pole

→ Change in Days and Night due to Rotation of Earth Rotation → (अपने axis पर घूमना 24 hrs.)(Anticlockwise→west to east)

→ Unbalance in day and night due to inclination of Earth in its axis (Inclination of Earth's Axis → Earth axis is lilted at an angle 23 1/2° from a perpendicular to the orbital plane.or Earth's maker an angle of 66 1/2° with the plane of Earth's Orbit)



→ Because of this constant inclination in on direction, the Northern Hemisphere remains inclined towards the sun or faces the sun

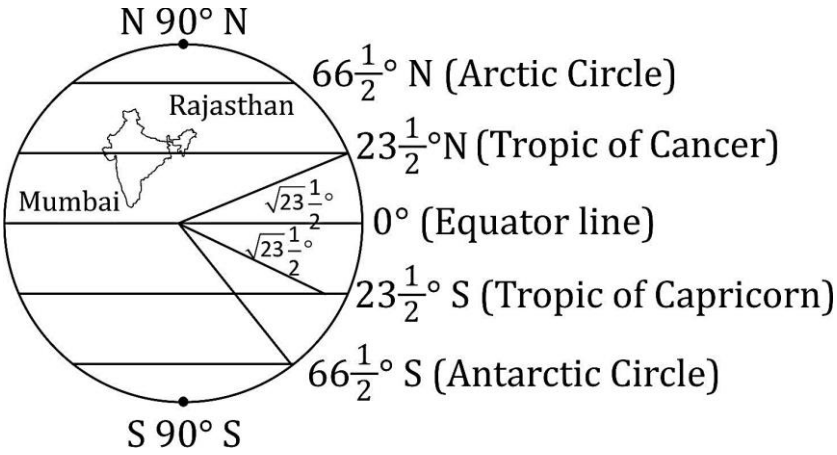
during one half of the year. Therefore a large part of this hemisphere receiver sunlight. resultingdaysare longer and nights are shorter.

→ The southern hemisphere is away from the sun. Ittherefore, has shorter days and longer nights. During the other half of the year, the southern Hemispheresis inclined towards the sun. Hence it has longer days and shorter nights.

→ When the Northern hemisphere is inclined towards the sun, the North Pole will have no night and South Pole will have no day and vice versa.

→ It is only the equator that the day and night are of equal length. As we move away from the equator towards either hemisphere, the difference between the length of day and night generally goes on increasing

→ Change of season → Due to revolution of earth around the sun (1 revolution →365 days 6 hrs)



$23\frac{1}{2}$° N – $23\frac{1}{2}$° S → Torrid zone/Tropical zone

$23\frac{1}{2}$° N – $66\frac{1}{2}$° N

\+ → Temperate zone

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$23\frac{1}{2}°$ S – $66\frac{1}{2}°$ S

$66\frac{1}{2}°$ N – 90°

\+ → Frizid zone

$66\frac{1}{2}°$ S – 90° S

Tropic of cancer →passes approximately mid-way of India

Latitude→ Angular distance of a plane taking from equator, center of earth is called latitude

Total latitude = 90 + 90 + 1 = 181

↓ ↓ ↓

South North 0°

Total latitudinal circle = 181 - 1 - 1 = 179

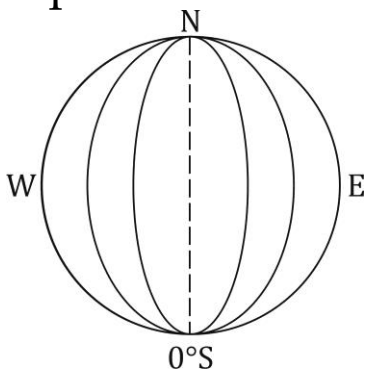
↓ ↓

90° 90°

Points

→ Distance between two latitudes = 111 km ज्यादा हो है

→ Temperature is high at equator and also rain on an average



Longitudes → 1) Not parallel

2) Angular distance of a plane taken from 0° longitude

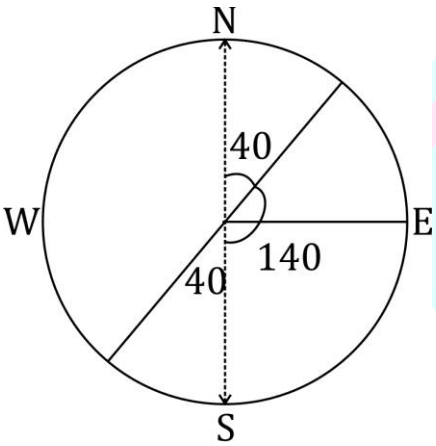
3) Total Longitudes – 360°

4) Distance between two longitudes = 111.32 km

(Equator पर Distance ज्यादा होती है and poles पर minimum)

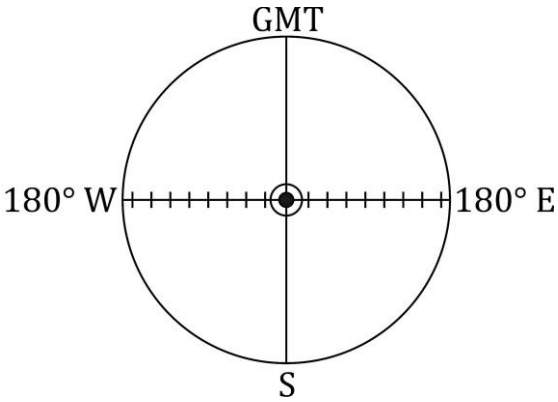
Area between latitudes → Zone (special for weather)
Area between longitude → Gore (special for time)
Location of India → Latitudes → 8° 4'N – 37°6'N
Longitude → 68° 7'E – 97° 25'E

Kanyakumari → 8° 4' N (On Land)
Indira point → 6° 45' N (in water)
Antipodal points→ points situated at opposite side of earth



Time

1 Rotation→ 24 hrs
In 24 her 360 longitudes गुजर जाते है।



24h ⟶360
1h ⟶ $\frac{360}{24}$=15°
15° ⟶ 60min
1° ⟶4 min

1 longitude sun के सामने 4 minutes लेता है

Ques →सबसे पहले sunrise → Japan.

(because it is first in the East)

→ If we go towards west → Reducing by 4 min/degree

If we go towards East → Increase by 4 min/degree

Ques → If 10° East = 9:00 am

what will be time at 20° East?

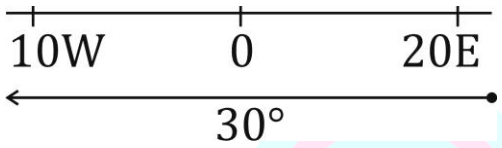
Ans. → 10 × 4 = 40 min

20° East = 9 : 40 am

Ques :→ If 20° East = 11:00 am

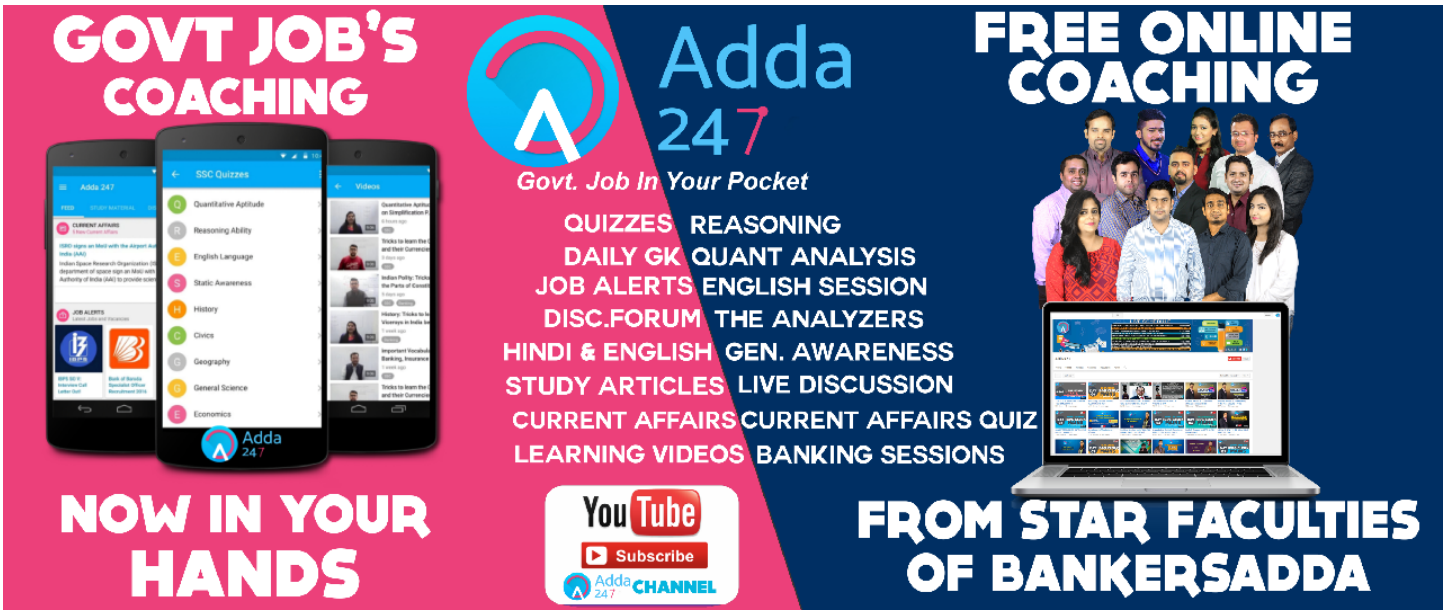
What will time at 10° west ?

Ans.

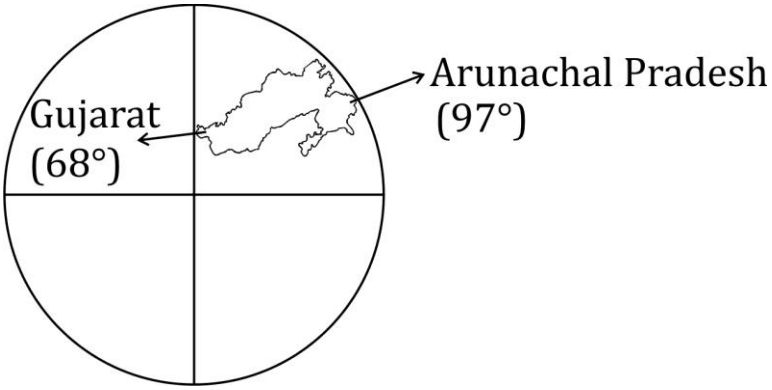


30 × 4 = 120 min = 2hr

11	:	00	
2	:	00	
9	:	00	AM



IST → India standard time



→ There is approximately 24 hr difference between Arunachal Pradesh and Gujarat

Gujarat→9 AM then Arunachal = 11 AM

IST → Midpoint of 68° and 97° →82° 30' E

IST → crosser from Naini (Allahabad) or Mirzapur (Allahabad UP)

→ We are 5:30hr ahead of London (GMT)

→ There are 24 time zones on Earth

1 time zone 15° gap → $\frac{360}{15}$=24 time zones

MOST TIME ZONES IN A COUNTY

1) Russia →11 time zones

2) USA→6 time zones

180° → International

Ques → On what days we have equal nights and equal days all over the Earth (Equinox)

Ans→ 21 March

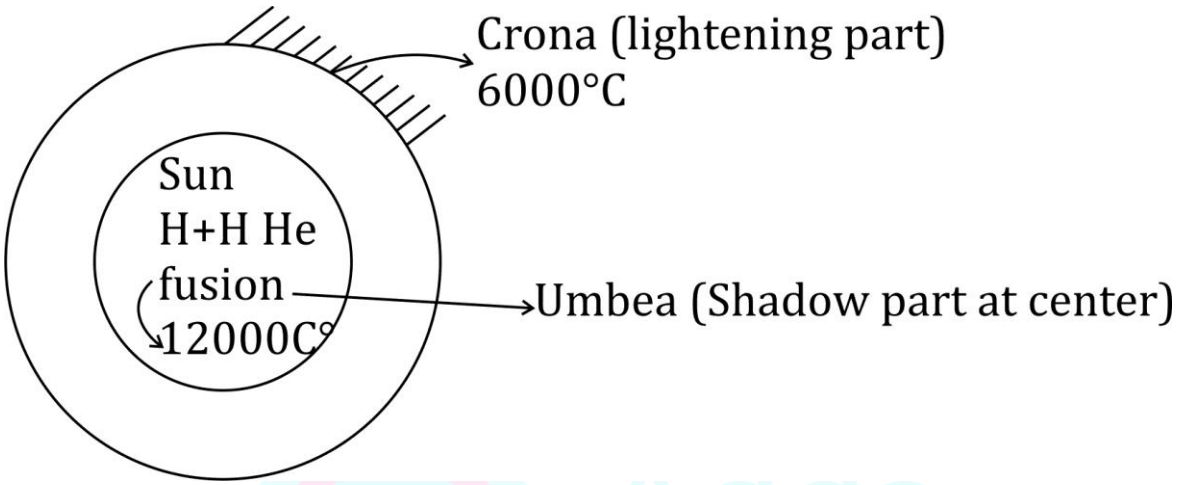
23 September

OUR SOLAR SYSTEM

Star→ 1) A Celestial body having its own heat and light

2) Energy formation is called stars

Photosphere → Lightening part of sun which we see



Crona → Only during solar eclipse

→ सूर्य ग्रहण के समय दिखने वाला part – Crona

Total, moon ने ढक दिया पर थोड़ा सा चंतज जो दिख रहा है → Crona

Planets→ 1) Fixed orbit

2) Fixed inclination

3) Revolution time fixed, shape fixed, Rotation time fixed

Pluto→ In 2006 → Time taken to compute on revolution was change. So Pluto was called Asteroid **Asteroid**→ No fixed shape, size, rotation, revolution but revolve the sun.

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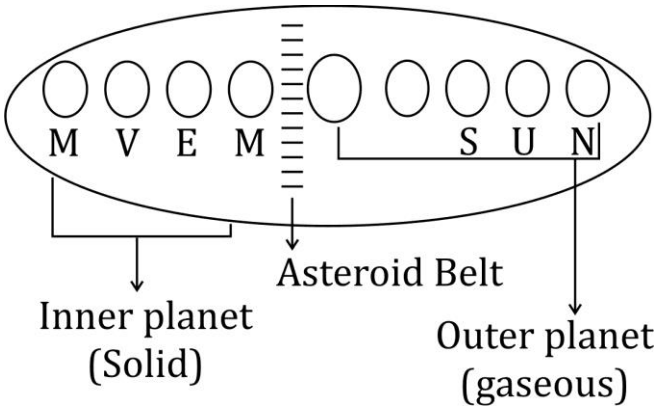
Nearest to sun

Sun

Mercury > Venus > Earth > Mars > Jupiter > Saturn > Uranus > Neptune

Asteroid Belt → B/W Mars and Jupiter



Jupiter→ Maximum size so max gravity. So Asteroids are attracted more towards Jupiter. So there is asteroid belt b/w Jupiter and Mars.

Saturn →सबसे कम density (less than water i.e 1)

Satellite → 1) revolve around planet

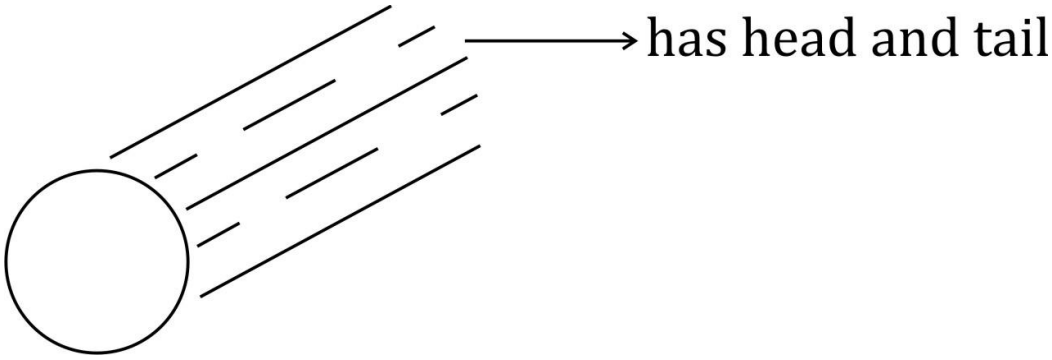
2) fixed revolution, rotation, shape

Jupiter → Maximum Satellite

Mercury and Venue → No satellite

→ All planets revolve from east to west exceptVenus and Uranus which revolve west to east

Comet → gases and dust



→ Halley's comet comes after every 76 years 1986 में आया या अब $\begin{array}{r} 1986 \\ +76 \\ \hline 2062 \end{array}$ में आएगा।

Mercury (cq/)

→ Smallest planet

→ Nearest to sun

→ Great Diurnal temperature

→ Rotation → 58.65 Days

Revolution → 88 Days (faster revolution in solar system)

→ No atmosphere and No satellite

Venus ('kqØ)

→ Nearest to Earth

→ Hottest planet → because of green House Gas effect as its atmosphere contains 90–95% CO_2 (Nights & Day temp almost same)

→ Moring/Evening star→ Venus

→ Earth's twin → slightly smaller than Earth

→ Brightest planet → because of high reflecting power

→ Revolves west to East

→ No satellite

→ Slowest rotation – 257 Days

→ Revolution → 224.7 days

→ Rotate in the opposite direction in which it revolves

Earth

→ Blue planet

→ Most Dense (solid) = 5.5g/cm^3

→ Circumference - 40,232km

→ Area - 510 million sq km

→ Avg distance from sun - 149 million KM

→ Spins on its axis from west to east (counter clockwise) in 23hrs 56min and 40.91sec.

→ Takes 365 days 5hr 48min 45.51 sec to revolve around the sun resulting one extra day in every fourth year

→ 5th in size

Mars

→ Red planet

→ Revolution → 687 days

→ Rotation = 24.6hr (almost Equal to Earth)

→ It has a thin atmosphere comprising of Nitrogen and Argon

→ Highest Mountain-'Nix Olympia' 3 times higher than Mt Everest

→ Two satellites - 1) Phobos

2) Deimos

Jupiter

→ Biggest Planet

→ Rotation ⇒ 9.8 hr

→ Revolution → 12 years

→ Maximum satellite → 76

→ Heaviest Planet

→ Planet with big red spot

→ Lord of heavens

→ Asteroid belt between – Mars &, Jupiter

→ Largest satellite → Ganymede of solar system/jupiter

Saturn

→ 2nd in size after jupiter

→ Revolution → 29 days

→ Rotation → 10.3hr

→ least dense

→ Unique feature → Rings around

→ 62 satellites

Uranus

→ Discovered by William Hershel

→ Revolve in reverse direction west to East

→ Revolution 84yrs.

→ Rotation 10.8hr

Neptune

→ Discovered by TG Galle of Berlin in 1846

→ Farthest to sun

→ Coldest

→ Green planet

Note:- 1) All the planets rotate in the same direction in which they revolve Except Uranus and Venus.

2) All the 8 planets revolve around the sun in counter clock wise in elliptical orbit.

3) The light reflected by moon reaches us in one and a quarter second

Revolution and rotation time same = 27 days 8 hrs so we see always one side of moon.

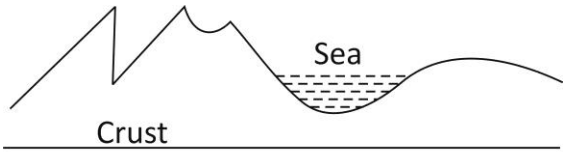
4) Our galaxy → Milky way

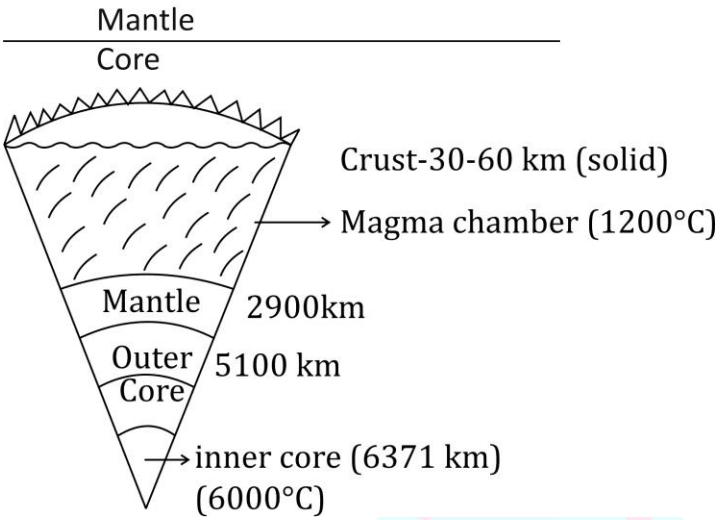
5) nearest star → proxima centauri

Internal structure of Earth

→ Age of Earth – 460 crore years

→ Best way to know about internal structure of Earth ⇒ Seismic wave (भूकम्पीय तरंगे)



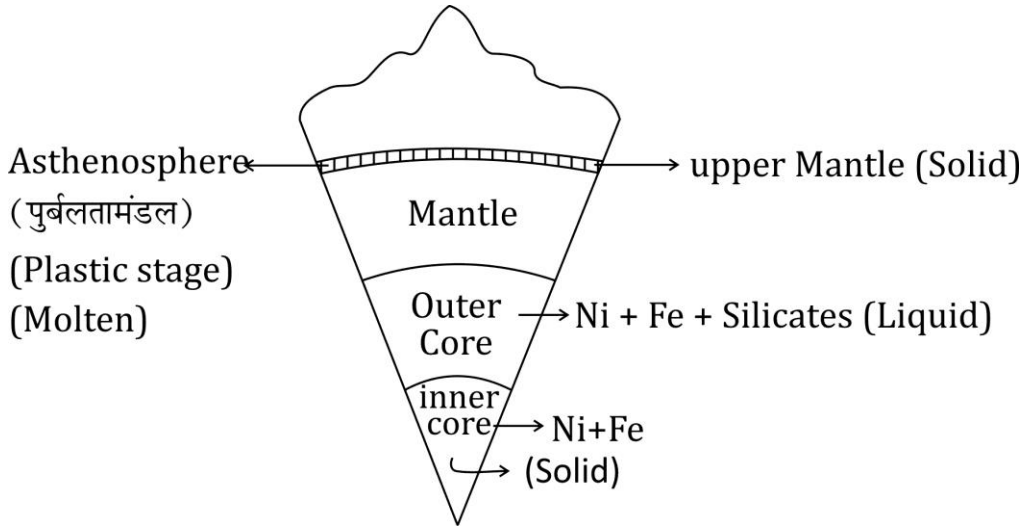


→ As we go down temperature increases for every 32km we go down temperature rises by 1°C (but not constantly)

→ As we go down, density increases.

→ Megma chamber → 70 km down 1200°C

→ The part between 2900km and 6371km, is known as core



→ Inner core solid because of high pressure (5150 km to 6371 km)

→ Outer Core liquid due to very high temperature (b/w 2900 km to 5150 km)

→ Asthenosphere → point of source of volcano

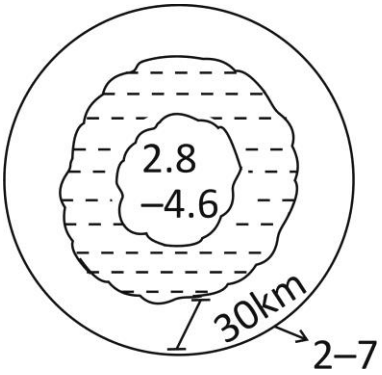
→ Maximum uranium found b/w 30km to 70km

→ Earth's center → 6371km

→ Crust → Si Al (silica + Aluminum)

→ Mental → Si MA (Silica + Magnesium)

→ upper crust → maximum oxygen



Density ↑ es as we go down

Crust → 2.7

Mental → 2.846

Plate Tectonics → (study of plates)

→ Plates floats on Magma

<u>There are two types of plates</u>

→ ←

(1) <u>Destructive Plate</u> (Convergence)

More Dense plate will go down to the less dense plate & will get folded in young folded Mountains

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→ भारी प्लेट टकराने के बाद Trench (खाई बनाती है)

→ हल्की प्लेट fold होकर young fold mountains बनाती है।

→ दरार में से Volcanic eruption (ज्वालामुखी विस्फोट) होता है।

1) Trech
2) Young bold mountains
3) Volcanic Eruption
4) Earthquake

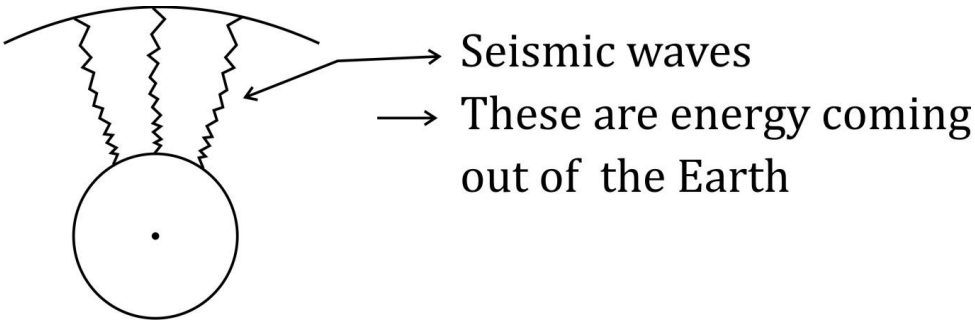
(2) <u>Constructive Plates</u> ← →

$(divergence)$

<u>Earth Quake</u> → Vibration in Earth

→ initial point of Earthquake →focus

→ epicenter→ near to focus



<u>Seismic waves (3 types)</u>

1) P– waves or primary waves
2) S – waves or secondary waves or shear wave
3) L – waves

P-Waves	S-Waves	L-Waves
→ सबसे पहले निकलती है विबने से	→ P के बाद आती है	→focus से वही निकलती P & S के ऊपर crust पहुँचने पर converted into L-waves are total crust esa energy फैलाने का काम करती है।
→ Speed → 8.5–15km /sec	→ Solid में चलती है but disappear in liquid	
→ Waves tks solid & liquid तक जा सकती है।	→ only in solid	
→ internal structure of earth की जानकारी P-Waves		→ Known as surface waves (or long waves)

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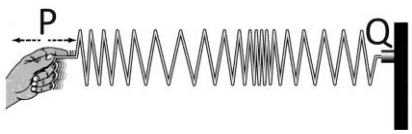
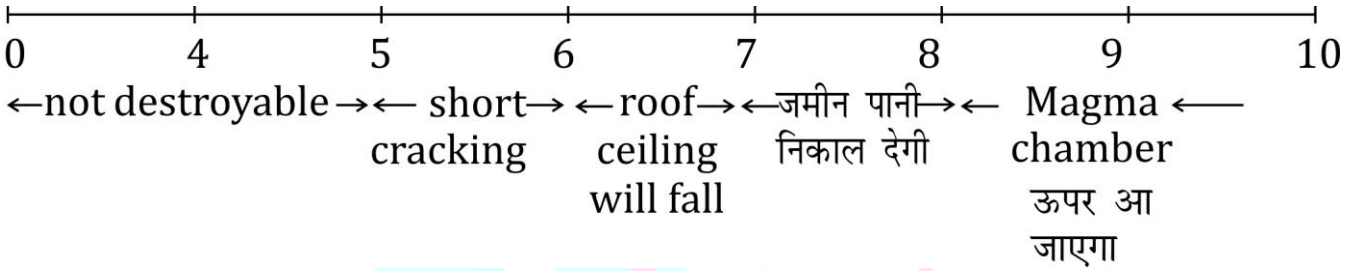
→longitude 	→ transverse	Speed→1.5km/sec

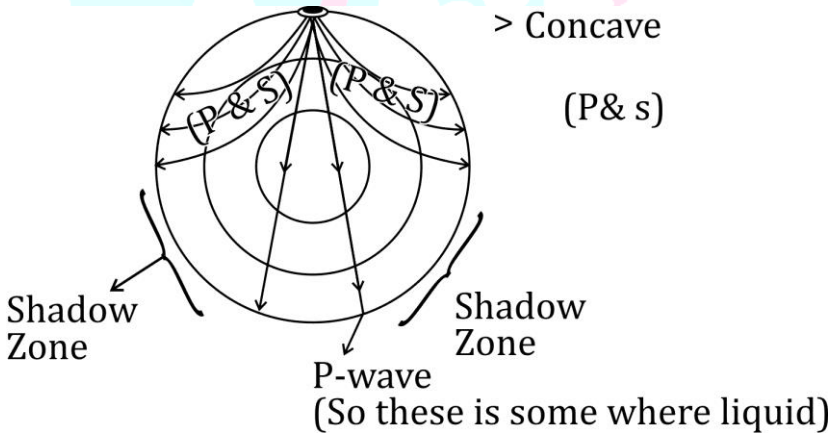
ISO Seismal line → Equal seismic intensity zone

Homo- Seismal line → Equal seismic time zone

Richter scale →Toto check intensity of Energy

0 –– 10 units





→ In solid, seismic waves straight move करती है but not in liquid

→ Outer core S-wave स पता चलता है।

→L-waves originate from epicenter

<u>Type of Earth quake</u>

1) **<u>Natural</u>**

(a) Due to plate movement

(b) Due to imbalance

(c) Due to volcanic eruption

2) **<u>Man Made</u>**

1967 → Koyna Dam →Maharashtra

→ Due to multipurpose project

→ Due to nuclear explosion

→ Mining

→ Overpopulation

Rocks → Mixture of Minerals

<u>Types of Rocks</u>

1) Igneous Rocks (आग्नेय चट्टाने)

2) Sedimentary Rocks (अवसादी चट्टाने)

3) Metamorphic Rocks (रूपांतरित चट्टाने)

1) <u>Igneous Rocks</u>

Magma ठंडा होने पर turn into igneous rocks

→ Earth पर सबसे पहले बनी।

→ No fossils/ No biological evidence

→ 85% of Earth part made of igneous rocks

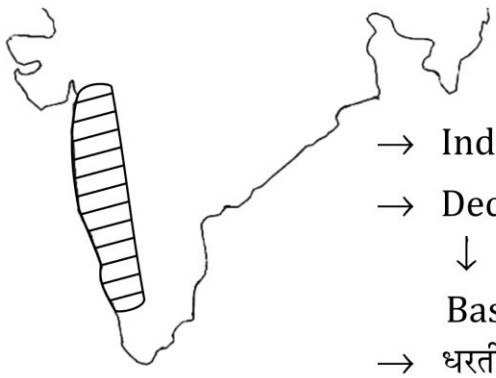
→ Solidity more

→ Maximum solid (When cools down)

<u>Form of Igneous Rocks</u>

(2) Intrusive (plutonic)
eg → Granile
Gabbro
Perodolite
Obsidian

(ii) Extrusive
eg → Basalt



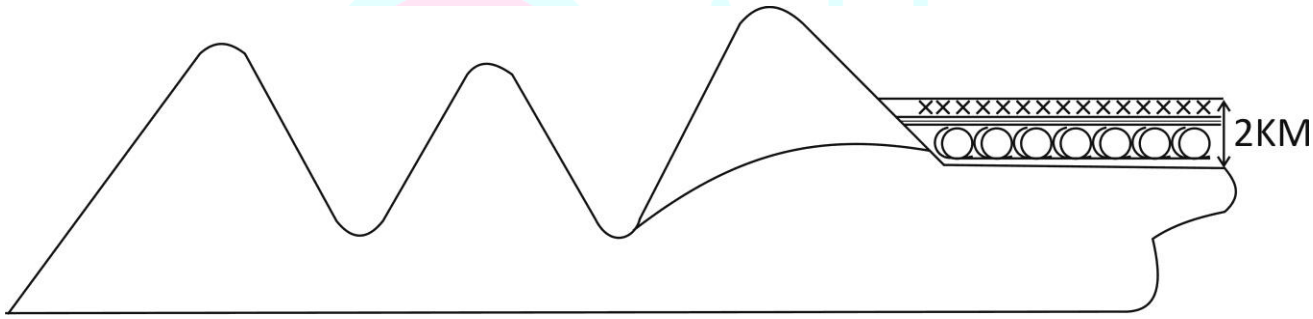
→ India का सबसे बड़ा plateau

→ Deccan plateau
↓
Basalt/Lava plateau

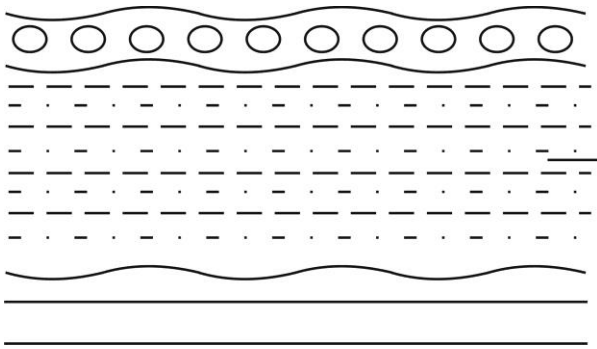
→ धरती फटी Magma spread to Gujarat+Maharashtra + MP + Karnataka + Telangana

Basalt में soil → Black soil

(2) Sedimentary Rocks



→ Earth's most of the surface made of sedimentary Rocks



→ ground water Table on sedimentary rocks

Punjab → Most ground water Table

Rajasthan → Less ground water Table

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सबसे ज्यादा Harvesting by making well

Leachets → Toxic material get down into ground water Table

Features of sedimentary Rocks

1) fossils/biological evidence found - maximum
2) Called layered rocks /Porous Rocks/weakest Rocks
3) 75% of Earth's surface made of this rock

Eg.→ coal, crude oil, sand stone, Dolomite, shale/made of slate), gypsum (POP), chalk, Nacl (salt)

(a) **Coal** (कोयला)→Made from plants

plant जितना पुराना होगा उतना ही carbon होगा।

Age determination

Uranium dating – None living things

Carbon dating – living things

Part of coal

peat→ 35% → fly ash % of carbon

Lignite → 45%

Bituminous→ 62%

Anthracite → 92%

A > B > L > P

Alphabetical Order

→ सबसे ज्यादा Lignite ds भण्डर →TamilNadu (Naveli)

→ Maximum coal in India →Bituminous

→ Industrial most use Commercial coal → Bituminous

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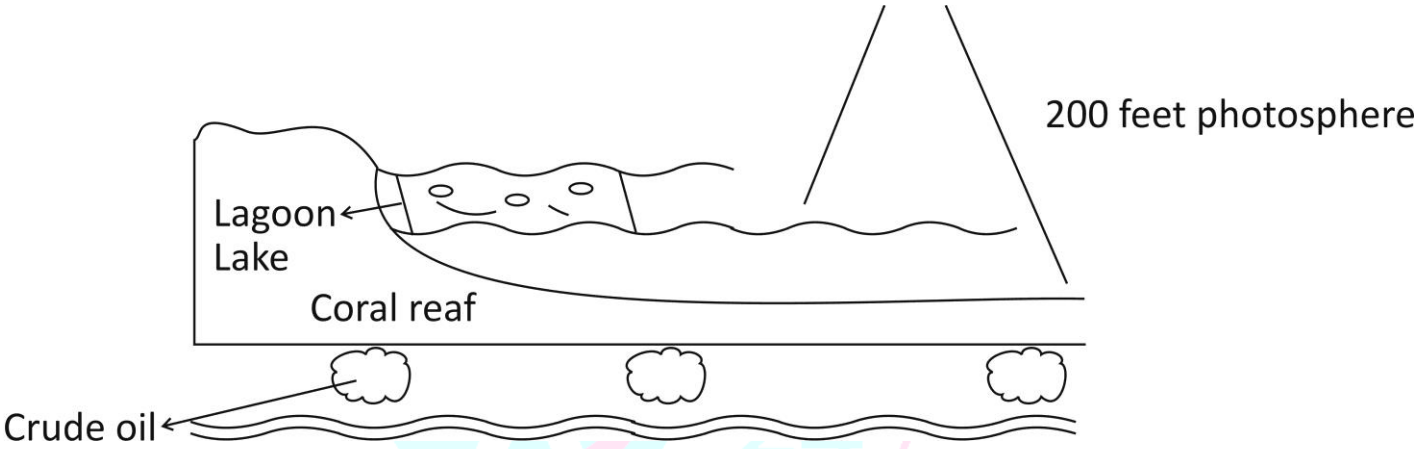
→ सबसे अच्छा coal → Anthracite

सबसे चमकीला coal → Anthracite

→ सबसे ज्यादा production of Anthracite → Australia, Germany, USA

→ World में सबसे ज्यादा Diamond → Russia, Botswana, South Africa, Congo, Zaire

b) <u>Crude oil</u>



→ समुद्र का photosphere → 200 ft rd

→ Coral reef समुद्र से बाहर आ जाए तो coral island कहते है।

<u>Coral In India</u>

→ Lakshadweep

→ Andaman & Nicobar

→ Gulf of Mannar

→ First oil well in India → Digboi (Assam)

Naharkatia (Assam)

→ Present esa oil wells → Mumbai High (Mumbai) 121 km

↓

Sagar Samrat जहाज drilling कर रहा है

(ii) KG basin (A-P) → सबसे नया क्षेत्र

(iii) Barmer Rajasthan

(iv) Gujarat→ Ralol, Ankleshwar, Luna

(C) Shale → 1) मिट्टी के सबसे mining particle

2) ये Delta के पास मिलते है जिनसे shale Gas shale gas → Gulf of Cambay (Gujrat)

Production of shale Gas

(i) China

(ii) USA

Metamorphic Rocks (रूपांतरित चट्टाने)

(3) Physical Change | Chemical Change

→ Temp ls rock dk →Mixtures of minerals

colour change

→ pressurels solidity change

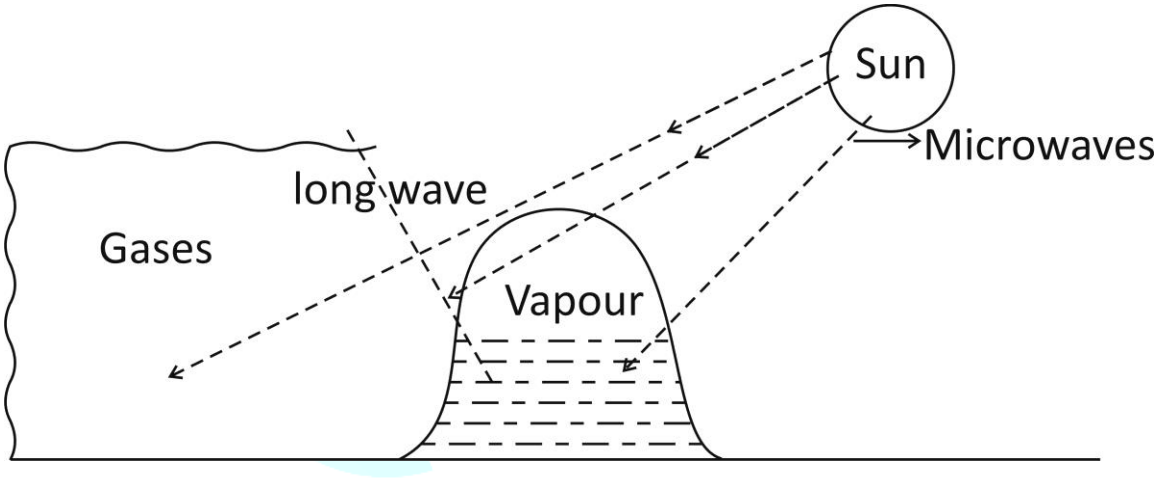
eg→ Gneiss, Scheirt, phycite, Quartzite, marble, slate, peat, lignite,

Bituminous, Graphite, Diamond

Atmosphere

- Gas
  - N_2 78%
  - O_2 21%
  - O_3 0.000%
  - CO_3 0.03%
  - Argon 0.93%
- Water Vapour (2 to 4) %
- Dust Particular

Que. सबसे बड़ी innert gas → Argon (0.93%)



→ Microwaves Earth से टकराती है तो Earth उसे absorb कर लेती है और फिर वापस भेज देती है।

→ Global Average temperature = 15°C

→ जो wave वापस जाती है उसे long wave कहते है।

Gases Which capture long wave

1) Water vapour
2) CO_2
3) Methane
4) NO_2
5) CFC (chlorofluorocarbons)

→ These are called greenhouse gases

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6) Ozone (O_3)

सबसे ज्यादा CO_2 releare

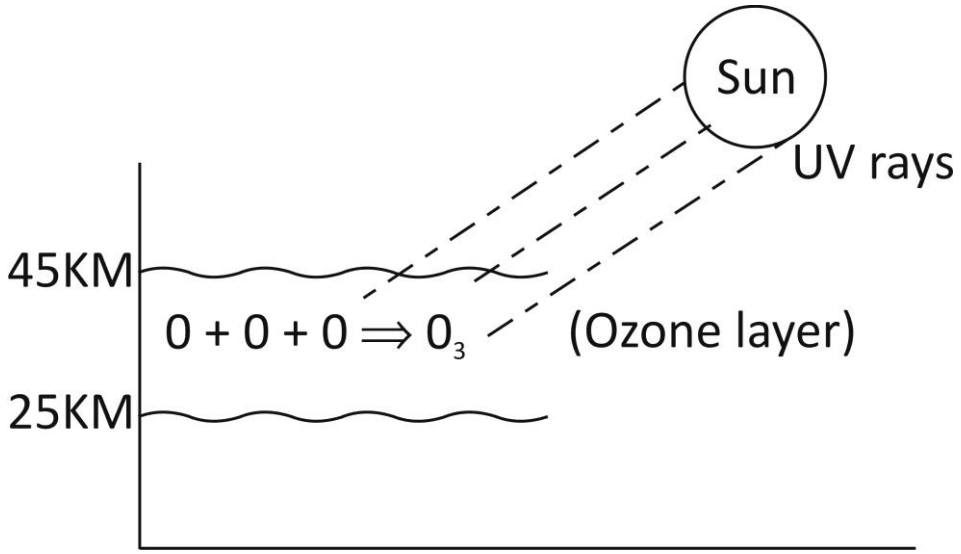
1) China

2) USA

→ India's contribution in global warming – 3%

→ सबसे हल्की gas →Hydrogen

→ Ozone →25KM–45KM तक



→ Unit of ozone layer thickness →Dobson

→ Ozone hole → 1985 → found by farmed in south pole Antarctica

→ Pollution free states Norway, Sweden, Finland

→ Earth's first summit in 1972 →carbon credit को क्रम करने के लिए

→ Earthquake के दौरान Emit होने वाली Gas →Radon

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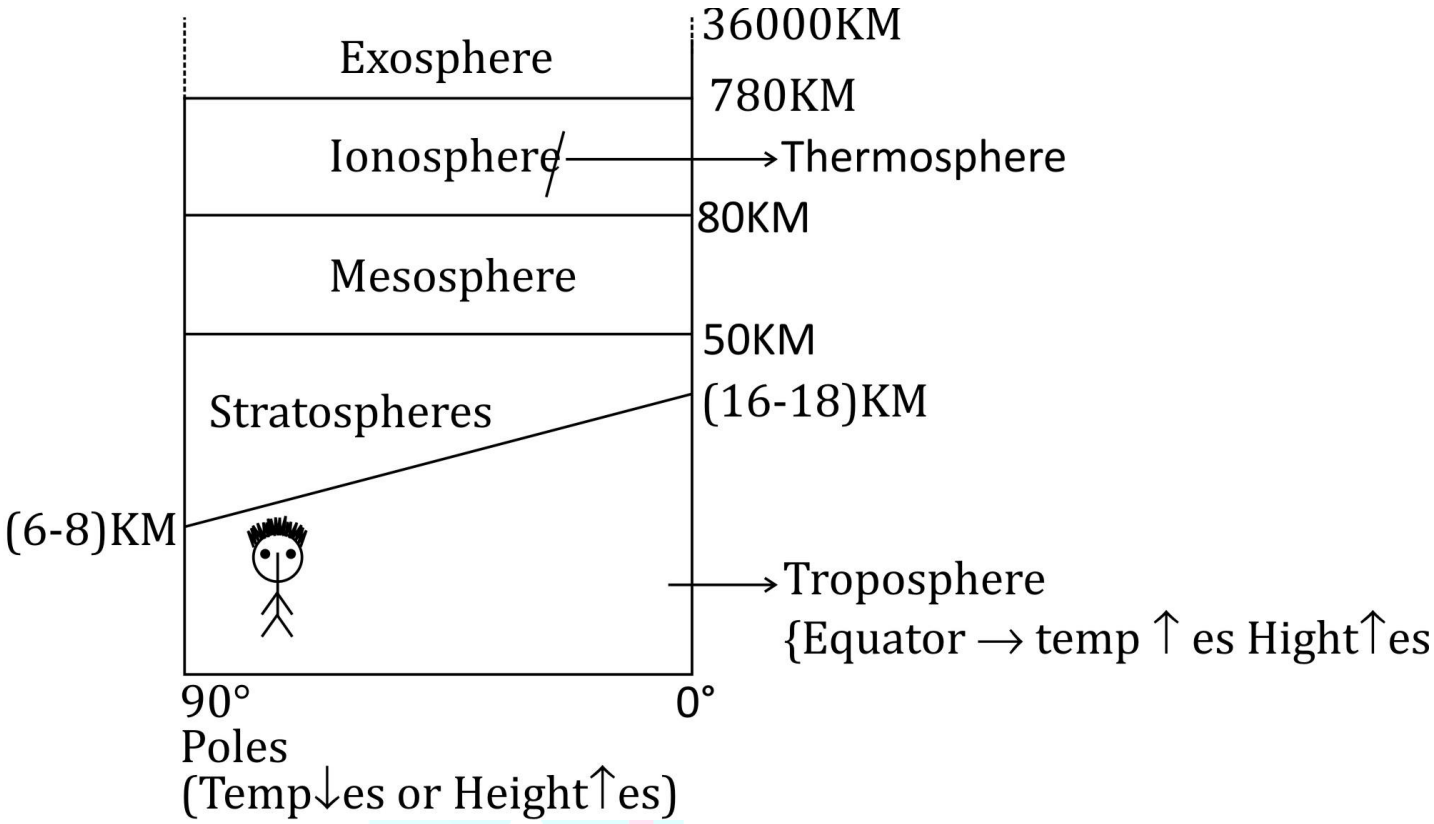
<u>Water Vapour</u> (Maximum% below 5KM)

→ बादल बनने की प्रक्रिया → condensation

→ Dust particles are important क्योंकि इसके बिना Earth पर cloud, snow कुछ भी नही होते।

→ Artificial raining → by spraying silver Iodide

Stratification of Atmosphere



→Normal Lapse rate – 1000m/6.5°C ie. 6.5°C temp ↓ er with ↑ er in 1000m height of Atmosphere or 1°C temp ↓ er – – 16 m ↑er height

Troposphere

→ Change in weather condition

→ Unequal height of troposphere due to temp and upward convectional current

Wind ⇄ horizontal movement

Current ↑↓ Vertical movement → Convection

→Cloud इसी में बनते है।

→Equator पर Length 8KM

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Stratosphere

→ No change in weather condition

→ Stratosphere के नीचे वाले part में Jet/fighter plane चलाते है क्योंकि इसकी condition stable रहती है।

→ Helium balloon (with camera) भी इसी layer में उड़ाए जाते है अगर कुछ Check करना हो तो

→ Ozone layer के कारण stratosphere में temp बढ़ता है।

Mesosphere

→ Minimum temp

→ Burning of motors {starting}

Ionosphere

→ Mesosphere to ionosphere में temp बढ़ता है।

→ यहाँ gas गर्म होकर ions में change हो जाती है।

→ reflect radio waves

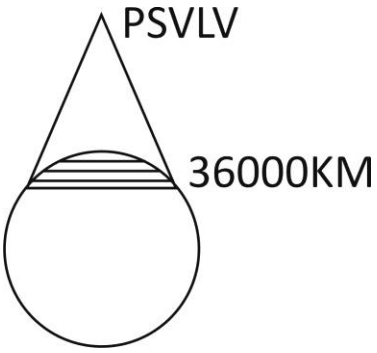
→ Ionosphere के बाद temp ↑es होता है। इसलिए इसे thermosphere कहते है।

Exosphere

→ He, H_2 gas

→ PSLV satellites

→ PSLV satellite से Earth के notation कीphoto लेते है।



→ GSLV Earth का चक्र 24hr में लगाएगा।

→ GSLV sun का चक्र365 D & 5h में लगाएगा।

→ Pole, की photo PSLV द्वारा ली जाती है।

→ Satellite की max height = 2000 KM

min height = 400 KM

Que. मौसम related information satellite → PSLV

Que. temp rises continuously after →Ionosphere

Que. किस Layer को thermosphere भी कहते है– Ionosphere

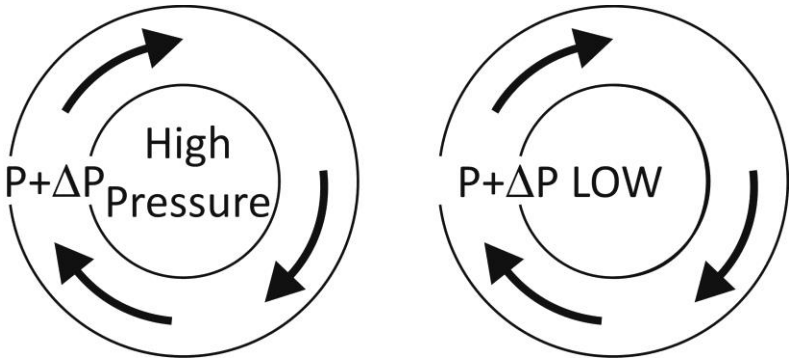
Que. Stratosphere में temp बढ़ता है– Ozone Layer के कारण

Air Pressure

→ Unit →Bar

→ Air pressure at sea Level →1013.25 m.b (millibar)

→ Wind flow from high pressure to low pressure



→ If Temp ↑ es → air pressure ↓ es → Volume ↑es

thermometer ऊपर ↔Barometer नीचे

→ If Barometer sudden ↓ es → storm

➢ Water Evaporation ⟶ Water Vapour

↑ Condensation

Relative humidity $= \frac{\text{Absolute humidity}}{\text{capacity of humidity}} \times 100$

↓

unit less

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→ humidity (moisture)

→ Absolute Humidity ⇒ जितना wind में पानी पिया है।

→ Capacity of humidity → जितना wind पानी पी सकता है

→ Unit of humidity = Grain/feet^3

→ Measured by = Hygrometer

→ Relative humidity $= \frac{2L}{4L} \times 100 = 50\%$

Relative humidity $= \frac{4L}{4L} \times 100 = 100\%$ (possibility of Rain)

→ Temp ↓ es → capacity (Volume) ↓ es → R. H ↑es

→ Temp ↑ es → capacity (Volume) ↑ es → R. H ↓es

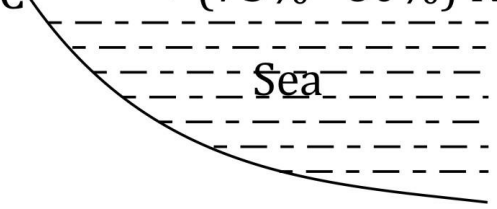
→ Water Vapour का Weight बहुत कम होता हैthan any other things isliye

wind पानी पीकर ऊपर उठ जाती है।

0°C ⟶ 100% RH ⇒ RH point/Dew point (DP)

↑

30°C ⟶ (75% –80%) RH



→ If DP < 0°C ⇒ Hail

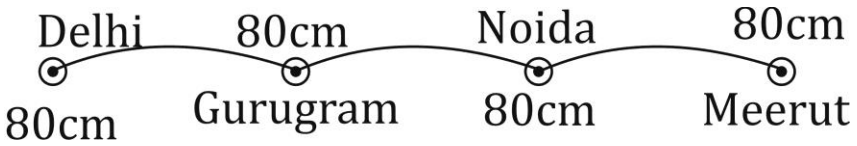
→ If DP > 0°C ⇒ Rain

Rain करानी हो तो (1) हवा को पानी पिलाओं

(2) और हवा को ऊपर उठाओं (Temp कम करते के लिए & RH-100% के लिए

→ कम time में जगह में ज्यादा बारिश होना ⇒Reason of cloud burst

→ Isohyet → समान वर्ष वाले क्षेत्रों को मिलाने वाली रेखा



→ Instrument to measure rainfall - Rain gauge

→ Snow fall → ऊपर का और नीचे का temp same हो जाता है & जब Water vapour snow में convert हो जाता है। फिर RH=100% होने Hails & snow fall आते है।

→ नीचे Level पर बादल बनते है।

During winter, wind कम पानी पीती है hence बारिश नहीं होती only cloud formation w.r.t capacity of wind low level पर condensation होता है।

जो temperature cloud formation के लिए ऊपर चाहिए वो नीचे ही मिल जाता है।

→ Dew →on leaf of plants

$\frac{1L}{2L} \times 100 \Rightarrow 50\%$ [Day]

$\frac{1L}{1L} \times 100 = 100\%$ Dew [In Night]

Temp ↓ es capacity ↓ es Volume ↓es

During night temp कम हो जाता है। & hence the capacity ↓es तो जितना पानी Day में पीती थी उतना ही रात में पीती है But रात में capacity कम हो जाती है & RH→100 & leaves पर Dew आ जाती है।

If DP > 0° ⇒ Dew

DP < 0° ⇒ frost

जब temp बहुत कम हो जाता है तो Dew changer to frost

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→ Winter में Dry skin → Because of RH

→ Best for human health – RH (40–60)%

→ RH →100% Oily skin

→ RH →10% Dry Skin

Que. Dec/Jan → 80% →Dry Skin?

Ans. temp ↓ es → capacity ↓es but wind में कम पानी है

इसलिए Dry Skin $\frac{2L}{3l} \times 100 \Rightarrow 66.66\%$

June/July → 70% →Oily skin ?

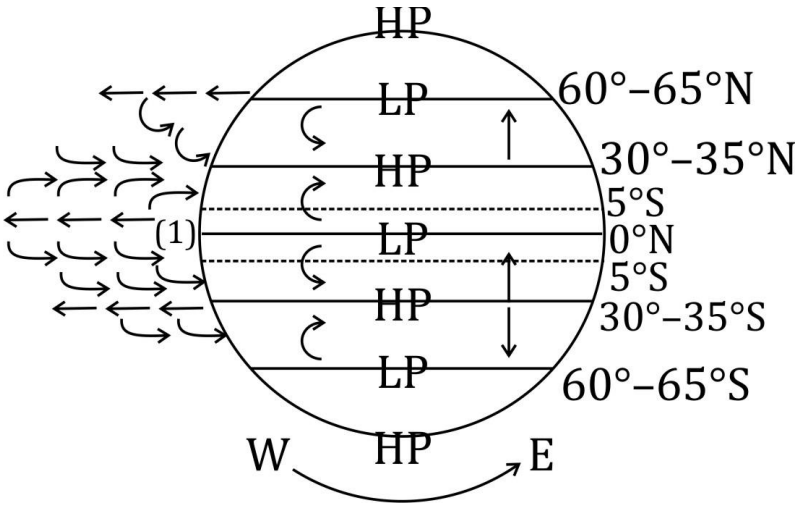
Temp ↑ es → capacity ↑ es $\frac{10L}{20L} \times 100 = 50\%$

यहां wind में ज्यादा पानी है इसलिए Chip-Chip वाली skin

→ Temp ↑ es → capacity ↑ es → Absolute ↑es

→ Temp ↓ es → capacity ↓ es → Absolute ↓es

Air Pressure Belt



(1) <u>Equatorial Low pressure belt</u>→Doldrums/calm belt (5°N–5°S)

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→ High temp →Law pressure all time

→ No winter season and rain fall throughout the year →Daily rain fall →After 2 PM

2-3 बजे गरम होने के बाद air upar उठेगी - 5 - 6 बजे then rainfall

→ It is an area of convectional Rainfall

→ Maximum Humidity → चिप चिप ज्यादा

→ Unhealthy climate → खुजली

→ Malaria, Diarrhea maximum at equatorial

→ ऊँचे पेड़ पौधे →bcz of photosynthesis

→ Epiphylls plants →espin Equatorial forest
(वो plants जो दूसरो की Help लेकर बड़े|grow करते है)

→ Biodiversity Max^{m}

→ Max^{m} snakes

→ Lack of transportation due to thick forest

→ Main Ares →Amazon Basin (brazil)
Congo (Zaire) Africa

→ Mountain हुआ तो उस भी snow होगी।

(2) <u>Sub Tropical High pressure Belt</u>
or (Horse Latitude) (30–35° N & S)

→ Area of less rainfall & stability

→ High pressure

→ Dessertइसके आस पास होगे (Deciduous tree)

(3) <u>Sub Polar {60–65° N & S}</u>

→ Temp↓ es → low pressure because of rotation of Earth

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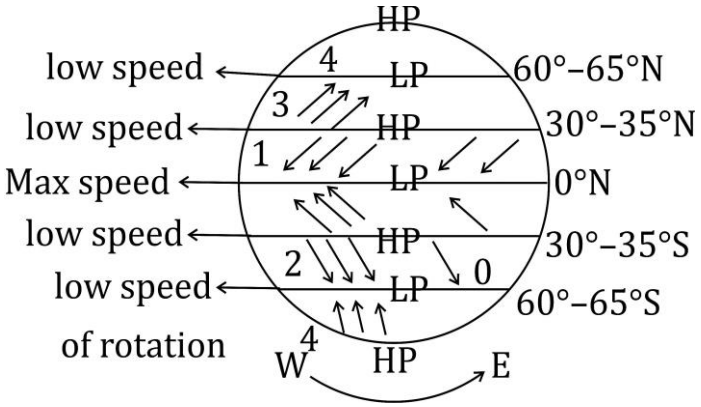
→ Wind ऊपर उठेगी

→ यहाँ wind flow नहीं करती बल्कि गरम होकर ऊपर उठती है।

(4) Polar High Pressure Belt

→ High pressure due to low temperature
जो जहाँ से आती है wind उसी नाम पर होती है।

(i) North-East/Tradewinds
(ii) South East Trade winds
(iii) Westerly winds
(iv) Polar winds



❖ **Permanent /prevailing/planetary wind**

→ There is no change in the direction of permanent winds

Types

(1) Trade winds

↓

Germany (एक ही direction में चलना)

(2) Westerly winds

→ In southern hemisphere, due to lack of land, the speed of westerly wind is highly increased and they are known as

a) Roaring Forties → 40°S (गरजती चालीसा)

b) furious fifties → 50° (प्रचंड पचासा)

c) shrieking sixties → 60° (चीखती शाखा)

Northern hemisphere में Land होती है तो Land टकराकर speed ↓es

Coriolis force

→ It is the deflection force originates due to rotation of Earth. Due to this force

❖ In Northern hemisphere →Right hand deflection

❖ In southern Hemisphere → Left and hand deflection

Coriolis force→ Max at poles

Min at equator

Que.

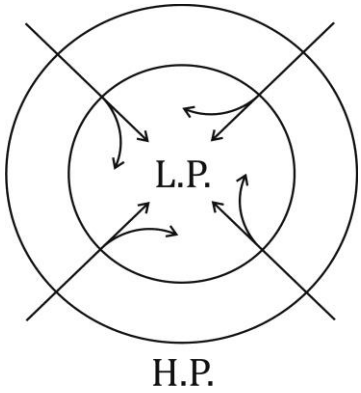
→ Amazon Forest →KnounKnown as Lungs of Earth

→ Hottest country in the world → Libiya (Al-Aziziya) 58°C

→ Hottest state of India → Churu Rajasthan 54°C

Cyclone

यदि किसी क्षेत्र में low pressure होगा तो चारों तरफ की हवा वहाँ आ जाएगी और बीच की हवा ऊपर उठ जाएगी।



→ In Northern Hemisphere right hand deflection

→ In southern Hemisphere rotation is clock wise

→ Equator पर cyclone नहीं आता क्योंकि Equator पर coriolis four is low & hence speed of wind ज्यादा होती है।

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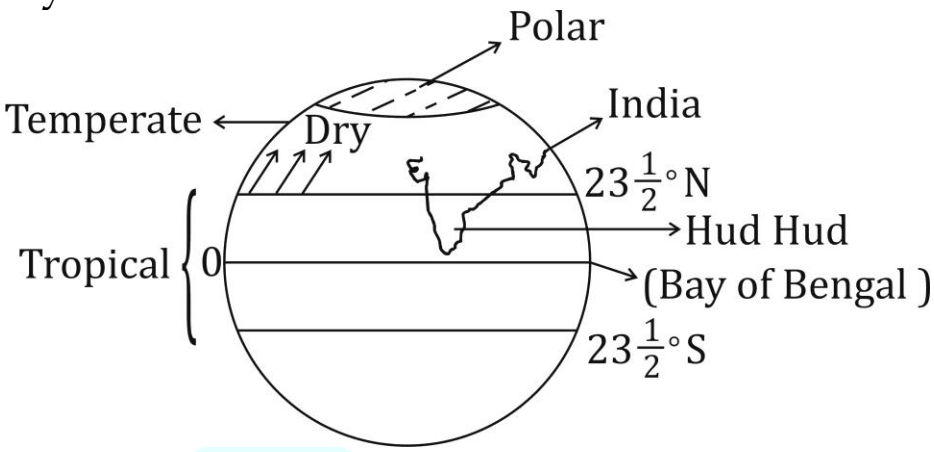
→ Cyclone जब भी आएगा Heavy rainfall होगा & ओले भी आयेंगे।

→ Humility Max^{m}

Types of cyclone

1) Temperate Cyclone
2) Tropical Cyclone



1) Temperate Cyclone {Mid-latitude → 30°–60°}

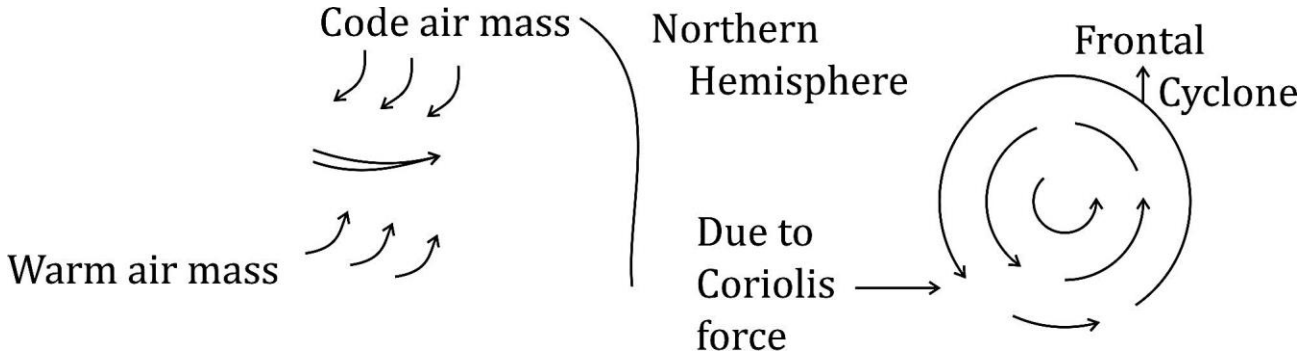
Front → Zone where warm & cold air mass meets cold air mass नीचे बैठेगी & warm air mass ऊपर उठेगी।

→ rainहोगी

→ path of temperate cyclone west ⟶East

West में ज्यादा बारिश होगी।

East में कम बारिश होगी।



→ Temperate Cyclone सबसे ज्यादा North Atlantic Ocean पर बनते है और सबसे ज्यादा Effect Eurasia में करते है।

(2) Tropical Cyclone

Condition for formation

i) Temp at sea level should be greater than 27°C

ii) The effect of coriolis force more than enough

iii) Continuous supply of heat & vapors.

→ Cyclone Coast से अन्दर आने पर कम हो जाता है bcoz of latent heat कम हो जाती है और ज्यादाwind ऊपर नहीं उठेगी & cyclone नहीं आएगा।

→ Tropical cyclone always generate in sea

→ Temperate cyclone west में ज्यादा effective होता हैbcoz of direction from west to East but Tropical cyclone eastern part में ज्यादा effective होता हैbcoz of direction of wind form East to west

→ Tropical ज्यादाeffective होता हैthan temperate

→ Cyclone के लिए खुली जगह चाहिए।

<u>Tropical</u>

➢ Hurricane {East to west}

→ Originate from Caribbean sea

→ affect south-East of USA

Katrina, रीता, Sandy → all are forms of Hurricanes

Typhoon→China/Japan

– Heyan {Typhoon cyclone of Philippines}

(3) Willy-willy {Australia}

(4) Tornado (Canada)

→ In Internal area of USA →Mississippi River Valley
↓
Great plains

→ Most Destructive

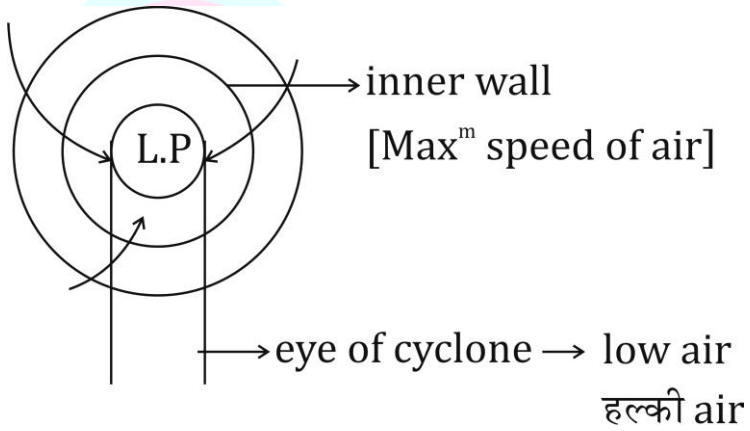
→ Min^{m} low pressure at the centre

→ In India, Bangladesh and Pakistan → cyclone it also called depressions [अवदाब

→ $\frac{\text{Hud–Hud}}{\text{Phylin}}$ → Orissa

→ Nelopher → Gujarat

❖ **<u>Eye of cyclone</u>** (centre point/low pressure)



→ Low pressure centre of cyclone

→ It is an area of stability

→ Temp high comparatively (resulting in low pressure).

<u>Inner wall</u>

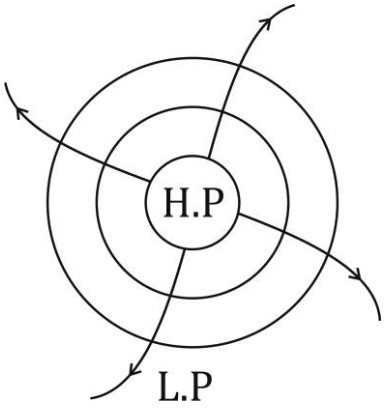
→ Most destructive

→ Wind flow with max^{m} speed

→ Rain सबसे ज्यादा

Anti Cyclone

(Northern Hemisphere)



→ Clockwise

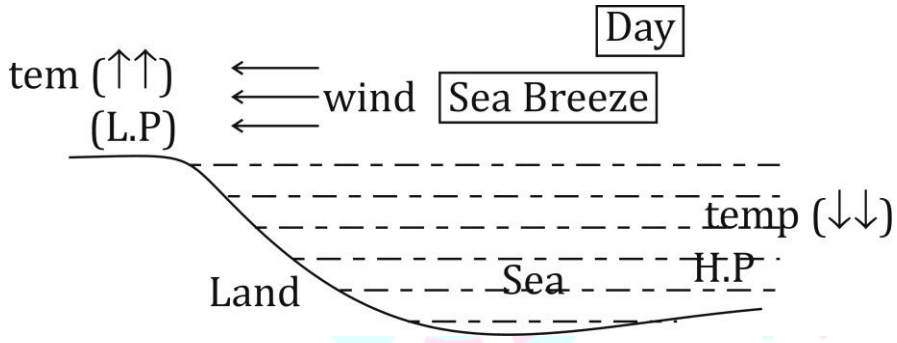
→ Direction of wind clockwise in Northern Hemisphere

→ No-rain

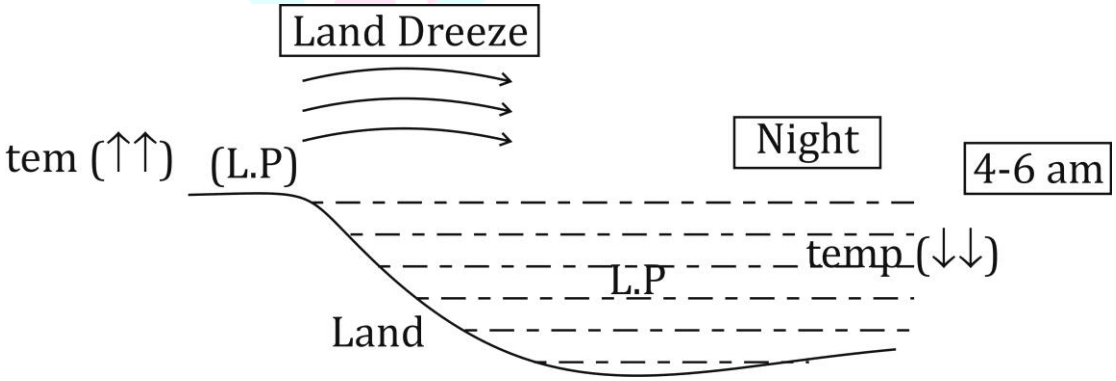
→ It is an area of clean weather and stability

→ Max^{m} in Desert Area (जहाँ बारिश नहीं होती)

Sea and Land Breeze



दोपहर में Sea Breeze (Day) 2-4 PM



मछुआरे सुबह के time sea में जाते है और2–4 वापिस लौट आते है इससे boats कोspeed मिलती है।

Maritime Effect (Coastal areas)

→ Temp में कभी Variation नहीं होगा। {in winter/summer}

→ बारिश ज्यादा

→ Humidity ज्यादा

→ Chip-Chip वाला मौसम

→ Mumbai, Goa

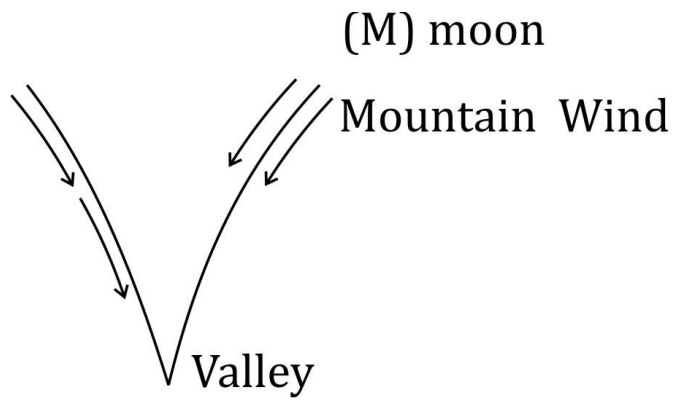
Continental Effect

→ Temp में variation बहुत ज्यादा

→ Delhi, Moscow

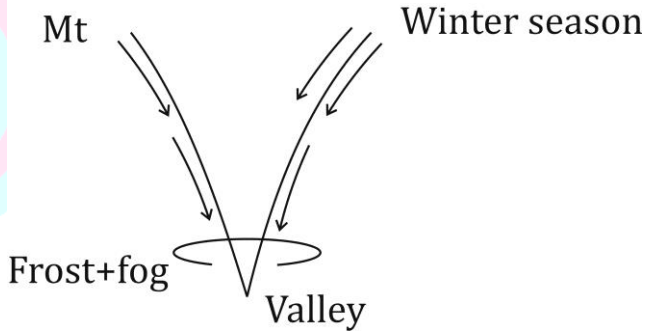
Mountain & Valley wind

→ High pressure ← temp
↓↓
Air ठण्डी होकर नीचे बहती है
& valley में जाती है।

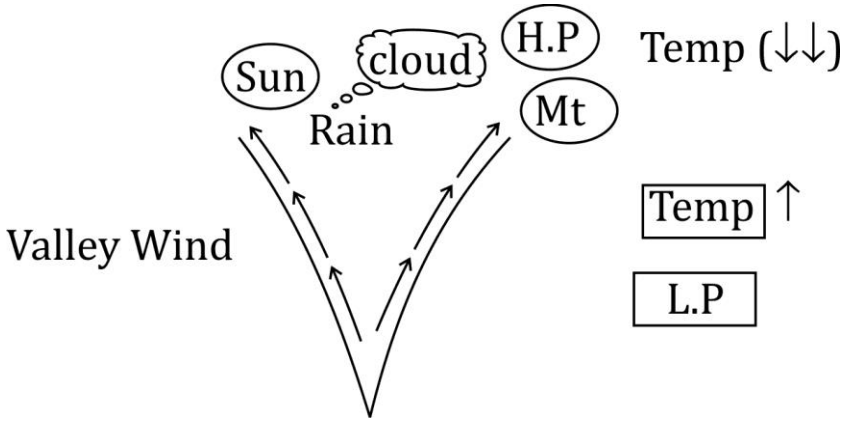


Good weather+sun

→ Dew Point < 0°C
Frosting होगी।



valleyमें रहना ज्यादा खतरनाक है than mountain. Valley में sunshine नहीं पहुँच पाती।



Monsoon

→ It is a temporary, periodic, seasonal wind

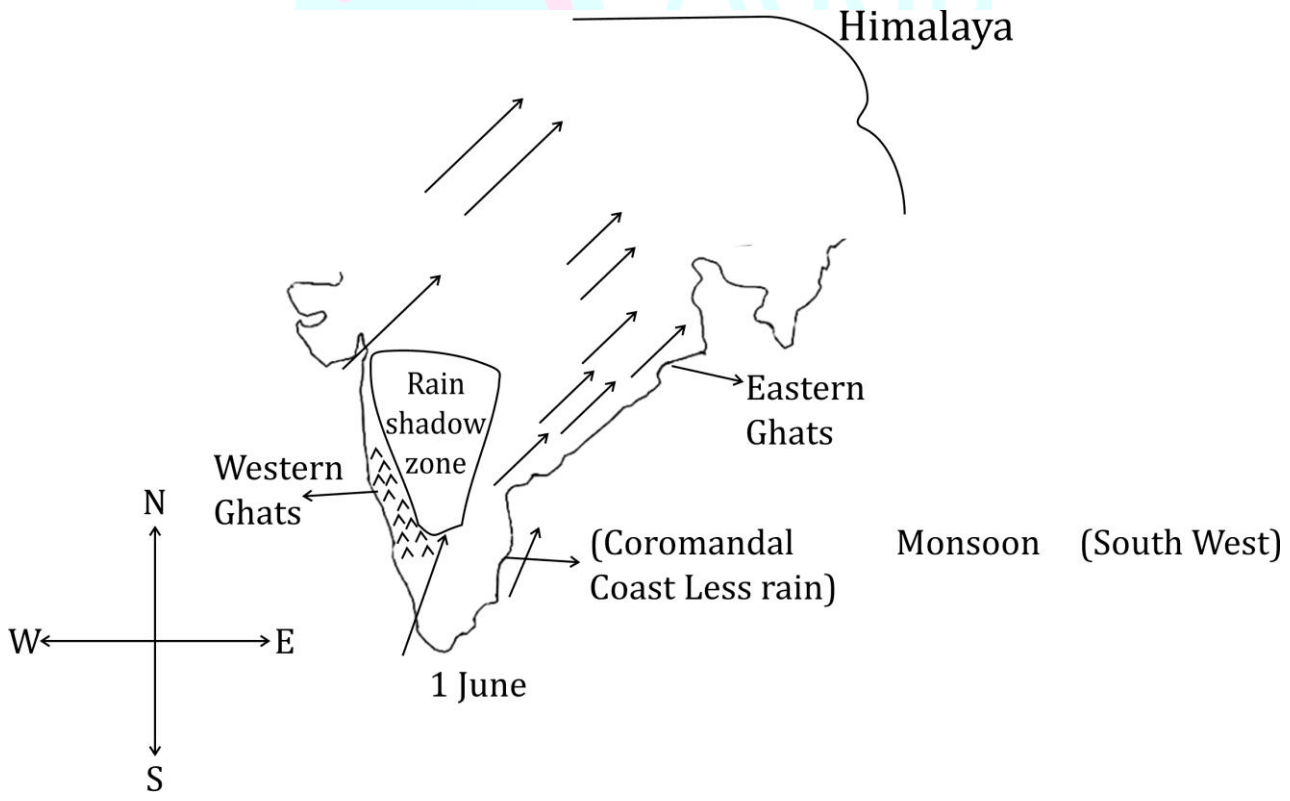
Monsoon affecting factors

1) Location of sun
2) Different cooling and heating ratio b/w Land & Sea
3) Shifting of ITCZ (Inter Tropical convergence Zone towards North .
4) Jet Stream and heating of Tibet plateau.
5) EL-Nino effect

There are four type of Monsoon

(A) South-West Monsoon (1 June -23 sept)

15 July तक पूरे भारत में फैल जाएगा।



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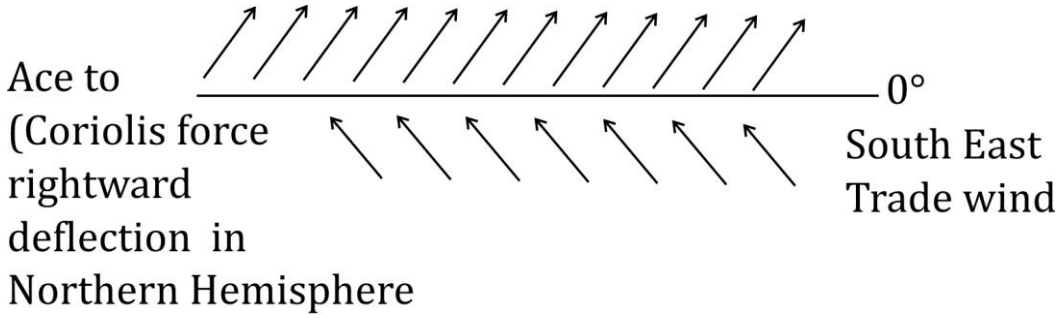


→ Ist Monsoon Rain In India → Malabar Coast (Kerala) On 1st June. & Called Burst of Monsoon

→ Silent Valley → Kerala (यहांBiodiversity ज्यादा है)

→ Max^{m} Rainfall in India in Bay of Bengal branch

→ Orographic Rain→ Rain due to presence of mountains.

→ Pune/Bengaluru→ are in rain shadow zone → rain कम होगी क्योंकिcoast पर नहीं है थोड़ा अन्दर है।

→ Max^{m} Biodiversity in India → Kerala Hill (western Ghat)

→ Hot-Spot is related to rich biodiversity places

→ Less rainfall in Aravali Region because it is parallel to south-west monsoon & cannot stop south-west monsoon to rain

→ Less rainfall in Coromandel coast because eastern Ghats are parallel to south-west monsoon. The winds are in rain shadow zone

→ In Ganga plains (rain in descending codes)
Kolkata >Patna> Allahabad >Delhi
(Max) (Min)

→ India का maximum area temperate zone में है फिर भी इसको Tropical जलवायु कहते → Because of Himalaya

→ विश्व की सबसे ज्यादा बारिश होने वाली Hills

Garo, Khasi, Jaintia

Cherrapunji (Jaintia)→3 days (1170 cm rain)

→ Khasi →Mawsynramमें सबसे ज्यादा बारिश (1180 cm)

→ Delhi में Bay of Bengal से rain होती है।

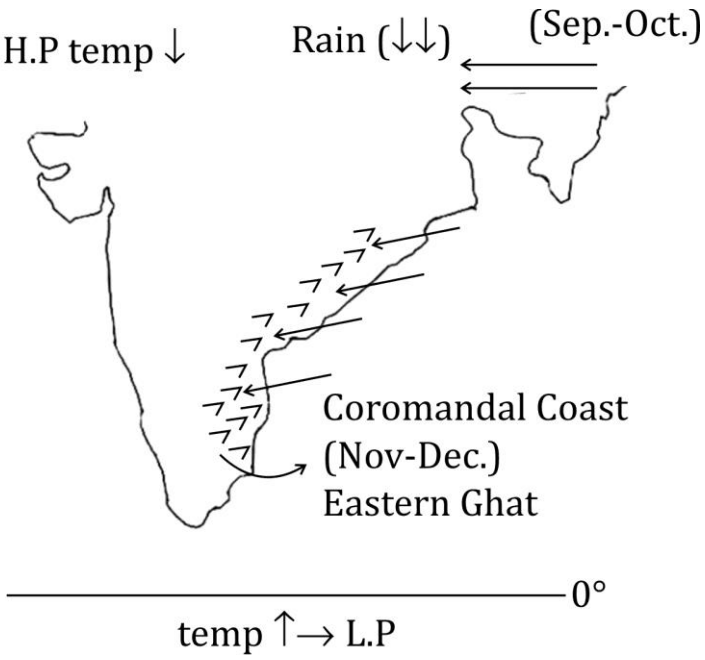
→ India's Driest place ⇒ Leh (8 cm)

(B) North East Monsoon (23Sept.–22Dce.)

→ इसी मानसून को Retreating monsoon भी कहते है।

→ India का तूफानी month → Oct, Nov.

Hud-Hud comes in Bay of Bengal



Que. लौटता हुआ Monsoon सबसे ज्यादा कौन सा तट प्राप्त करता है।

Ans. Tamil Nadu

Que. Winter rainfall तमिलानाडू में कौन से तट पर होती है।

Ans. Coromandel

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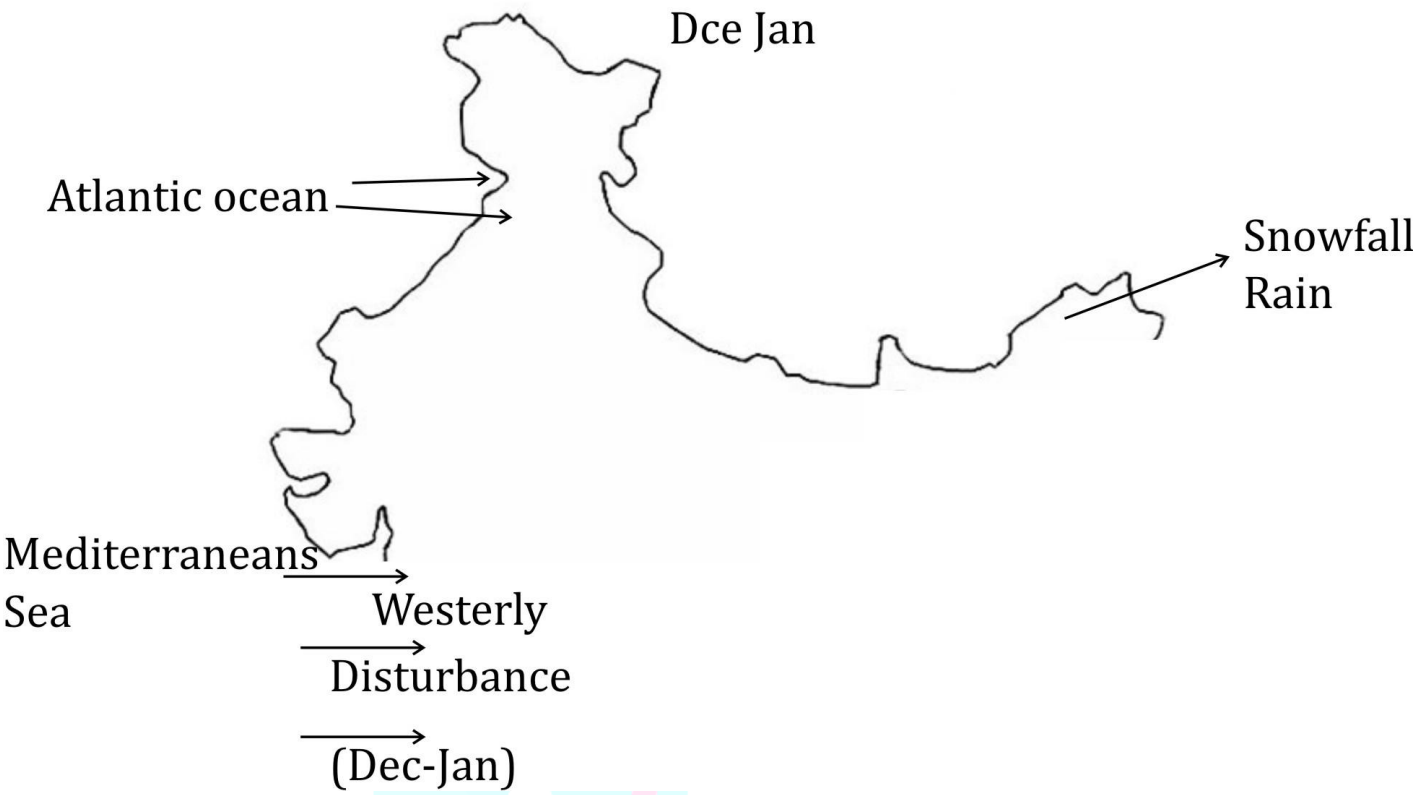
Winter Rainfall in India

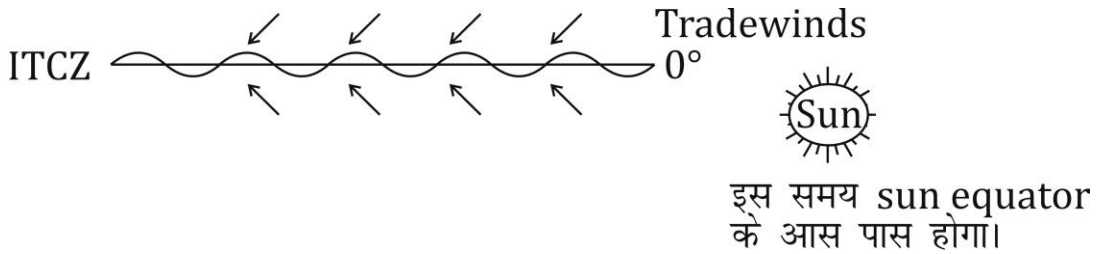


→ Winter Rainfall due to shifting of westerly winds.

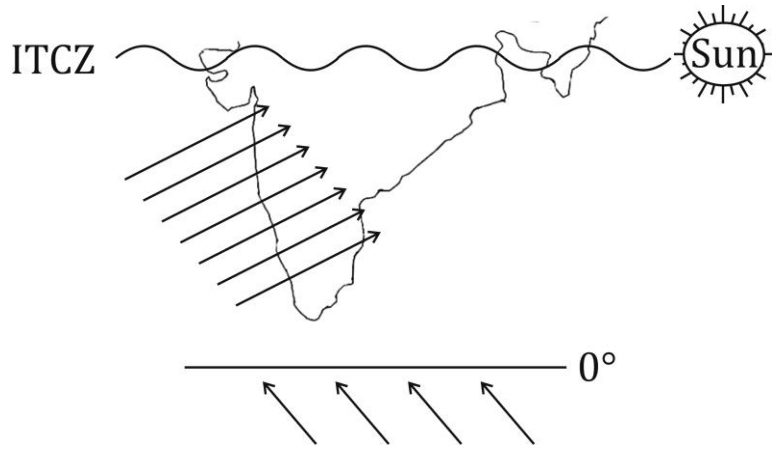
→ Summer rainfall due to Trade winds.

→ Med. sea/Atlantic ocean के आस पास के area में winter में rainfall होती है।

❖ Shifting of ITCZ towards North



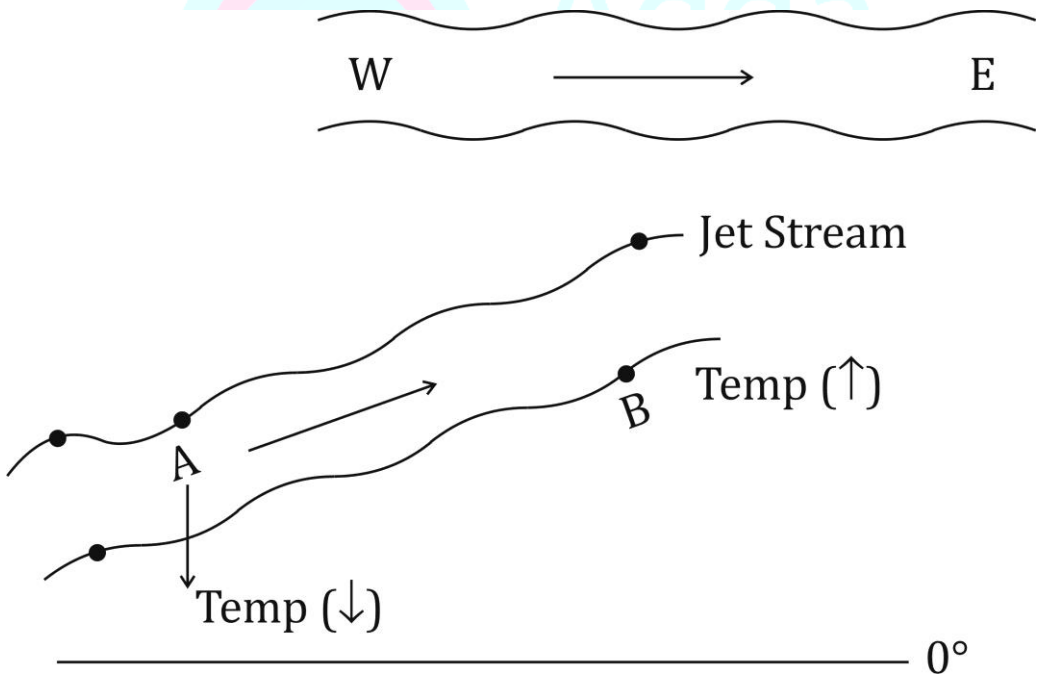
→ ITCZ sun के साथ ही move करता है।



→ Trade winds always hot winds because it is on tropical zone.

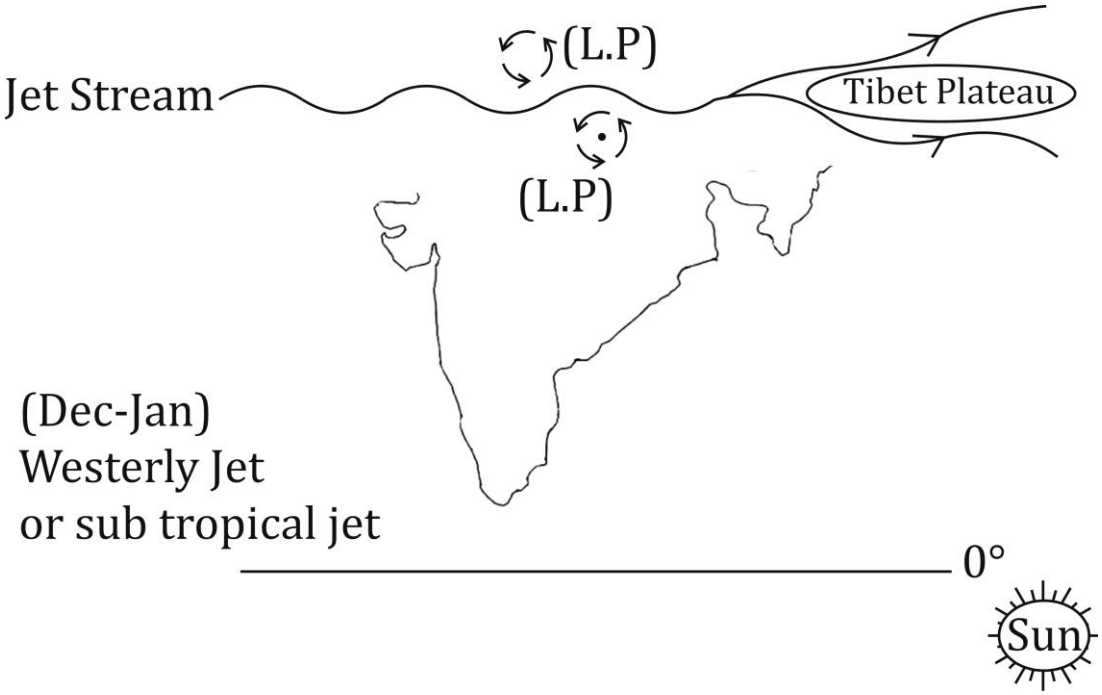
❖ Heating effect of Tibet plateau & Jet stream

Jet stream winds : →It is a high level high speed winds {8-12km/h}. Troposphere के ऊपरी हिस्से में west to East चलेगी।



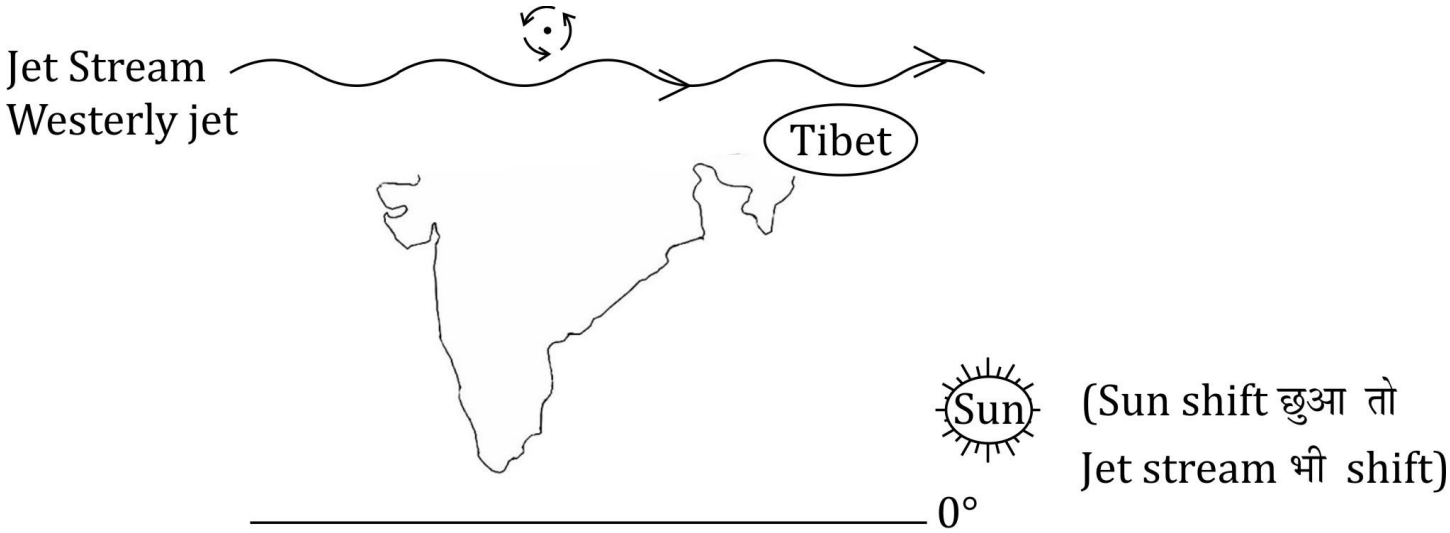
Actual में जो equator के पास होता है वहाँ temp ज्यादा होता है but jet stream जब meandering करेगी तो ये situation change हो जाएगी।

Heating effect of Tibet plateau



→ Winter rainfall in India because of westerly/subtropical jet

→ अप्रैल–मई में ज्यादा temperature होने के कारण भी राजस्थान मेंrainfall. नहीं होती क्योंकि jet stream clockwise चल रही जिससे वे High pressure create करती हैand राजस्थान की गरम winds की ऊपर नहीं उठने देती है। इसलिए यहाँ बारिश नहीं होती है।



→ अब राजस्थान में Hot winds ऊपर उठेगी and low pressure create करेगी because of no jet stream then there should be rainfall, but there is no rain in May because this time Tibet plateau गरम नहीं होता जिससे rainfall नहीं होती & June में sun और ऊपर उठेगा and Tibet plateau गर्म होगा then low pressure और बारिश होगी।

(4) El-Nino→ Warm Ocean current in East pacific

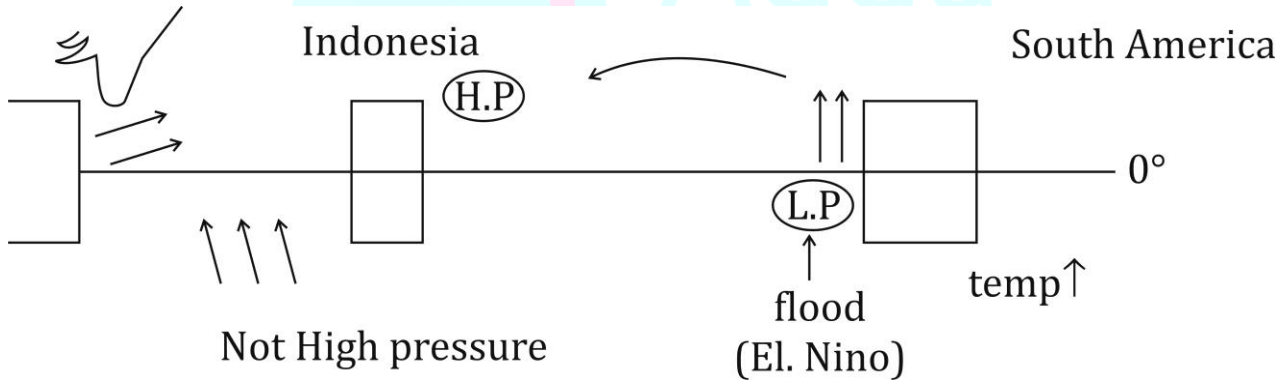
→ Replaced Peru/thunderbolt current

→ If El-Nino (↓ es) →Indian Monsoon ↓ es

→ Monsoon late हो सकता है

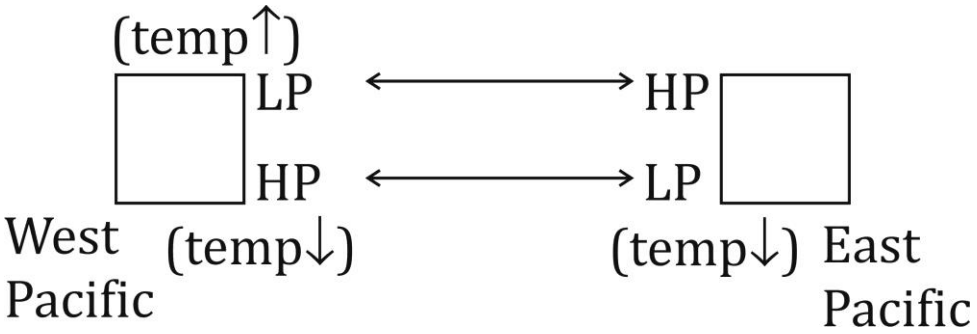
→ Fishing को नुक्सान

→ Indonesia में rainfall ↓es

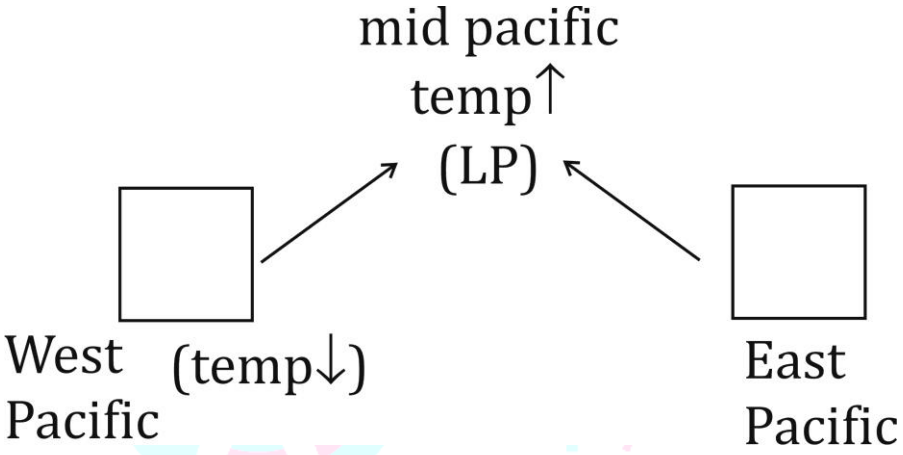


→ Earth की rotation की वजह से sea water move करता है और South America से गर्म पानीIndonesia को जाता हैand South America में नीचे से ठंडा पानी ऊपर आ जाता है।and Indonesia में गरम पानीwind को गर्म करता है और वहाँ Low Pressure create हो जाता हैthen wind move to Africa & South America

ENSO→ El-Nino Southern Oscillation



EL-Nino Mudeki→ Reason →Global warming



(C) Westerlies Disturbance 22 Dec- 21 Mar

→ Himalaya हमारे blanket का काम करता है जो India करता westealies को आने से रोकता है।

→ जैसे ही sun नीचे आता हे westerlies India में Enter करता है

Que. India में noth west part में snowfall किस कारण से होता है।

Ans. Due to Westerlies wind

(D) Pre Monsoon Rainfall (21 Mar- 1 June)

Pre -monsoon से फायदा होता है।

❖ India के कई राज्यों में इस अलग नामों से जाना जाता है।

Maharashtra ⟶ Alpanso-Mango shores
(आम की फसल)

Karnataka ⟶ Cherry Blossom

West Bengal ⟶ Kaal Vaisakhi
(काल वैसाखी)

Assam ⟶ Tea shoulder

Que. Garo, khasiमें सबसे ज्यादा बारिश होने का कारण

⟶ Funnel Shape

Que. सबसे ज्यादा बारिश Jan - Feb ⟶ J & K

❖ **Mediterranean Sea climate**

→ Found in 30° – 40° N & S ⟶ West of continents and around Mediterranean sea Region

→ Rainfall in winter season {50-80 cm} because of westerlies

→ There area are famous for citrus fruits & sine

Main Places

→ Area around Mediterranean sea

→ Santiago {Chile}

→ California

→ Cape - town (S.A)

→ Perth (Australia)

5°	1°
10°	2°
30°	1°
Normal Condition	Inversion of temp {Only in winter}
{long night}	{always in night maxm}

Inversion of temperature

→ Long and cold night

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→ Clouds नहीं होने चाहिए

→ Clear sky, जिससेHeat emit हो सके

→ Air movement कम हो ताकि temp में change ना हो

→ No vertical movement in winds (Ocean Current)

→ Rainfall or snowfall 1 or 2 days ago

→ Power of Drift < Current < Stream

Ex. 1 Gulf of Mexico कीsalinity is slightly higher than Gulf of California because of ocean current

Ex. 2 Salinity of North sea is higher than Baltic sea because of ocean current {Due to Atlantic Ocean}

Ex. 3 Location of sea & lake salinity of Red is higher than salinity of Arabian sea because of landlock

❖ Ports of western Europe open throughout the year because of North Atlantic gulf stream

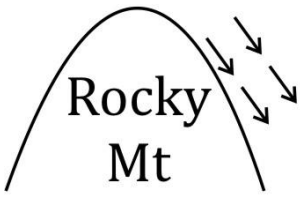
<u>Local Winds</u>

→ Flow in particular region

(1) <u>Warm Local winds</u>

a) CHINOOK → Blow in Eastern slope of Rocky Mt (USA)

→ also called ICE Eater



Adiabatic rate

<u>temp</u> ↑

Air → V ↑ T ↑ V

& V ↓ T ↑

V = Volume

T = Temp

Adiabatic Rate = Temp change $\left\{\begin{matrix}\text{No seat From} \\ \text{surrounding}\end{matrix}\right\}$

→ Rocky Mt के Eastern slope पर Chinook temp बढ़ा देती है due to Adiabatic rate → for crops

(B) Foehn → flows at Alps Mt {France-Switzerland}

(फान)→flows in winter

→ Good for citrus fruit crops {Grape wine}

Mnemonics →फान→fine wine

(C) Sirocco → Flows from Sahara Dessert to Italy

→ Dust Carrier

→ Blood Rain by sirocco in Italy

(d) Harmattan → from Sahara Dessert to west coast of Africa

→ also called Doctor wind

→ humidity कम कर देती है।

Hot Storms(April, may, June)

1) Norwester → Assam , West Bengal में चलती है

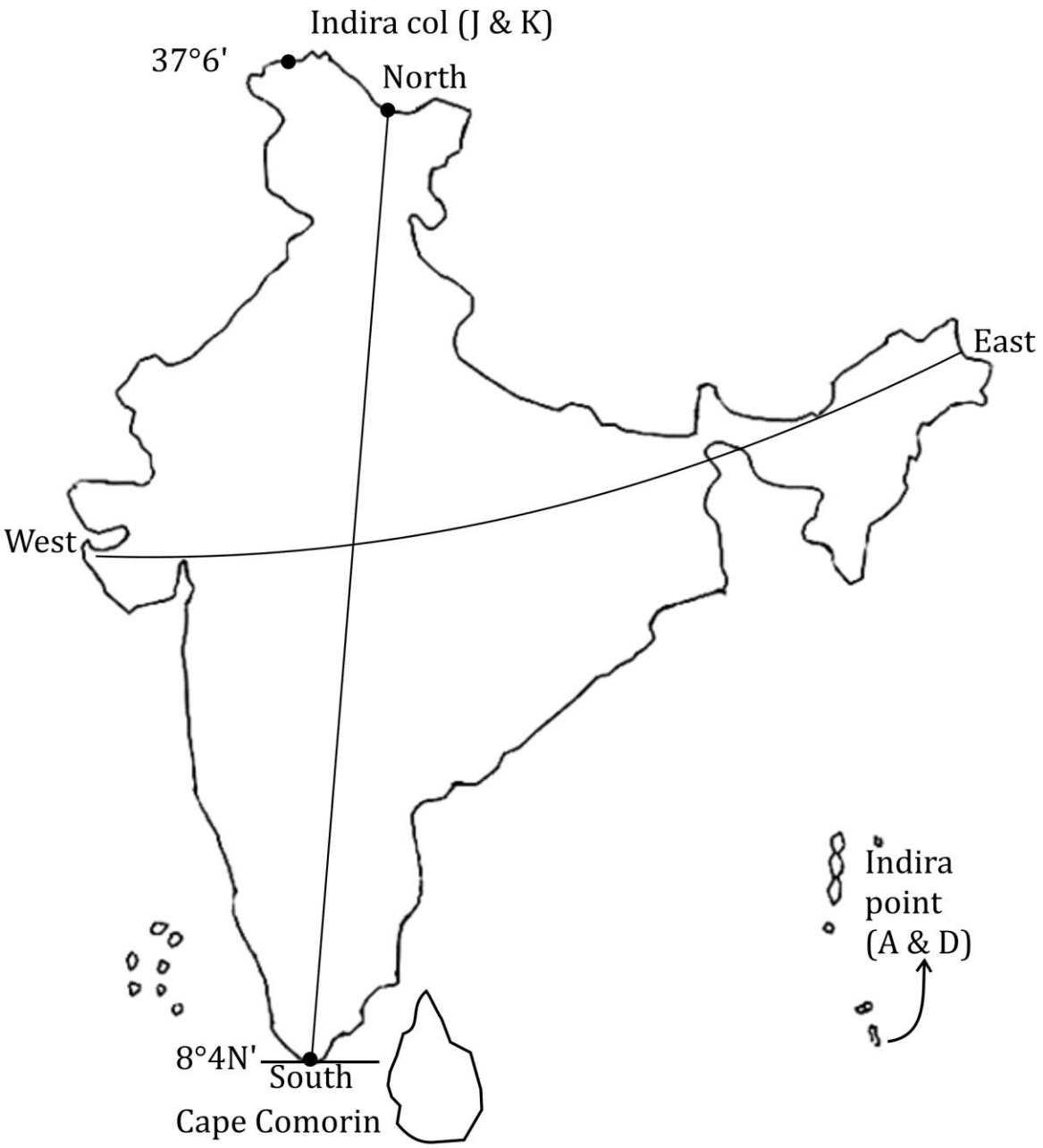
↓

Best Answer

2) Kal Baisakni→ West Bengal &Odisha Mainly

3) Loo → North India में गर्म हवाएँ

Location of India



Location of India	8°4N'–37°6N' and
Northern Hemisphere	68°7E'–97°25E'

→ भारत का दक्षिणी main land point → Cape Comorin (TN)

→ India में overall Last point → indira point (A&P) Great Nicobar,

→ North Mainland point → Indira col (J & K)

→ Indira point start → 8°4'N

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→ North South Distance → 3214KM
East-West Distance→ 2933KM

→ NEFA → North Eastern Frontier Agency (अरूणाचल से related है।)

→ Sir creek (Gujarat) → यह विवाद पाकिस्तान से related है।

	Area		**Population**
1)	Russia	1)	China
2)	Canada	2)	India → 17.5%
3)	USA	3)	USA
4)	China	4)	Indonesia
5)	Brazil	5)	Brazil
6)	Australia	6)	Pakistan
7)	India→ 2.4% (7th)	7)	Nigeria

विश्व में सबसे ज्यादा Sex Ratio → Russia (1100 women)

India & Neighboring countries

8°channel

→ B/W Lakshadweep & Maldives

→ India's Land Boundary (स्थल सीमा)→ 15200 KM

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Coast line → 7515 KM

Total Boundary 22715KM

→ भारत के 17 राज्य international boundary बनाते है

17 में Longest boundary → J & K

Shortest → Sikkim

→ Line b/w India & Pakistan →Red cliff (1947)

↓

General था उस समय, उसी के नाम पर है।

→ भारत की सबसे लम्बी सीमा

Bangladesh	China	Pak	Nepal	Bhutan
ब	च	प	न में	भू ल

→ भारत की सबसे छोटी सीमा → Afghanistan

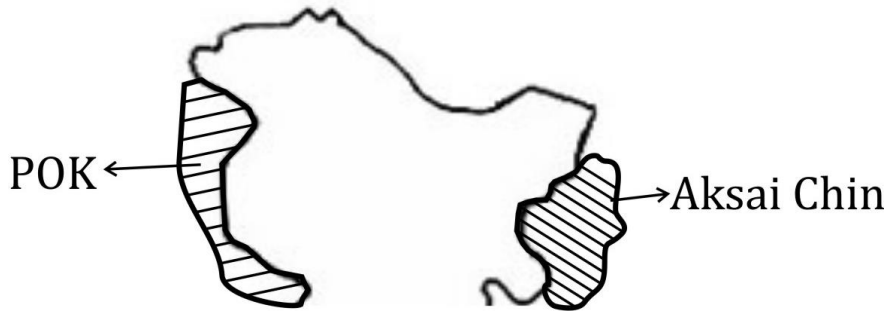
→ India's Loast line states (भारत के तटीय सीमा राज्य)

1) Gujarat
2) Andhra Pradesh
3) Tamil Nadu
4) Kerala

सबसे छोटी Coast line →Goa

→ Sikkimकितने देशों से घिरा है →3 (Nepal, Bhutan, China)

→ भारत के दो पड़ोसी देश जो समुद्र से घिरे है → SriLanka, Maldives



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कश्मीर के एक तरफ Pak और दूसरी तरफ चीन ने कब्जा कर रखा है।

→ भारत का Switzerland→ J & K

→ Longest railway tunnel → Kaji surang (J & K) 11KM

→ Pak की सीमा भारत के 4 states से लगती है → Gujarat, Rajathan Punjab & J & K

→ India का कौन साstate है जहाँrailway नहीं है → Meghalaya

→ North East को जोड़ने वाला एक मात्र साधन → NH31

→ म्यांमार की सीमा से लगने वाला राज्य → Arunachal Pradesh, Nagaland, Manipur, Mizoram अरूना मामी

→ Bangladesh से लगने वाले राज्य →W.B,Assam, Meghalaya, Tripura, Mizoram

→ कौन सा राज्य तीन तरफ से बांग्लादेश से घिरा है → Tripura

→ India के बीचों बीच Line→ Tropic of cancer

→ राज्य जिनसे Tropic of cancer pass करती है → Gujarat, Raj, MP, Chhattisgarh, Jharkhand, WB, Tripura, Mizoram

→ सबसे Longest tropic of cancer → MP

Shortest → Rajathan

Pakistan

→ Line b/w India & Pak → Red cliff (1947)

→ 1971 → बांग्लादेश पाकिस्तान से आजाद हुआ

→ October 1947 → Attack on J & K {Hair Singh King} came to India

→ 1972 →Shimla Agreement → Ceasefire line → Loc (Line of control)

→ POK → Pakistan Occupied Kashmir

→ J & K is an integral part of India including POK

→ 1984 → Meghdoot operation for Siachen Glacier

→ Karakoram connects Pak to china

→ Siachin Highest battlefield of world

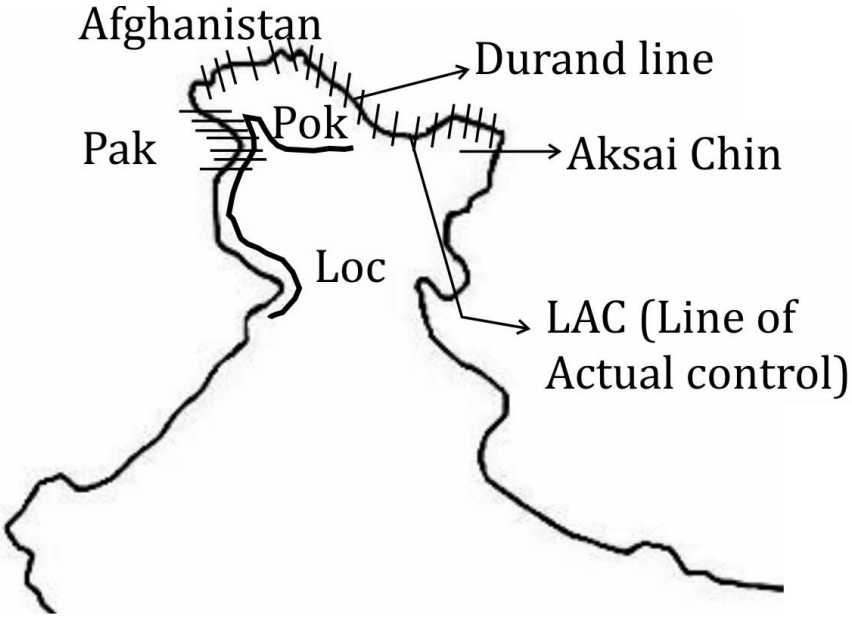
→ Sir Creek (Gujarat) → Dispute b/w India & Pakistan in western part of India

→ Gwadar Post → Harbour in Pak by china

Durand line → 1) Lin B/W India& Afghanistan

2) Also b/w Pak &Afghanistan

3) Made by British Govt.



China

→ Attached to India's state → J & K, HP, UK, Sikkim, Arunachal

→ 1954 → After attack on Tibet by china
→ Panchsheel principles (China & India) by PM Nehru
→ Hindi-Chini Bhai Bhai
→ 1958 → Dalai Lama came to India

→ 1962 → Indo - china war

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→ Infiltration by china → LAC में(Line of Actual control)

(why? → Boundary not defined (LAC) hence Dispute Occurs पहाड़ी area)

→ Infiltration by china in J & K → Daulat Beg Oldie Area, chunar, Rakinala

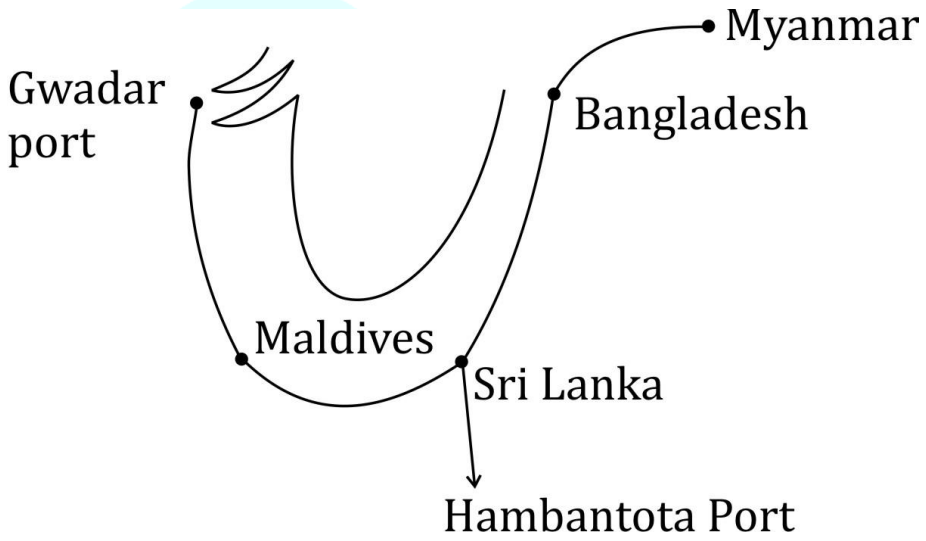
→ Demchok Leh (J & K), Depsang, pengong lake

→ Infiltration in Arunachal → Chaglagam

→ <u>"String of Pearl" Dispute</u>

Policy of china for developing

Ports & air bases in India Ocean



<u>NEPAL</u> → UK, UP, Bihar, WB

→ Land Lock country {eg→Bhutan/Afghanistan}

→ Pancheshwar Project → Sharda River (Nepal has problem)

→ We supply Nepal by Kolkata port though Bihar

→ Madhesi community→ Nepal Trai Region

Bhutan → Boundary with Sikkim, WB, Assam, Arunachal

Myanmar→ Arunachal, Nagaland, Manipur, Mizoram

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अरूना मामी Aru Na Ma Mi

→ Military rule→No Democracy

→ Aung San Suu Kyi - Political party NLD (National league for Democracy) won by 98%

→ Naypyidaw→ New capital

→ Rohingya→ People of Muslim community [Less%]

(Myanmar) → They are in very critical condition

Bangladesh → Mizoram, Tripura, Assam, Meghalaya

3 side से 2 side से

Dispute

1) Tista River →
2) Feni River
3) Tipaimukh Project → Baraka River → Manipur (असम भी जाती है then Bangladesh)

→ Teen Bigha Corridor

→ Farakka Barage → Ganga River → WB

→ New More Island → Bay of Bengal→ India

↓

Ganga River के

Delta पर

Barrage < Dam

(Small) (large)

→ Hugli river के किनारे→Kolkata

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River Dispute b/w India & Pakistan

→ Kishanganga Project→ Kishangana River {J & K} in favors of India

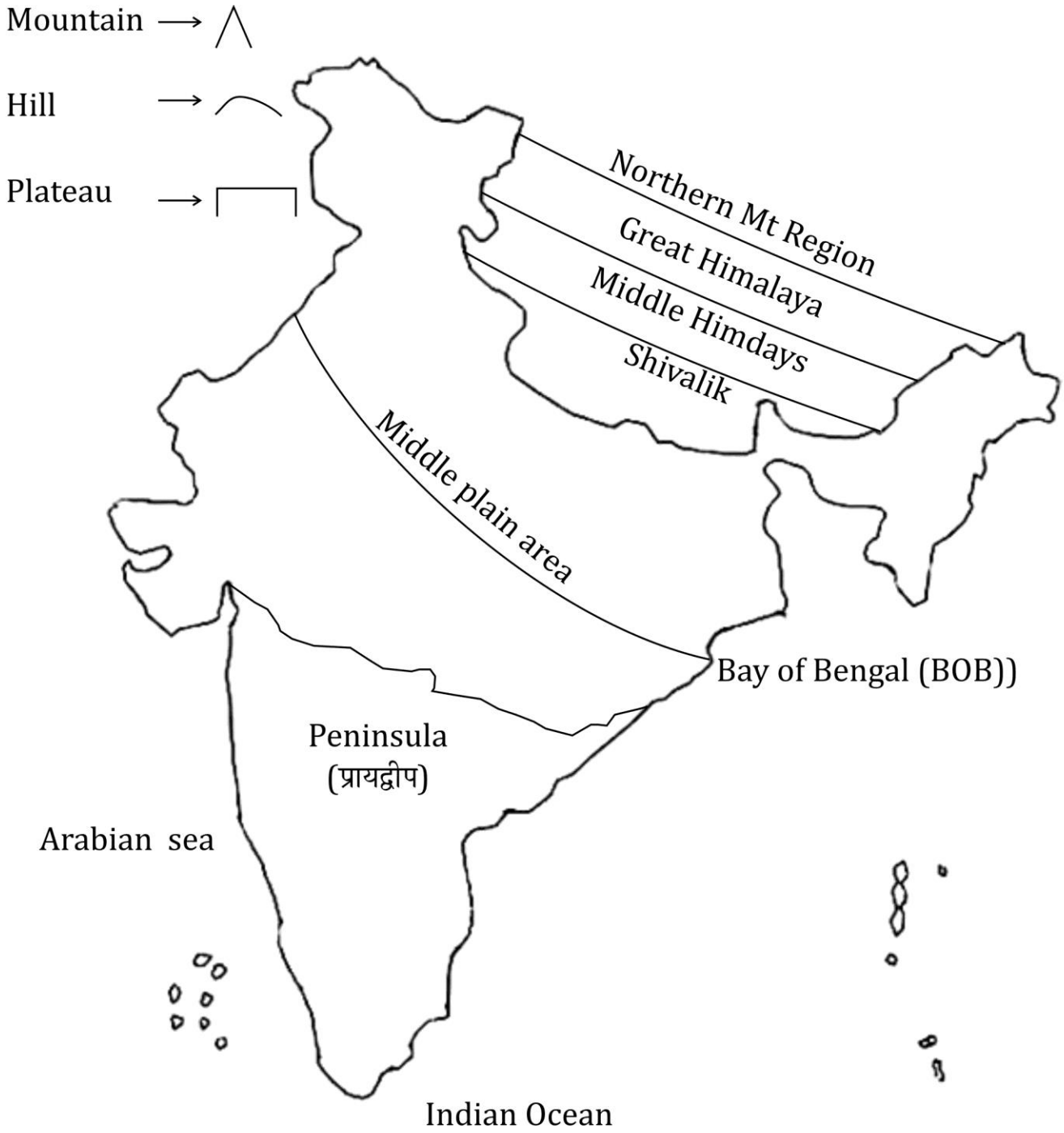
→ Bhaglihar Project →Chenab (J & K)

→ Tulbul Project → Thelum River (J & K)

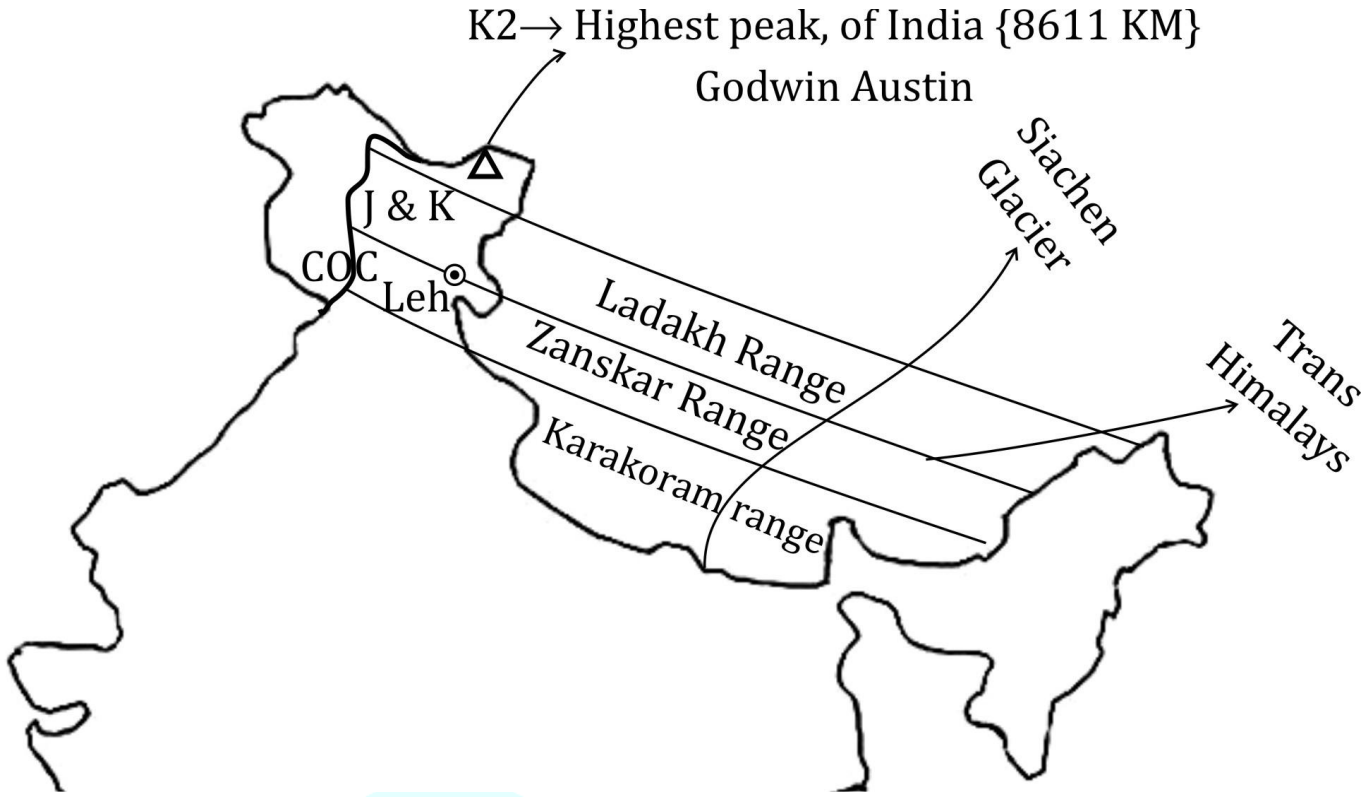
→ Nemo Bazago project → Indus (J & K) (Sindhu)

Physiographic Division of India

1) Northern Mountain regions (Himalaya)
2) Middle/Northern Plain
3) Peninsular Plateau
4) Islands



→ Himalaya का निर्माण Tthys sea से हुआ है



→ Himalaya is young fold Mt

→ 8% rocks made of sedimentary rocks (अवसादी चट्टाने)

a) Trans Himalaya → J & K to Tibet

b) Himalaya Mt Range → J & K ot UK to HP to nepal to sikkim

c) Purvanchal Hills / Eatern Hills

Ladakh → Cold desert of India

Leh → Min^{m} rainfall in India

Drass sector → (–38°temp Min^{m} temp)

both living places

<u>Himalaya Mt Range</u>

→ Highest Mt range of world

→ Youngest folded Mt

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(due to convergence of plates)

Great Himalaya → 7cr

Middle Himalaya → 2 – 2.5 cr

Shivalik (youngest) → 1 cr

→ Age to Earth = 460cr yr = 4.6 billion year

Origin of Himalaya

Due to 1) Collision b/w Indian plate and Eurasian plate.

2) Deposition of segments into tethyssea

→ Height of Himalaya is gradually increasing

→ Tethy सागर का proof → fossiles of marine animals in Himalaya

1) Great or Himadri Himalaya

→ World's tallest Mountains

→ Avg Heigt = 6000m

→ Heighest peak= 8848m

Mt Everest or Sagar Matha (Nepal)

→ Heighest peak of Himalaya in India → Kanchenjunga, (Sikkim) (8598 M)

Other Peaks

1) Nanga Parbat (J & K) 2) Nanda Devi (UK)

3) Kamet (UK) 4) Trishul (UK)

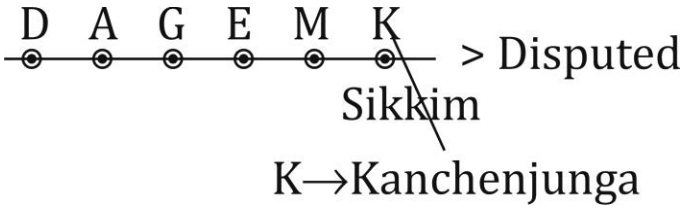
Peaks in Nepal

M → Makalu

E → Everest

G → Gouri Shankar

D → Dhaulagiri



Important Passes (दर्रे) of Great Himalaya

1) Zojila Pass → J & K {Srinagar = Leh}
2) Bara-Lap cha pass → HP {Manali = Leh}
3) Rohtang Pass → HP {Manali = Leh}
4) Sipki-La Pass → HP {Shimla = Leh}
5) Mana Pass → UK
6) Lipu Lekh → UK {पिथौरागड़ = मानसरोवर)
7) Nathu-La → Sikkim {गंगटोक = तिब्बत)
8) Jalep La → Sikkim
9) Bom-Dila → Arunachal

FAQ's

1) सर्वाधिक ऊँचाई पर अवस्थित pass → Rohtang pass
2) सबसे ऊँची Indian सड़क(also called Leh-Manli highway)
3) केदार नाथ जाने के लिए →Mana Pass का use
4) कैलाश मानसरोवर यात्रा →Lipu lekh (पिथौरागढ़ को मानसरोवर से जोड़ता है)
5) Trade b/w India & china by → Nathu -La-Pass
6) Asia's Oldest route → Silk route
7) Silk Trade by → Nathu-La Pass
8) Jalep-La-(Sikkim) → Kalling poing

↓

Lhasa (Capital Tibet)

(2) Middle or lesser Himalaya

Avg Height → 2000 - 4000 m

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→ NamchaBarwa Mt (AP)

Names of Middle Himalaya

1) Pir panjal Range (J& K)
2) Dhaula Dhar Range (H.P)
3) Mussoorie Range (UK)
4) Dekya Range (Sikkim)
5) Defla Ramge (Arunachal)
6) Nag Tibba Range (Nainital Range) (UK)
7) Mahabharata Range (Nepal)

Kashmir Valley → Pirpanjal Range
↓
Grass Land
↓
Merg(मर्ग)
Sonmerg (सोनमर्ग) | Gulmerg (गुलमर्ग)

Banihal Pass → J & K

↓

Jawahar Lal Tunnel

↓

Jammu to Sri Nagar

Main Hill stations Middle Himalaya में है

HP
- Shimla → Dhauladhar Range & Shivalik Range
- Dalhousie
- Dharmshala

In Dhauladhar Range

UK

Nainital
Ranikhet
Almora
Mussoorie

- Ranganga
- Corbett National Park (Tiger)
- Shivalik Range & about the Rohilkhand Plains

West Bengal

Darjeeling → Culture Sikkim जैसा है

→ Land of thunderbolt
Land of Gorkhaland
→ Darjeeling

(3) Shivalik/Outer Himalaya

Avg. height → 700-1200m

→ No snow fall

→ Soil erosion

Max^{m} erosion in Himalaya Region → In shivalik Range

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Other Names

Jammu → Jammu Hills
Arunachal Pradesh → Dafla Hills
Miri Hills
Mishmi Hills
Abor Hills

→ These are also tribes of A.P

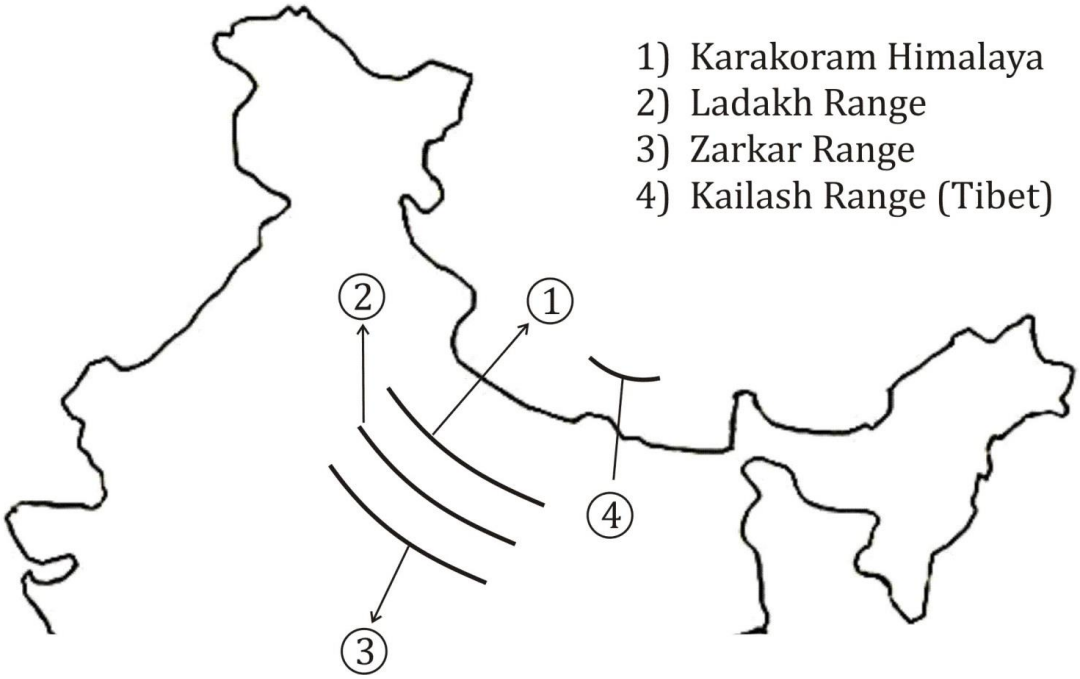
Shivalik Himalaya

- West → Haridwar से West Region में Dun → 300-700m
- Middle → Haridwar से middle "Dwar" → 10-300m
- North-Eastern Region → North-East में Hills → 700-1000m

→ Dehradun → Haridwar
→ Patlidun → Kotdwar
East → Dwar
West → Dun

Hills
- Mismi, Abor — AP
- Mikir, Barrel — Assam
- Lusai Hills → Mizoram

Trans Himalaya → हिमालय के आर पार पर्वत



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1) **Karakoram Himalaya**

India के सबसे North में अवस्थित →Karakoram

India का सबसे ऊँचा पर्वत →K^2 (8611KM) discovered by Godwin Austin

2) **Ladaksh Range**→ also known as cold dessert

भारत का सबसे बड़ा लोकसभा क्षेत्र →Ladakh

Highest Plateau of India → Ladakh

3) **Zaskar Range**

India का Min^m temp = Dras (–37°C)

4) **Kailash Range**

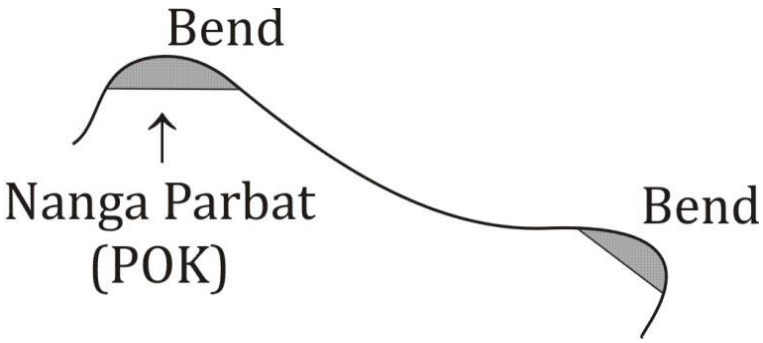
इससे भारत की तीन नदियाँ निकलती है।

(i) Indus
(ii) Sutluj
(iii) Brahmaputra

Features of Himalaya

1) Syntaxial bends

(from **Namcha Parbat** to **Nanga Parbat** (Eastern Peak) (Western Peak)



2) Folds
3) V-Shaped Valley

4) George Canyon

Glaciers

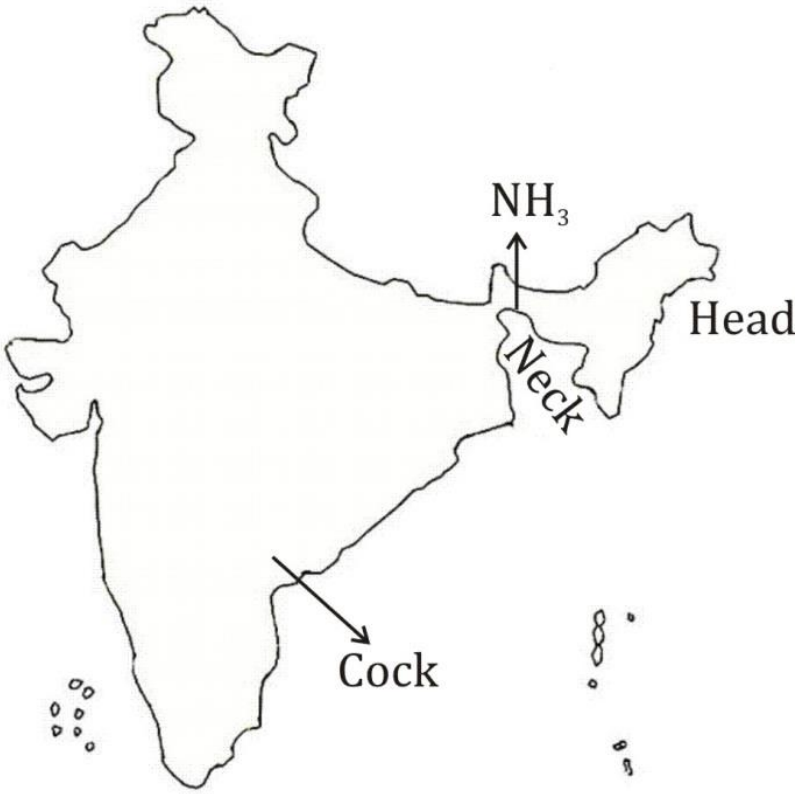
J & K	UK
Siachin	Gangotri
Baltoro	Yamunotri Pindari
Satoro	Milam (Ganga + Yamuna)
Hisper	Chorabari (melted when Kedarnath destroyed)
Honza	Satopanth kedarnath

Sikkim

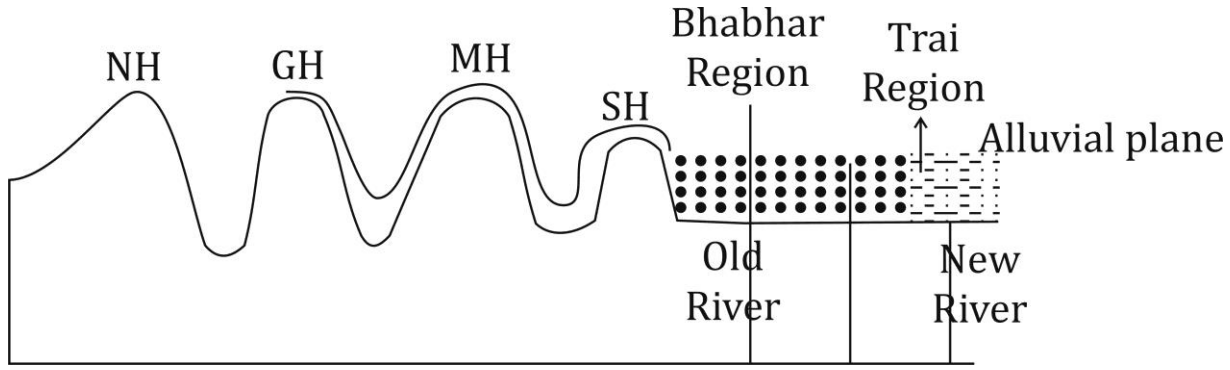
Zamu

Chicken Neck→ It connects North-East of rest of India

NH-3



(3) Middle/Northern Plains



→ Max^{m} river great Himalaya से निकलती है

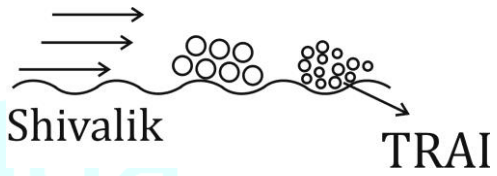
→ North India में Soil → Alluvial

Division

(1) <u>Bhabar soil</u>

→ South of shivalik/on the foothills

→ Mad by Big Boulders (बड़े पत्थर)



→ Small rivers disappear in Bhabar

→ Less productive soil

(2) TRAI → South of Bhabar

→ made by small particle

→ rivers re-emerges

→ It is a productive land

→ May be marshy Land (दलदली)

❖ Sugar (need max^{m} irrigation)

→ Sugar Bowl of India → Muzzaffar Nagar

→ Rice bowl → Chhattisgarh

→ Main corps in TRAI Region → Sugarcane, Wheat, rice

→ Main source of irrigation → Tube valves

(3) Khadar → New Alluvial soil

→ It is a flood plain

→ Deposition of sediments by flood

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→ No need of Fertilizer
→ High productive land
→ Jule → No 1 producer Bangladesh
Rice → No 3 producer Bangladesh

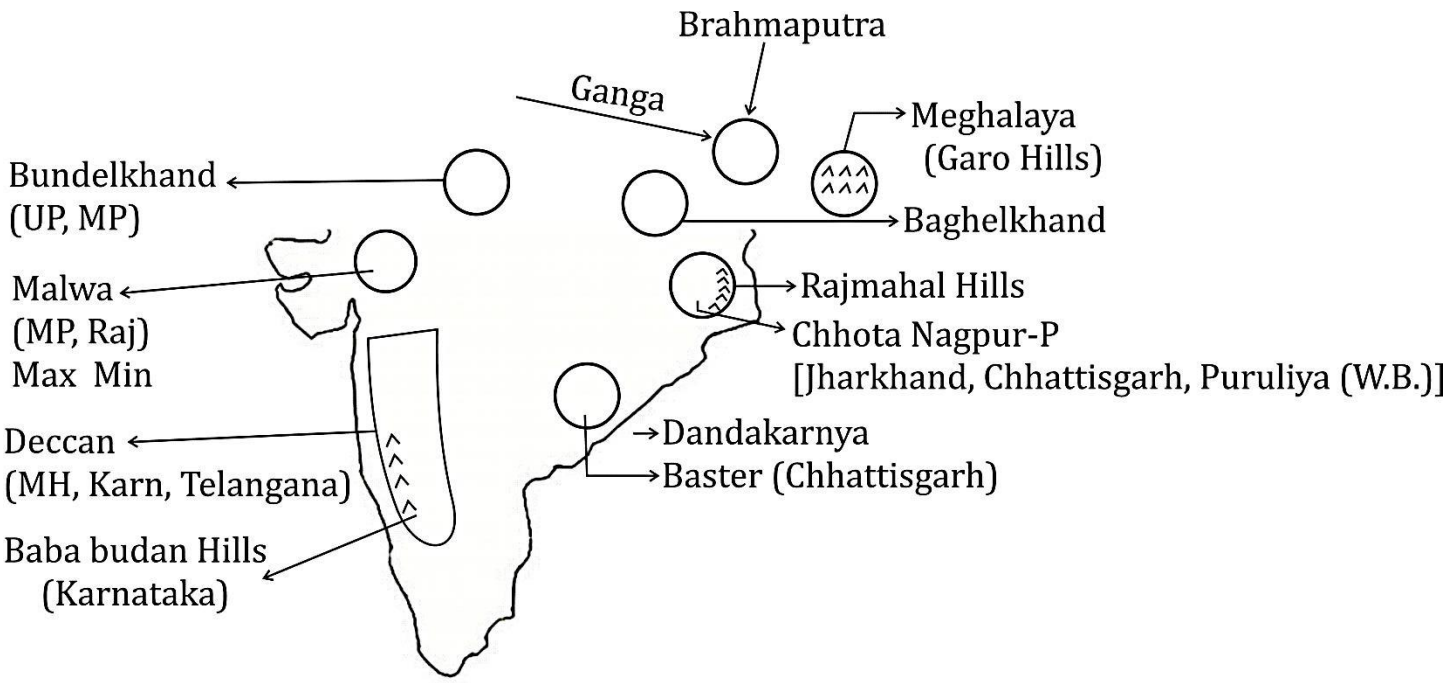
(4) Bangar
→ Above the level of flood plans
→ Old alluvial soil
→ Need of Fertilizers
→ Less productive than khadar

(5) Delta Δ→ Deposition of sediments towards the sea. It's size increase with time.
eg. → Krishna, Kaveri
Estuary→जहाँFresh & Salt water मिलते है।

Peninsular Plateau

→ Oldest surface of earth made of Archean Rocks
→ Triangular shape & surrounded by water form three sides.

Plateaus of Peninsular plateau



→ Chhota Nagpur (WB) → Vault of Iron (लौह अयस्क की पेटी)

→ Rur of India

Rur → A place in Germany with Largest Iron ore

→ Baster (Chhattisgarh)

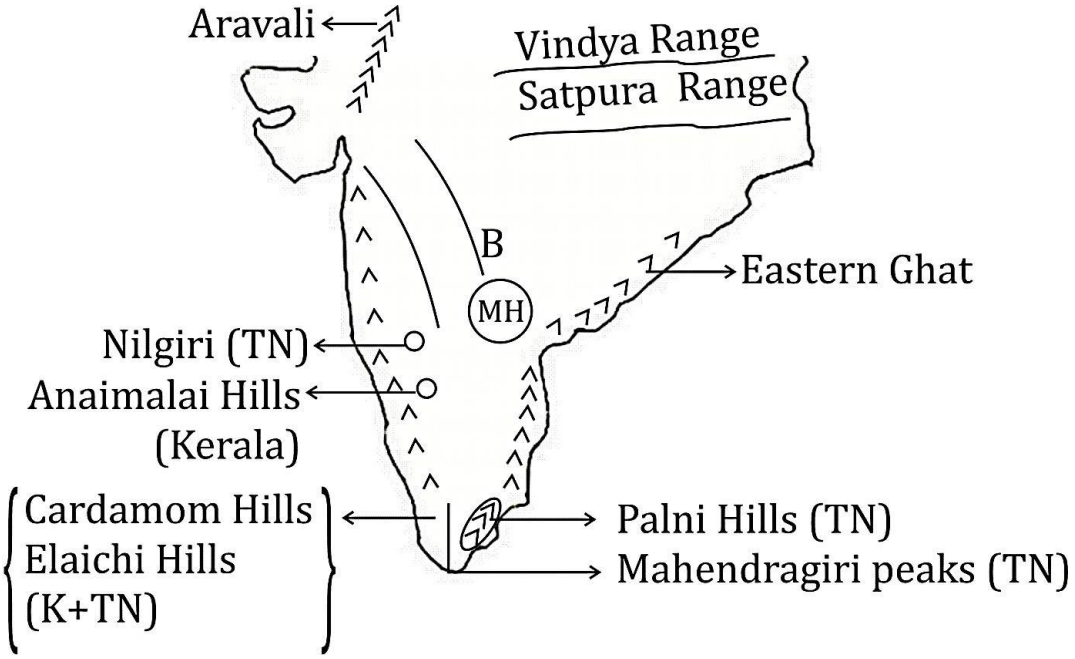
❖ River Indiravati

❖ Most Naxal affected area of India

→ Baba budan Hills (Karnataka) → Famous for coffee and iron

→ Meghalaya -P →It separates chhota Nagpur & other Plateau by "Malda gap" also called "Garo-Rajmalal gaps"

Mountains of Peninsular



→ Aravali Hills

→ Oldest Folded Mt

→ Start from Ahmadabad to Delhi

→ Highest peak→ Guru Shikhar, Mt Abu Hill station (Rajasthan)

→ Shimla of Rajasthan → Mt Abu

→ Mt Abu is also a temple → Dilwara Jain Temple

→ Nakki Lake → Mt Abu

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→ Makran (Raj) → Best quality Marbles

Vindya Range {Bhopal, MP, Indore}

→ It is an Escarpment [or block Mt]

→ It separates North India to south India

→ Water divider b/w Ganga & peninsular river system

→ No river crosses vindya Range

→ Vindya rocks are rich in building materials

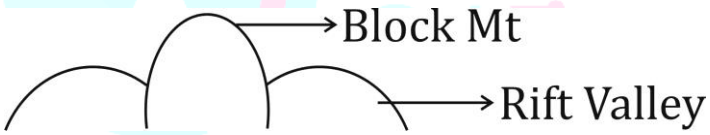
→ Vindya region are ideal for cement industries

→ Minerals → Limestone, Red stone, Panna Mine
(as a cement) (Red fort) (Diamond)

→ Vindya की सबसे ऊँची peak → Parshwanath (Jharkhand)

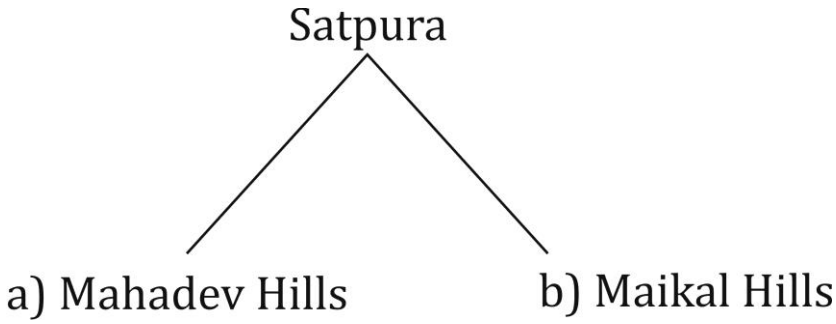
Satpura Range (सत-शिवा)

→ Block Mt {Tension & compression से बनते है}



→ rift valley से बहने वाली river→ Narmada

→ Narmada pass b/w Vindhyachal & Satpura



→ Heighest peak of Satpura → Mahadev 1350m
(Dhupgadh)
↓
Hill station → Panchmadi

→ सतपुड़ा की रानी →Panchmadi

→ Maikal → Amarkantak – 1050m (2nd highest peak of Satpura)

↓

River Narmada

→ Maikal Hills से निकलने वाली नदियाँ

→ Narmada

→ Son

→ Mahanadi

Western Ghats /Sahadri Mt

June-2012→ UNESO Included it in world Heritage list kerala, Karnataka, Tamil Nadu, Maharashtra

Maharashtra

→ Balghat Range

→ Harishchandra Range

Peaks

→ Kalsubai Peak → Harishchandra Range

→ Mahabaleshwar Peak

Karnataka

→ Kudremukh Peak

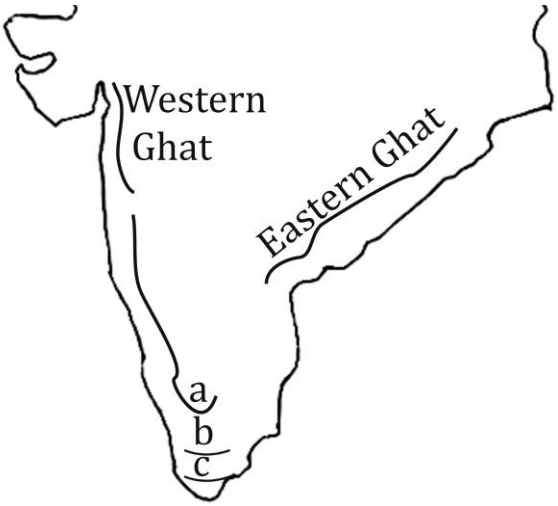
❖ Kudremukh mine famous for Iron

a) **Nilgiri Hills** → Junction of Easteem & westem Ghats

→ 1986 → First Biosphere Rescue of India

→ Highest Peak → Doda Beta (2637m)

(2nd Highest of south India)



→ Hill station of TN → OOty (Nilgiri)

→ Toda Tribe → (TN) Nilgiri → बहु पति विवाह polyandry society

→ Nilgiri spread → TN + Kerala + Karnataka

(b) **Anaimalai (Kerala)**

→ Highest peak of south India (2695 m)

→ Annaimudi→ Hill station kodai canal (TN)

(c) **Cardamon Hills**

→ Southern Most Hills of India

→ इलायची का सबसे ज्यादा ऊपादन → Kerala

Eastern Ghats

→ TN → Javadi Hills, Shevaroy Hills

→ AP → Palkonda Hills
Velikonda Hills
Nallamala Hills

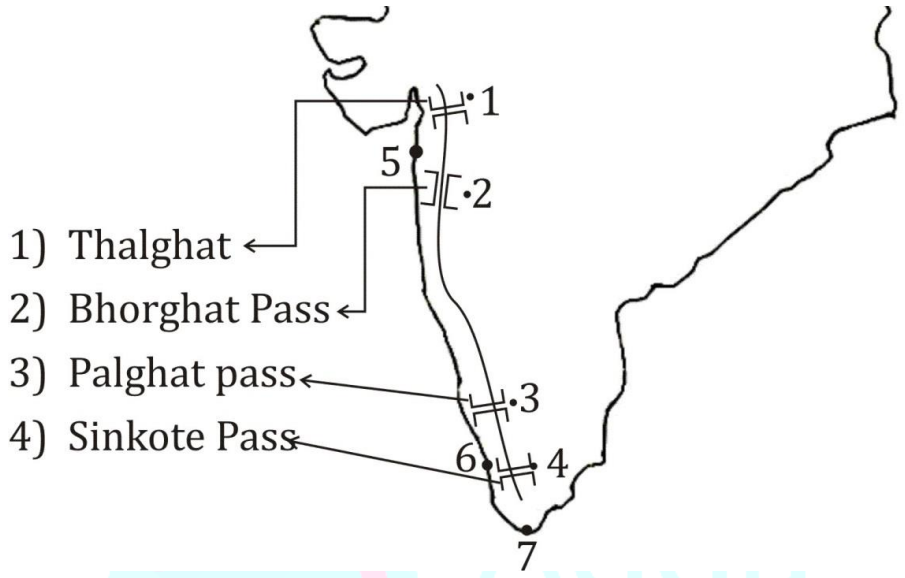
Orissa → Mahendra Giri Hills
→ Garhjat Hills

Highest Peak of E.G

1st) Aroyakonda (AP) 1680m

2nd) Mahendragiri (Orrisa) 1501m

Passes of Western Ghats



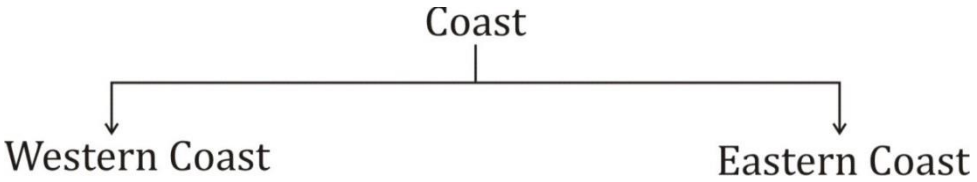
Coast & Island

Coast

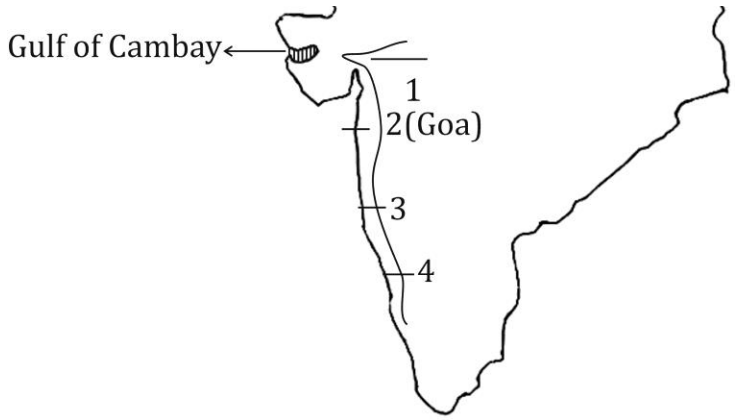
→ भारत का मुख्य तट length → 6100km

Gujarat ⟷ WB

→ Total Island in India → 247

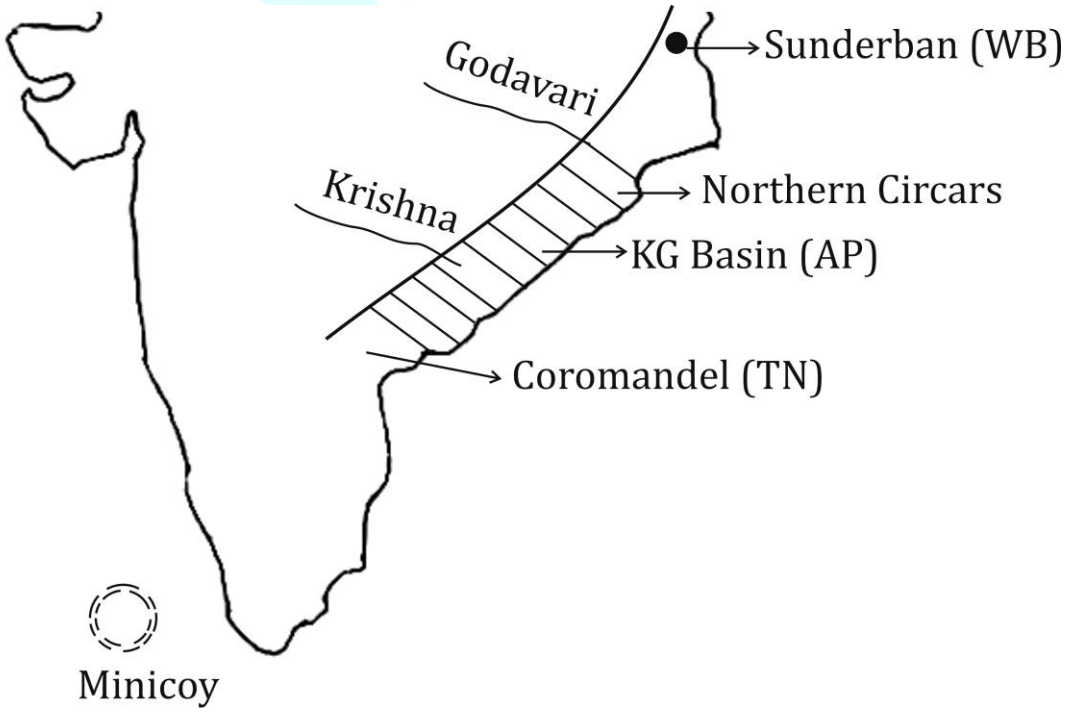


1) Gujarat Coast
2) Konkan Coast
3) Canara Coast
4) Malabar Coast



1) Gujarat Coast
   → भारत में सबसे ज्यादा Tides → Gulf of Cambay
2) Konkan coast → Daman - Goa
   → Konkan Railway → 1996 [E. Sharidharan (Metro man)]
   ↓
   b/w poha (MH) - Mangalore (Karnataka) 760km
3) Canara Coast →Karnataka coast is known as canara coast
4) Malabar Coast → Kerala coast
   → first Monsoon burst → Malabar coart

Eastern Coast



→ A.P के coast को kakinara/Rabla coast कहते है यहां सबसे ज्यादा Crude oil (Reliance)

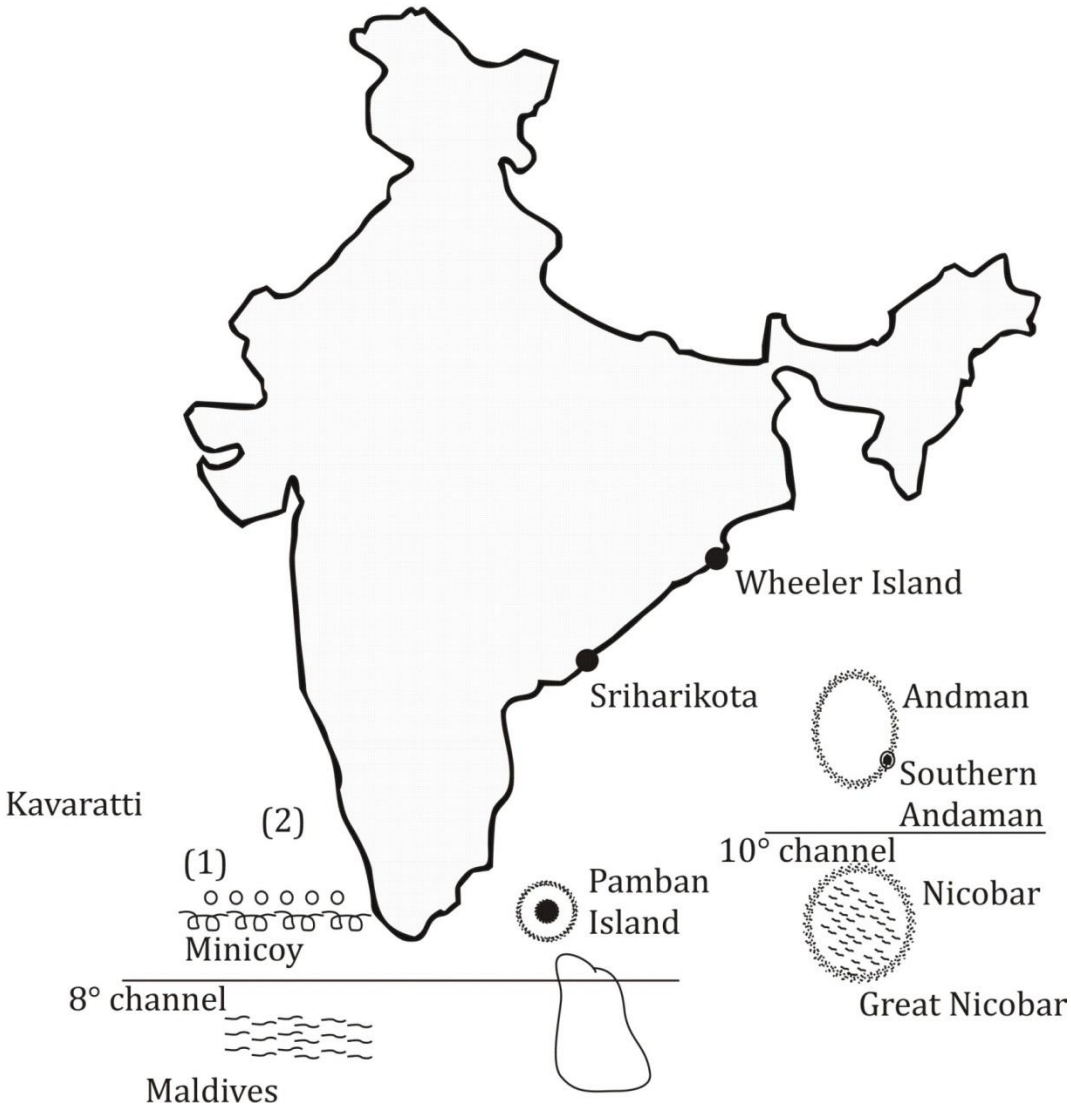
ISLANDS

- Arabian sea — 43
- Bay of Bengal — 204

↓

Arabian sea का सबसे छोटा द्वीप → Lakshadweep (36 island)

Lakshdweep ⇒ Coral Reef



→ 8° Channel → Lakshdweep & को separate

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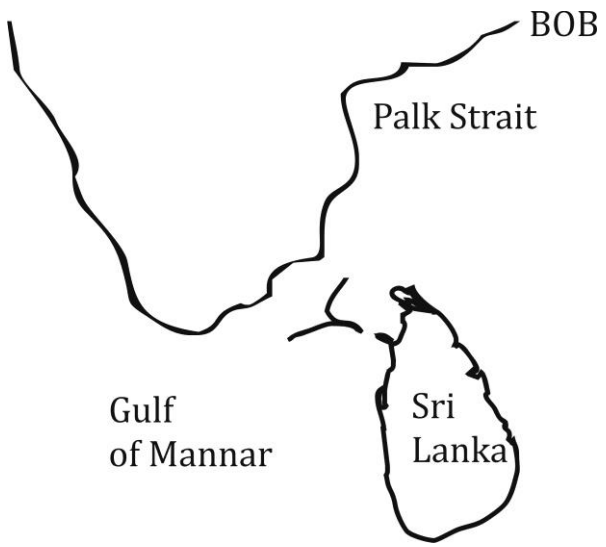
→ Wheeler Island/Abdul Kalam Island (Orrisa)
→ Missile testing station
→ Shri hari kota/Satish Dhawan प्रक्षेपण केन्द्र→ AP (A coral island in pulikat Lake)
→ 10° channel → Andman & Nicobar को अलग करता है।
→ Great Nicobar → Last Dweep of Nicobar
↓
Indira point Great Nicobar पर है।
→ South Andaman→ port Blair station
→ Pamban Island → Rameshwaram
→ India's largest Island → Great Nicobar
→ Coco channel → B/W Myanmar& Amdan & Nicobar
→ Chilka → is a lagoon lake
→ largest saline water lake of India (Orissa)
→ Sambhar lake → Max^{m} salinity in India but smaller than chilka
→ Von Lake → Max^{m} salinity in the world (Turkey) salinity of lake > Salinity of Ocean
→ Pulikat Lake → Border of T N & AP
→ lagoon lake



Sir Lanka

Bay → खुला खुला होता है

Gulf → बन्द बन्द होता है।

Strait → More wide

Chamarel→ Less wide

Sea

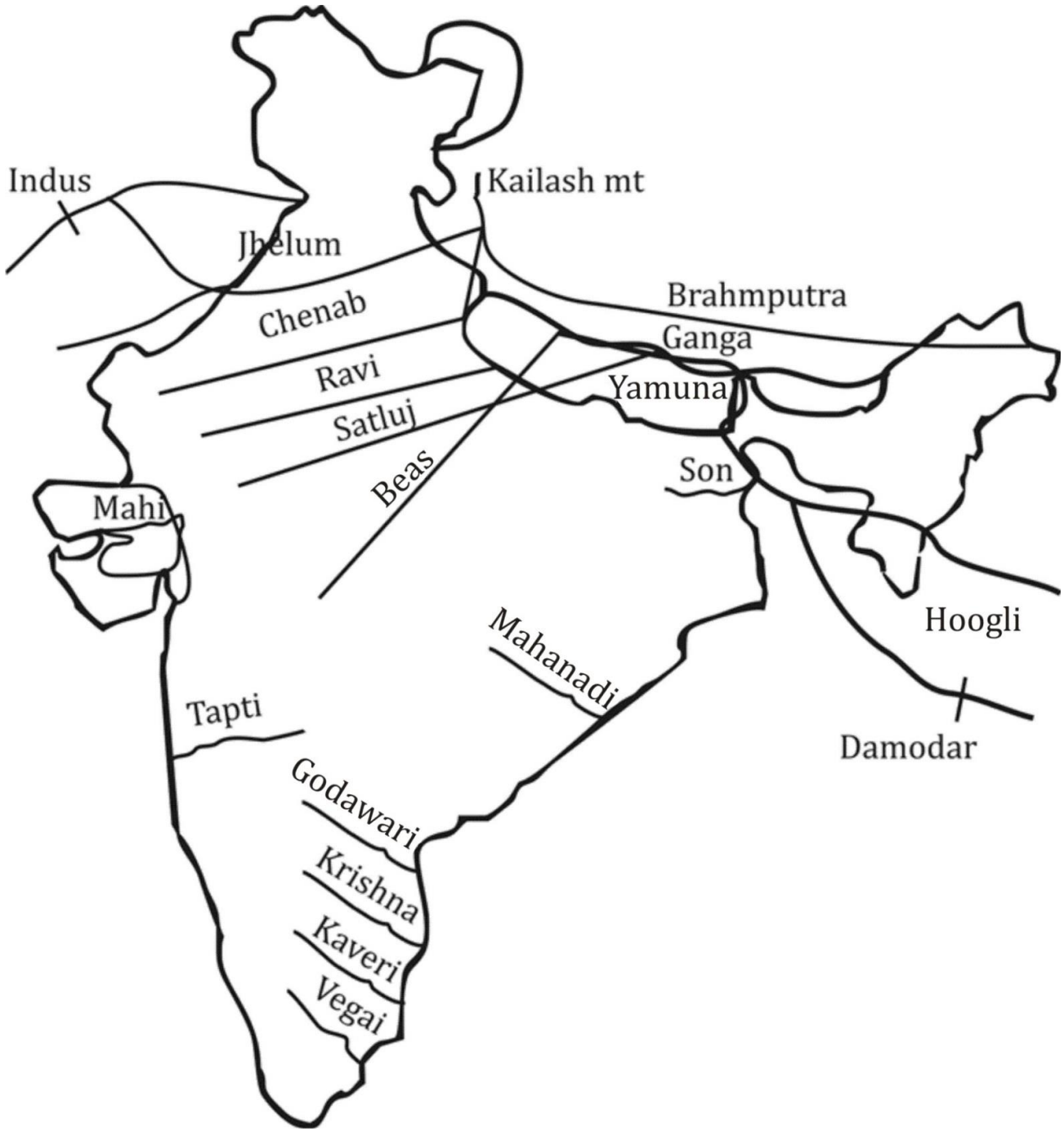
Isthmus - Land Land

Sea

Connecting land body by a thin road

Palk Strait → is a strait between Tamil Nadu state of India & the Mannar distt. of the Northern Province of the island nation of Sri Lanka.

River System



⇒ Kailash Mt से निकलने वाली river

1) Brahmaputra
2) Indus (सिंधु)
3) Satluj

These are known as Anticident River (जो हिमालय को cross करके India में Enter करती है)

Brahmaputra River

Origin → Kailash Mt के Mansarova Lake (Chanayong dong)

→ Tibet में से Tsang Po (सांग पो) कहा जाता है।

→ सबसे पहले Enter State → Namcha Barwa (Arunachal Pradesh)

→ सबसे ज्याद लम्बाई का State → Assam

→ India's deepest & widest River

→ शहर जो इसके किनारे है।

1) Dibrugarh
2) Guwahati

Assam

→ Tributteries of Brahmaputra (सहायक नदियां)

→ Manas → Dhansiri

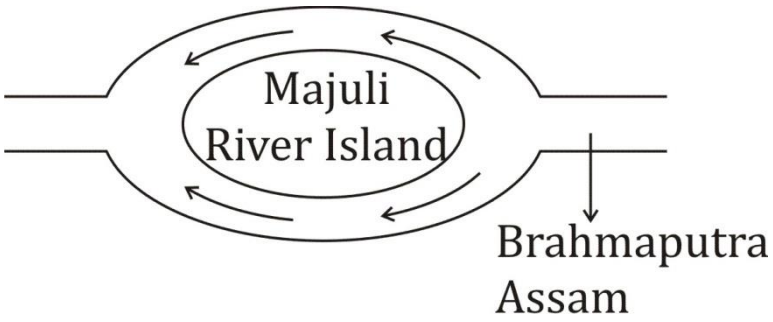
→ Tista → Sulbemsiri

→ Barak

→ Dihang

→ Diwang

→ Lohit



→ Sunderban Delta bcz of sundari
Mangrove tree Forest

Indus River

→ India के सबसे North में→Indus

→ Origin → Kailash Mt

→ India में सबसे गहरी खाई →Indus River ने बनाई Bungi Trench (J & K)

→ नहरों का देश →Pakistan

→ Indus water agreement → (1960) → by this agreement 5 नदियों को आपस में बाँटा गया

Jhelum, Chenab → Pak

Ravi, Beas, Satluj → India

→ Indus किन दो Mt range से गुजरती है

→ Laddakh
→ Zaskar
→ J & K

→ Tributary of Indus
1) Gilgit
2) Shyok

Jhelum River

Origin → Sheshnag Lake (J & K)
→ project on Jhelum → Tulbul Project
→ River जोKashmir valley से होकर गुजरती है →Jhelum

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Chenab River

Origin →Bara - Lap -cha - pass (H.P)

→ Major projects on chenab (Hydro Power Project)

1) Baglihar 2) Bulhasti 3) Salal

J & K

Indus की सबसे लम्बी सहायक नदी →Chenab

Ravi River

Origin → Rohtang pass (H.P)

→ India's highest pass → Rohtang Pass (H.P)

→ Project → Thin Dam (Punjab)

→ Ravi River पर-Pak → Lahore city है

India → Chamba (H.P)

Beas River

Origin → Rohtang Pass H.P

→ Satluj से सहायक नदी → Bear

→ जहाँ sathuj से Bear मिलती है वहाँ Largest canal of India बनाया गया → Indira Gandhi canal

↓

इसे Harike Dam (punjab) से निकाल गया

→ Indira Gandhi canal में तीन नदियों का पानी मिलता है

→ Satluj, Beas, Ravi

Satluj River

Origin → Kailash Mt → Rakash Tal lake से

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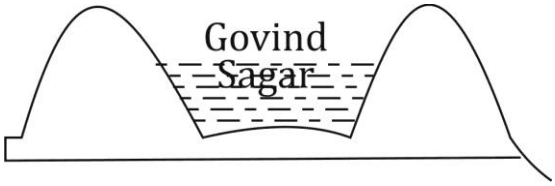
→ India's Highest gravity dam → Bhakra Nangal (Satluj)

→ सबसे बड़ीartificial lake → Govind sagar



→ Govind saygar project में शामिलstate

1) Punjab
2) Haryana
3) Himachal Pradesh

→ for irrigation

→ Satluj पर another project → Naptha Jhakri (HP)

→ Satluj के किनारेcity → Ludhiana

Ganga River System

Origin → Gangotri Glacier (UK)
↓
Gomukh से निकलती है।

→ India's longest River → Ganga (2510 = 2525) KM
India's Largest River → Bhramputra
→ Blow in India Only
→ National River of India → Ganga
→ एक जीव जो इसमें रहता है. Gangetic Dolphin (fresh water में रहती है)
→ National Aquatic Animal (राष्ट्रीय जलीय जीव)→ Gangetic Dolphin (2008) (Endangered species)
→ Ganga पर city
→ Rishikesh
→ Haridwar
→ Allahabad
→ Kanpur
→ Varanasi
→ Patna
→ Bhagalpur (Bihar)
→ Kolkata

Ganga's Tributaries

→ Yamuna
→ Alaknanda
→ Bhagirathi
} → जहाँ से मिलती है → Devprayag
→ Gomti → Lucknow city बसा है
→ Saryu→ Ayodhya city बसा है
→ Son

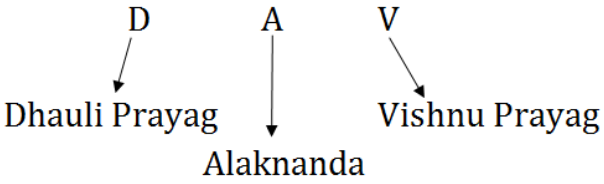
→ Kasi

→ Rudraprayag → Confluence (संगम) Mandakini & Alakhanda (MAR)

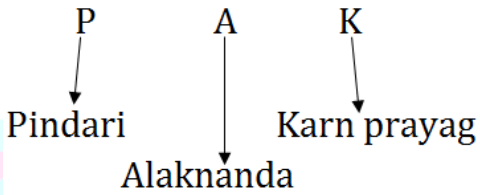
→ Ganga को UK मेंBhagirathi कहते है।

→ Kedarnath में तबाही → Mandakini river से

→ Devprayag के बाद नाम Ganga हो जाता है।



→ Karnprayag → Pindari & Alaknanda confluence



→ Tehri Dam→ Bhagirathi

→ Right hand Tributary of Ganga → Son & Yamuna

Yamuna River System

Origin → Yamunotri (Bandar Punch) UK

→ Most polluted river of world

→ Yamuma पर city

- → Mathura
- → Agra
- → Delhi
- → Allahabad

→ Ganga - Yamuna के बीच Area → Ganga - Yamuna Doab दोआब

→ यह fertile area है।

→ Right hand tributary of Ganga → Son & Yamuna

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→ **Tributaries of Yamuna**

1) Chambal
2) Sind
3) Betwa
4) Ken

→ Kali River → India & Nepal के बीचBorder बनाती है& UP में इसे sharda Rive कहते है।

→ Ghagra, Gandak, Kosi नेपाल (India के बाहर) से आती है।

→ Son → Ganga कीonly tributaryजो Plateau से निकलती है।

→ Originatesfrom peninsular plateau

→ South to North following tributary of Ganga

→ Banas & Chambal के Bank पर Rajsthan में Ranthambore National Park है

→ **Kumbh fair**

1) Shipra
2) Ganga
3) Godavari
4) Yamuna

→ Wular lake → largest fresh water lake of India

<u>CHAMBAL RIVER</u>

Origin → Janapav Hills (MP)

Major project on Chambal

1) Gandhi Sagar (MP)
2) Jawahar Sagar
3) Rana - Pratap sagar

} Rajasthan

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4) Kota Dam

Narmada River

Origin → Maikal Hills → also son & Mahanadi
↓
की चोटीAmarkantak
से निकलती है।

→ Forms estuary
→ Rift valley से होकर गुजरती है।

→ City on Narmada
Jabalpur
Hoshangabad
Bharuch → Gujrat
Nandev → MH

→ Project on Narmada
→ Sardar sarovar → Gujrat
→ Indira Sagar → MP

→ Longest & largest west flowing river of peninsular plateau

Son River

Origin → Maikal Hills
→ South to North flowing river
→ Tributary of son → Rihand
→ Rihand पर2nd largest artificial lake → Rihan Dam (UP)
↓
Govind Ballabh Pant Sagar

Mahanadi River

Origin → Maikal Hills
→ India's largest Dam → Hirakund Dam (orrisa)

→ City on Mahanadi

Sambhalpur ┐ (orrisa)

Cuttak ┘ Barabati Cricket Stadium

→ Sorrow of Orissa

→ **<u>Tributaries</u>**

Tel → Orrisa

Mand →Chhattisgarh

Hasdo →Chhattisgarh

<u>Tapti River</u>

Origin → Baitul Distt (MP)

→ Forms Estuary

→ Rift valley से होकर गुजरती है।

→ Satpura के दक्षिण में flow → Tapti

→ Balghat (MH) से ऊपर flow→ Tapti

→ Project on Tapti

1) Kakarpara (Gujarat) → Nuclear Power project

2) Ukai Dam (Gujarat)

→ Tapti के किनारे city

Surat (Gujarat) → India की सबसे बड़ीDiamond Market

Diamond cutting centre → Surat

→ Tributary → Purna

<u>Godavari River</u>

Origin → Nasik (MH)

↓

Triyambkeshwar

Project on Godavari

→ Pacham Pod (AP)

→ Anikat Dam (AP)

→ India's 2nd largest River → Godawari

→ सबसे प्राचीन (ancient) river → Godawari

(also known as old Ganga)

→ River of peninsular Plateau

→ **Tributaries of Godavari**

Penganga → Nasik city (MH)

Venganga →Bhadrachalam (AP) साड़ी के लिए famous

Indravati → Bastar के Plateau में से (Indravati National Park → Chhatisgarh)

Pranchita Wardha Manjra

→ Old Ganga & South Ganga

Krishna River

Origin → Mahabaleshwar (MH)

→ Project in Krishna

Nagarun Sagar (AP)

Almatti Dam (Karnataka)

→ **Tributaries of Krishna** →

Tungabhadra, Ghataprabha, Malaprabha, Musi, Bhima, Koyna,

↓

Tungabhadra Dam

→ City on Krishna → Vijayawada (AP)

Kaveri River

Origin → Bharamgiri Hills Karnataka

→ Kaveri water Dispute → b/w TN, Karnataka, Puducherry

Project on Kaveri

Mettur Dam (TN)

Shiva Samudram (Karnataka)

Tributaries of Kaveri	**City on Kaveri**
Hemavti	→Tiruchirapalli (TN)
Arkavati	→ Sri Rang Patnam (Karnataka)
	↳Tipu sultan यहाँ का rules था
Swarnvati	
Kamvati	
Amravati	

→ South Indian Ganga

→ Gets rainfall both in South west & retreating monsoon

Kosi River → Max^{m} route change

→ Sorrow of Bihar → Koshi River

→ India के दक्षिण में बहने वाली नदी → Vega River

→ Tropic of cancer के दो बादcross करने वालीriver→Mahi (MP, Raj, Guj)

→ West Bangal → Hoogli River के तट पर Jute Industry (पटसन)

→ Hoogli & Ganga के b/w → Kolkata city

→ **Tributary of Hoogli** →Damodar

Project → DVC 1948
Damodar Valley Corporation
(First multi purpose project)

DVC नेModel AdoptFrom→ USA

Model →Tennessee Valley

2nd polluted River → Damodar

It is called Biological Reserve.

Yamuna is also called Biological Reserve.

Luni River (Rajasthan)/ghagghar

→ Forms inland drainage system (sea तक नहीं पहुँचती)

→ Fall in Run of kutch

<u>Karnataka</u>

→ Highest waterfall in India

→ Mahatma Gandhi water fall

→ Jogg waterfall

→ Kali River

→ Mullaperiyar as Dam (Kerala)
Dispute b/w kerala & TN

→ Periyar National Park

→ Rivers that exist before Himalaya
Indus, Satluj, Brahmaputra

→ Drainage system/Basins
Ganga > Godavari > Krishna > Mahanadi

→ Swarnrekha river → मे Gold मिलता है।

→ Sorrow of Bengal → Damodar River (from chhota Nagpur plateau)
CNP

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→ CNP की सबसे बड़ी river → Damodar

Soil

1) Alluvial

→ India के सर्वाधिक क्षेत्रमें soil → alluvial soil

1) New Soil → Khadar
2) Old Soil → Bangar

Khadar is more fertile than Bangas

Minerals

Calcium, phosphorus, Lime (चूना), Biological evidence

→ भारत की किसी भी Soil में Nitrogen नही है।

Alluvial soil → Nitrogen
Iron
नही होता

Crop

Rice, Wheat, sugarcane, potato

→ India, में सबसे ज्यादा potato production→U.P.

Red Soil

→ 2nd Main Soil → Red soil

→ Main soil of south → Red soil

→ Iron oxide सबसे ज्यादा होता है।

→ Europe मेंइसेterra - Rossa कहते है।

→ Unfertile soil

→ Iron, Phosphorus

→ Nitrogen

Crop

Coarse crops (मोटे अनाज)

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Maize, Jwar, Bazra, Ragi, Rice

Black Soil

→ Deccan Plateau पर फैली हुई है।

→ सबसे ऊपजाऊ मिट्टी भारत की → Black soil

→ Deccan Plateau→Guj + Maharastra + MP + Karnataka + Telangana

→ Crops

Cotton, sugarcane, ground nut (मूँगफली)

→ Ground nut का सबसे ज्यादा production→ Gujarat

Black Soil

Calcium √

Phosphorus √ Nirtogen ×

Lime √

Iron√

→ Black soil is known as → Regur

→ Chernozem → World's most fertile soil → Europe

Cotton

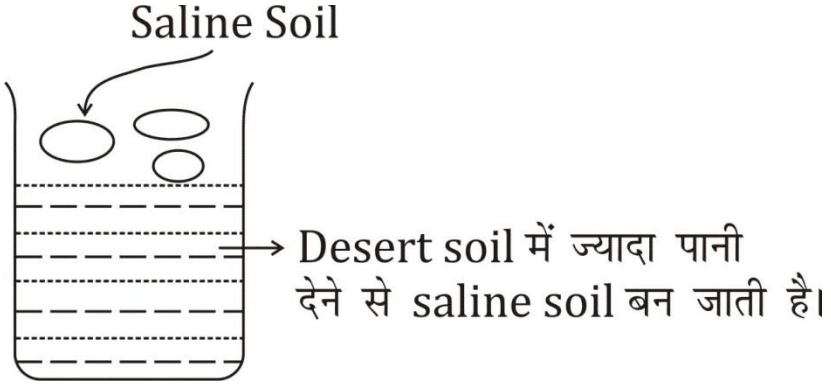
→ Self Irrigated soil

→ सबसे ज्यादा moisture soil → Black soil

Desert Soil

Rainfall < 25 cm

Crop →मोटे अनाज



→ Source of Irrigation → Sprinkles Irrigation

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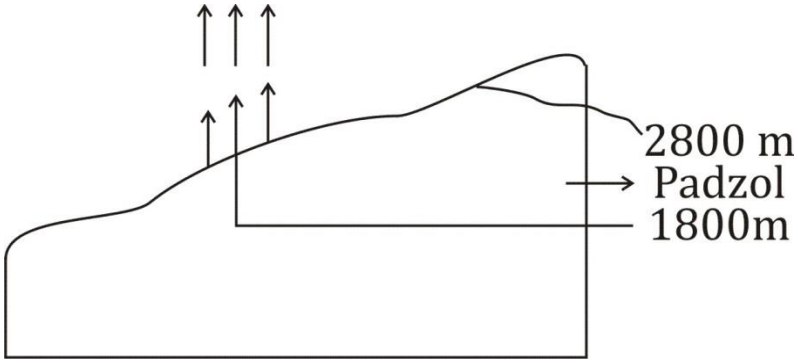
Drip-Drip
↓
इसे Dry farming कहते है।

→ Saline soil में Gypsum डालने से salinity कम हो जाती है fertility बढ़ जाती है।

Padzol soil



→ पर्वतों पर पायी जाने वालीsoil

→ Conical forest → 1800 - 2800 M

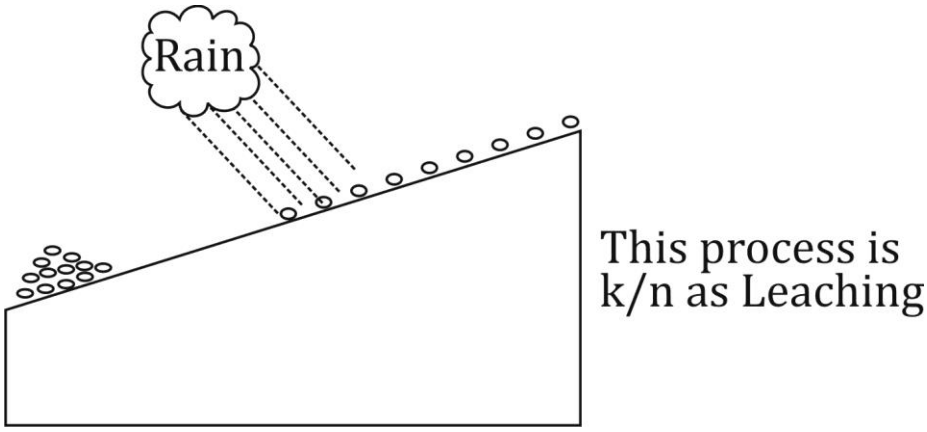
→ fertile Layer सबसे thin →padzol

→ J & K, HP, UK

Unfertile Soil → Peat, saline, Red soil

Laterite Soil

→ India में जहाँ जहाँ बारिश ज्यादा वहाँ Laterite soil



→ **Crops**

Tea → Most production Assam

Coffee → Most Production Karnataka
Rubber → Most production Kerala
Spice → Most production Kerala

→ इस soil में Aluminium oxide होता है।

Swampy soil

→ जहाँ पानी जमा रहता है वहां swampy soil

→ world's biggest Delta → Sundarban (Swampy soil)
Run of Kutch (swampy soil River Delta Region)

Crop

Rice
Jute → WB में सबसे ज्यादा production India में

→ Swampy soil में मीथेन गैसे निकलती है।

Vegetation

1) Tropical wet Evergreen forest (Rain forest) सदाबहार वन
2) Tropical Deciduous forest (Monsoonal) पतझड़ वन
3) Alpine (conical/Taiga Forest) शंकुधारी वन/Mt Forest
4) Desert/semi desert (मरुस्थलीय /अर्द्धमरुस्थलीय)
5) Mangroove (Tidel forest) ज्वारीय/Sundari forest

Forest % in India = 21.05 %
Tree % = 1.76%
Total forest tree % = 23.81%

→ Ace to national forest Polity → forest should be 35%

→ Max^{m} forest Area in India →1) MP

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MAC MAX

2) Arunachal Pradesh
3) Chhattisgarh

→ Max Forest % = Mizoram 90% (पेड़ ज्यादा agriculture lose)

→ Min Forest % → Punjab Haryana
(1) (2)
[3.5%]

1) **<u>Tropical Wet Evergreen Forest</u>**
(पत्तियाँ एक साथ नहीं गिरती है)

Main Areas → 1) Western Ghats
2) North East India
3) Andaman & Nicobar

Features

→ Bio-diversity
→ Tall Forest
→ Solid
→ Broad Leaves
→ It is k/n as cloud forest

Types of Trees/grasses

1) Mahogany
2) Rosewood
3) Bamboo → सबसे ज्यादा prod" Assam

(2) **<u>Tropical Deciduous Forest/Monsoonal forest</u>**

→ Having leaves that fall in autumn altogether
→ India के अधिकतकर forest → Monsoonal

Tow types

- Dry (75-100)
  Teak (सागवान)
- Moist (100-150)cm
  Sal, Rosewood
  Neem, peepal, Mango
  Banyan
  Sheesham, sagon (Teak), Sandlewood

Max^{m} Area → 1) Eastern Ghats, 2) MP ,
3) Chhattisgarh, 4) UP, Bihar, Orissa

→ सबसे बड़े area में plant group → sal

→ सबसे ज्यादा वन क्षेत्र - MP

→ 2nd largest plant group → Teak (MP)

→ 3rd largest plant group → Rosewood

→ Medicinal plant → Neem

→ Deccan plateau पर सबसे ज्यादा → Teak

(3) **<u>Alpine forest/Mt forest</u>**

→ In Southern India India Mt forests are called "Sholaz" mainly in Nilgiri and Anaimalai Mt

→ Paper made form Alpine forest

→ **Main trees**
Devdar, pine, spruce, chir, oak, Birch, Juniper, siwerfir.

→ In low temp areas coniferous type of tree/forest are found with needles types of leaves

→ Willow tree also available which is used for cricket bat (light weight wood)

(4) **<u>Dessert forest</u>**

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Dessert → Rain < 25 cm
Semi desert→Rain < 70 cm

Semi Desert

- Vero - phytic — कटीले
- halophytic — नमकीन भूमि में ऊगने वाले
- Lithophytic — Rocks पर उगने वाले

Main trees	**Main Areas**
Cactus	Rajasthan & connecting areas
Babool	Punjab, Gujarat, Bundelkhand (UP)
Kikar Kair	Western Ghat's eastern part (rain shadow zone)
KhajoorAloe Vera	

(5) **Mangrove Forest**

→ Max^{m} area of mangrove in India →West Bengal

Features	Main Areas
Bio-diversity	Sunderban
Least Erosion	Andaman (A & D)
	Lakshadweep (L & D)
	Gujarat (Rann of Kutch)

TRANSPORT

→ Golden Quadrilateral project (Dec. 2010)
स्वर्णिम चतुर्भुज योजना

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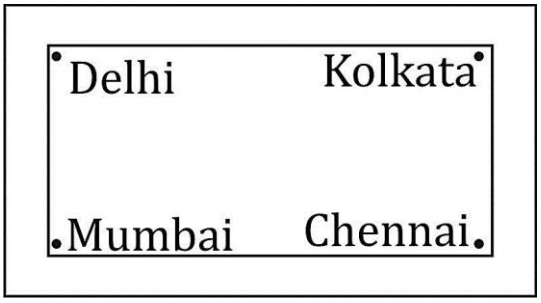
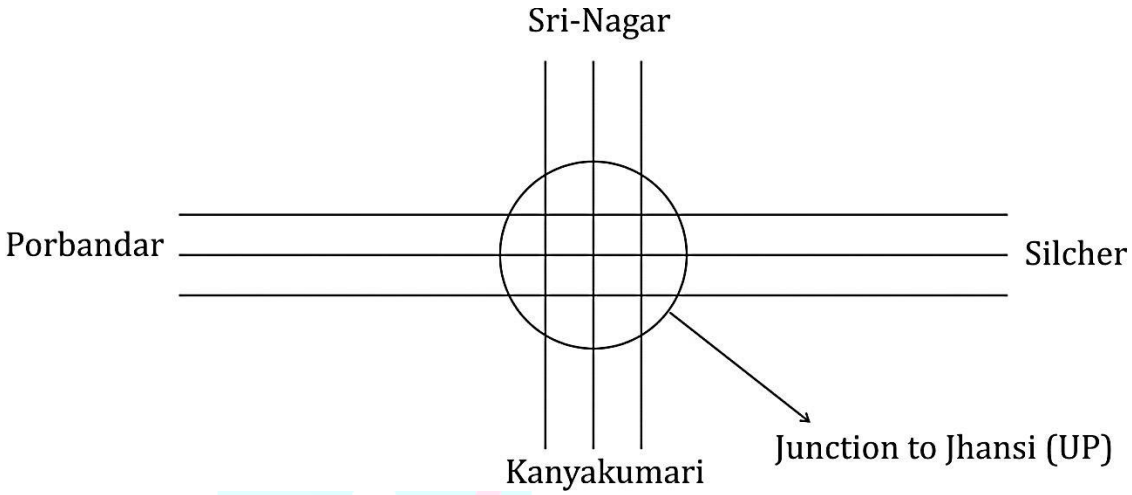


चारों महानगरों को जोड़ने का project

→ North-South East - West Coridore



→ India's shortest road = NH47a → 6 KM
↓
At WillingdonIsland (Kerala)

→ NH_1 → Delhi to Amritsar
→ NH_2 → Delhi to kolkata
→ NH_3 → Agra to Mumbai
→ NH_4 → Mumbai to Chennai
→ NH_5 → Chennai to kolkata
→ NH_8 → Delhi to Mumbai via Jaipur
→ Most busiest of India
→ Included in golden Quadrilateral project
NH15 → from Samakhiali (Gujarat) to Pathankot (Punjab)
→ सबसे ज्यादा NH की लंबाई→ UP

→ सबसे ज्यादा NH की संख्या→ UP

Railway

→ India's First Railway → 16 April 1853, 34 km (Mumbai to Thane)
→ World's first Railway → 1830 (from Liverpool to Manchester)
→ India का Manchester → Ahmadabad (cotton Industry)
→ First electronic train → 1925 Mumbai Victoria Terminal to kurla
→ India's rank in Railway Network → 3rd

1st USA
2nd China
3rd India

India's famous train

1) सबसे long route train → Vivek Express
   from Dibrugarh (Assam) to Kanyakumari (4233 KM) or (2330 mi)
2) Himsagar Express
   Form Jammu Tavi to kanyakumari
3) India's fastest train → Gatimaan express (Semi high speed train) (160 km/h) Delhi to Agra
4) 2nd fastest train → New Delhi - Bhopal Shatabdi Express
5) Mahraja Express →सबसे महंगी train
6) Maitri Express → from kolkata to Dhaka
7) SamjhautaExpress→ from kokharapara (Raj) to (India-pak) Munabao (Pak)

→ Electric Railway Engine factory → Chitaranjan (WB)
→ Diesel Engine factory → Varanasi (UP)
→ Railway coach factory
→ Kapurthala (Punjab)
→ Parambus (TN)

Sea Ports

→ All ports at East coast are artificial except Visakhapatnam and Haldia
→ Deepest Seaport of India → Visakhapatnam
→ Oldest Seaport of India → Chennai
→ Pearl port of India→Tuticorinयहाँ से pearls निकलते है।
↓
natural
pearl
→ सबसे बड़ा Sea port → Mumbai

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Mumbai का Load कम करने के लिए Nhava Sheva (JLNP) बनाया गया

→ First Modern port of India → New Mangalore
↓
Max^{m} coffee
and
Iron Export

→ Most Tidal part of India → kandala in Gujarat
→ Iron port of India →Marmagaron (vishakhapatnam)

Air Port

→ Bussiest airport of India → IGI (Indira Gandhi International Airport) Delhi
→ 2nd Busiest→Chhatrapati Shivaji International Airport → Mumbai
→ Netaji Subhas Chandra Bose International Airport→ Kolkata
→ Meenambakkam (Anna) International Airport → Chennai
→ Kempegowda International Airport→ Bengaluru
→ Rajiv Gandhi International Airport → Hyderabad
→ Rani Ahilyabai Holkar Airport→ MP (Indore)
Devi
→ Raja Bhoj International Airport → Bhopal (MP)
→ Lal Bahadur Shastri International Airport → Varanasi (UP)
→ Jai Prakash Narayan International Airport → Patna
→ Chaudhary Charan singh International Airport → Lucknow (UP)
→ Sanganer International Airport → Jaipur
→ Gopinath Bordoloi International Airport → Guwahati
→ Biju Patnaik International Airport → Guwahati
→ Bhim Rao Ambedkar International Airport → Nagpur
→ Birsa Munda International Airport → Rachi
→ Daocheng Yading Airport (Tibet) → Chasa (Capital of Tibet

→विश्व का सबसे ऊँचा airport

→ Veer Savarkar InternationalAirport → poot Blair

→Sri Guru Ram Dass Jee International Airport→ Amritsar

World Geography

(Use Atlas for Maps & More understanding)

→ Ural Mt → Europe को Asia से अलग करता है।

Eurasia → Europe + Asia.

→ North America → 3 country से मिलकर बना है।

जिन्हेAnglo - America कहते हैं।

Canada, USA, Mexico

→ Lake superior, L.Heron, L-Michigan, L-Erie → at border of USA & Canada

↓

(largest sweet water lake in the world)

Canada

→ Longest Coast line

→ Canada and UAS के बीच international boundary = 49°N

→ North America का Northern Most point →Cape Columbia

→ Capital of Canada → Ottawa

USA (United states of America)

→ Capital of USA → Washington DC

→ 50 states

→ Alaska 49th state → biggest state

→ 50th state of USA → Hawai Island
↓
Crossing point of Pacific Ocean
Honululu in Hawai Island

→ Rio Grande River → USA & Mexico के बीच boundary

Mexico

Capital →Mexico city

South America

→ सबसे बड़ा देश → Brazil

→ तेल पैद करने वाले देश in SA → $\frac{\text{Venezuella \& } Equador}{\text{member of OPEC}}$

→ OPEC →Organization of petroleum Exporting countries

→ Land Locked country of SA → Balivia, Paraguay

→ Elongated country in SA → Chile
North South Extension सबसे ज्यादा

→ Coffeeकी मन्डी → Sau Polo (Brazil)

→ Falk Land Island → Dispute b/w UK & Argentina

→ Atacama → Driest Dessert of world

→ Middle + South America → Latin America
(Latin बोली जाती है)

Africa

→ k/n ar Dark continent

→ continent of plateau → Africa

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→ तीनोंLines → Tropic of caneer, Tropic of capricom and Equator गुजरती है।

→ Africa का सबसे बड़ा क्षेत्र → Algeria

→ Africa में सबसे ज्यादाpopulation → Nigeria

→ Tribes in Nigeria→ Hausa, Bakoharam

→ सबसेDevelop देश of Africa → South Africa

Europe

→ सबसे बड़ा देशin Area → France

→ सबसे बड़ा देश in population → Germany

→ Scandinavia country → 4 countries

1) Norway
2) Sweden
3) Denmark
4) Iceland

→ Baltic Sea के साथ है Baltic stale

1) Estonia
2) Latavia
3) Lithuania

→ Russia & Turkey → कुछ हिस्सा Europe कुछ Turkey में

Asia

→ No 1 in area & population

→ Landlock countries → Laos, Magnolia, Afghanistan (और भी है पर ये 3 gmp है)

→ Word's deepest fresh → Asia (L. Baikal Russia)
Water lake
→ Wholly in Northern hemisphere
→ Red sea and Suez canal separate it from Africa
→ Berring strait separate it from north America

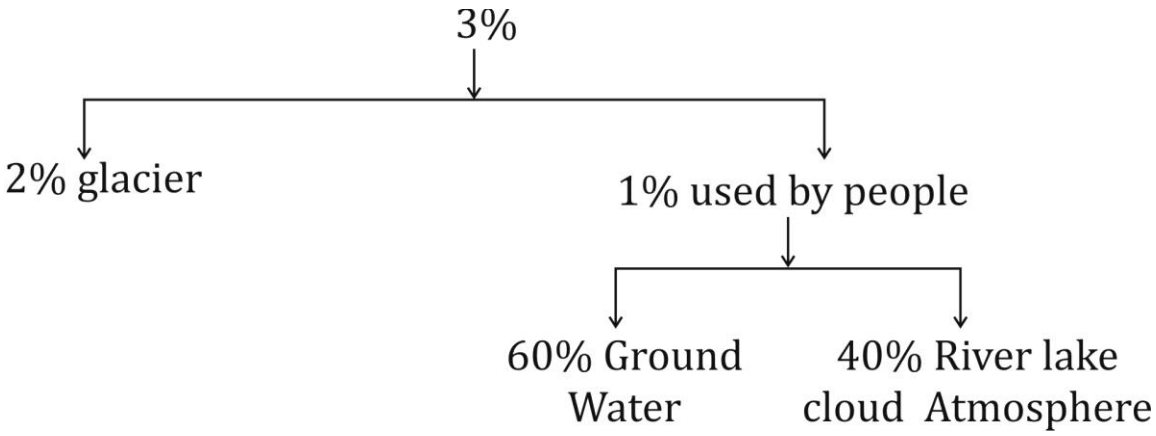
Australia

→ 7 stales
→ World's largest coral reef → Great barrier Reef (2200 pm)

→ k/n as continent of thrust bcz 66% Area मेंDesert है।
→ Great Dividing Range → largest Mt range of Aurtralia
→ Only one Mt in Australia

Antarctica

→ White continent bcz of glaciers
→ सबसे ज्यादा fresh water (3% of total world)



→ k/n as science continent (Many research centers of dift countries)
→ India → 1986 Dakshin Gangotri for climate

1996 → Maitri
2012 → Bharti

Mountains of world

1) Alaska Mt
2) Rocky Mt North America
3) Appalachian Mt
4) Andes Mt → South America
5) Atlas
6) Kilimanjaro Africa
7) Darkens berg
8) Black forest → Germany
9) Alps → France - Switzerland
10) Ural → Asia + Europe

→ North America की Highest peak → Mt Mckinley (Alaska)
→ South America की Highest peak → Mt Aconcagua (Andes)
→ Africa America की Highest peak → Kilimanjaro जो एक Volcano है।
→ Europe America की Highest peak → Mt Elbrus (Caucasus)

Plateau

→ World's highest plateau → Tibetan Plateau
→ Pamir Plateau →(Tajikistan) →Roof of the would lalkj dh Nr
→ India's highest plateau → Plateau → Ladakh Plateau

Plains → 1) Tropical (गरम मे)→ Hard grass
Plains → 2) Temperate (मैदान)→ soft grass

Two things on Plains → Agriculture or Foresty

Foresty
Tropical Sauana → Africa

Agriculture
Temperate

1) Pampas → South America
2) Prairies → North America
3) Rangelands → Australia
   Downs lands
4) Stepper → Asia

→ Selvas → Equitorial Evergreen forest of Brazil

Desert → rainfall < 25 cm

Hot desert

Cold desert

→ World's largest cold desert → Antarctica
→ World's largest hot desert → Sahara (N-W Africa)

Hot Deserts of world

Sahara → Botswana, Namibia & South Africa
Great Victoria → Australia
Great Sandy→ Australia
Arizona → USA
Thar → India, Pakistan

Cold Desert

Antarctic Desert →Antarctic

Patagonian Desert → Argentina , South America, Chile

Cold & Hot Desert

Takla Makan → W. China

Gobi → China + Mangolia

Coastal Desert

Antacama → Peru, Chile

River

1) Longest river of the world → Nile
↓
Source → Victoria Lake (Africa)
↓
falls in Mediterranean sea

2) Amazon → River of south America
→World's Lagest/widest

3) Missi-ssippi → longest river of North America

4) Yany-it-zi-yang (Yangtze River) → China
→longest of china

5) longest river of Europe→ Veega

6) Danube River → 2nd congest river of Europe crosses 7 countries and 4 capitals

7) Thames → London city बसी है।

8) Seine River के किनारे → Paris बसा है

9) Tiber River के किनारे → Rome बसा है

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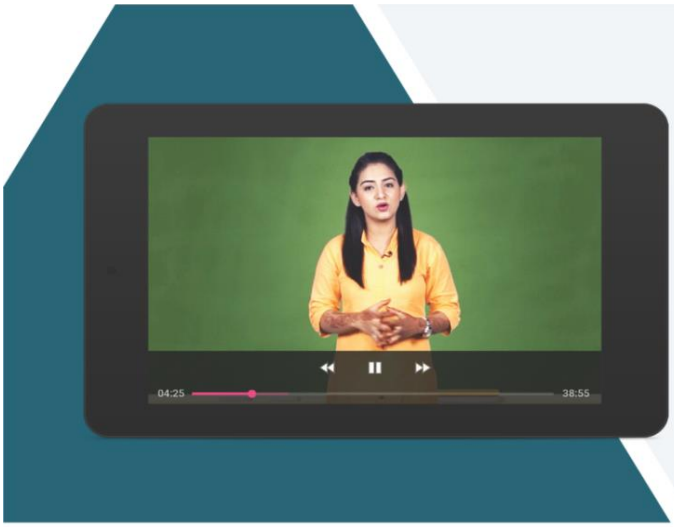
10) Darjeeling के किनारे →Sydney बसा है

11)Limpopo river of Africa → Crosses Tropic of Capricorn 2 time (मकर रेखा)

❖ Congo river of Africa → Crosses equator 2 times
→ Deepest Lake → Lake Baikal
→ Dead sea → Deepest in continents
→ Mariana Trench → Deepest place (pacific ocean)
→ Suez canal connects Mediterranean Sea to Red sea
→ Horns of Africa → Somalia, Ethiopia, Djibouti Eritrea
→ Panama canal→South Atlantic + Pacific
→ Pacific ocean → Departs ocean

Some Important cities & facts

→ City of seven Hills → Rome Italy
→ City of Golden Gate → San Francisco, USA
→ Lockpit of Europe → Belgium
→ China's sorrow → Hwany-Ho (river)
→ Gate of tears → Bad-el Mandeb, Jerusalem
→ Honeymoon Lake → Lake Titicaca
→ Island continent → Australia
→ key to the Mediterranean → Gibraltar
→ Land of Rising sun → Japan
→ Land of Mid-Night sun → Norway
→ Sugar bowl of the world → Cuba
→ Venice of the East → Cochin (India)
→ Yellow River → Hwang - Ho
→ Highest Land point → Mt Everest, Nepal
→ Lowest Land point → Dead sea (B/W Jordan & Israel)



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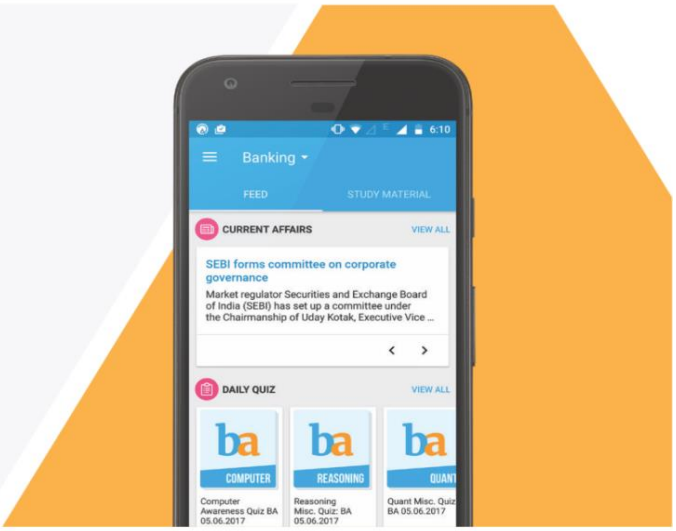

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