CLASS 1

Geography

Earth description

Introduction of India

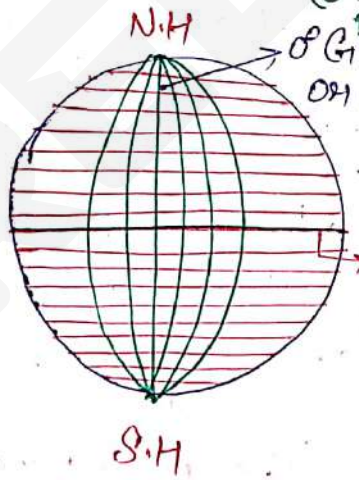
Father of Geography → Eratosthenes

Names of India →

India → Greek (Given by them)
Hindustan → Persian (Given by them)
Aryavarta → Land of Aryans
Bharat → Bharta (On Raja Bharat's Name)
Jambudipah → Puranas

Location → Globe → model of the earth
(Divide the Globe in W.H & S.H)

(These lines are imaginary lines)



0° GMT line (Greenwich Mean Time line)
OR UTC line (Universal time coordinate)

0° Equator line
(Divide the Globe in N.H & S.H)

Parallel Horizonal lines are Latitude
Non Parallel vertical lines longitude

Location of India →

Acc. to Latitude line → Northern H.S
Acc. to Longitude line → Eastern H.S.

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Location of India → North-East Hemisphere.

In b/w two ||s of latitude line India is situated at
- 6°4' NL to 37°6' NL (NL → North Latitude)

Main land of India → 8°4' NL to 37°6' NL

In b/w two longitude line India is situated at
- 68°7' EL to 97°25' EL (EL - East Longitude)

North Point of India → Indira Col (Situated at PoK (Pakistan occupied Kashmir))
(name given in 1977)
(Disputed)

→ Undisputed north point of India → Siachin Glacier

Siachin Glacier
- Length → 72 km
- Width → 2-3 km
- Height → 5700 Mt. (15% O_2 deficiency)

Indus River → सहायक → Shyok → Nubra

Saltoro Range (Pakistan's) (India's) → (India's)

- → Situated at J&K (In Karakoram Range) → (Its Sub Range Saltoro Range)
- → Largest Glacier of India (72 km)
- → Third Pole of the world (Due to low temp. upto -50°C or -35°)
- → Nubra river originates from it.
- → Highest battle field of the world.
- → Battle b/w India & Pak. (1984) → **Operation Meghdoot** ← Operate by India Govt. (Indira Govt.)

South Point of India → Indira Point (Situated at Great Nicobar Island) (In 1977)
↳ Its nearby Island is Sumatra (Indonesia)
(Largest Island of South)

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** Other names of Indira Point → Pigmelian Point
→ Parsen Point
→ Lahe Ching

South Point of India (Mainland) → Kanyakumari (Situated at Tamilnadu)
OR
Cape Comorin.

(Cape: Long narrow land area surrounded by water from 3 sides) → cape

Kanyakumari is famous for both Sunrise & Sunset.

East Point of India → Walongu (Situated at Arunachal Pradesh)
OR
Kibithu

West Point of India → Rajhen Creek (Situated at Gujrat)
OR
Guhar moti

Range of India → North - South = 3214 km
East - West = 2933 km

Shape of India → Quadrilateral.

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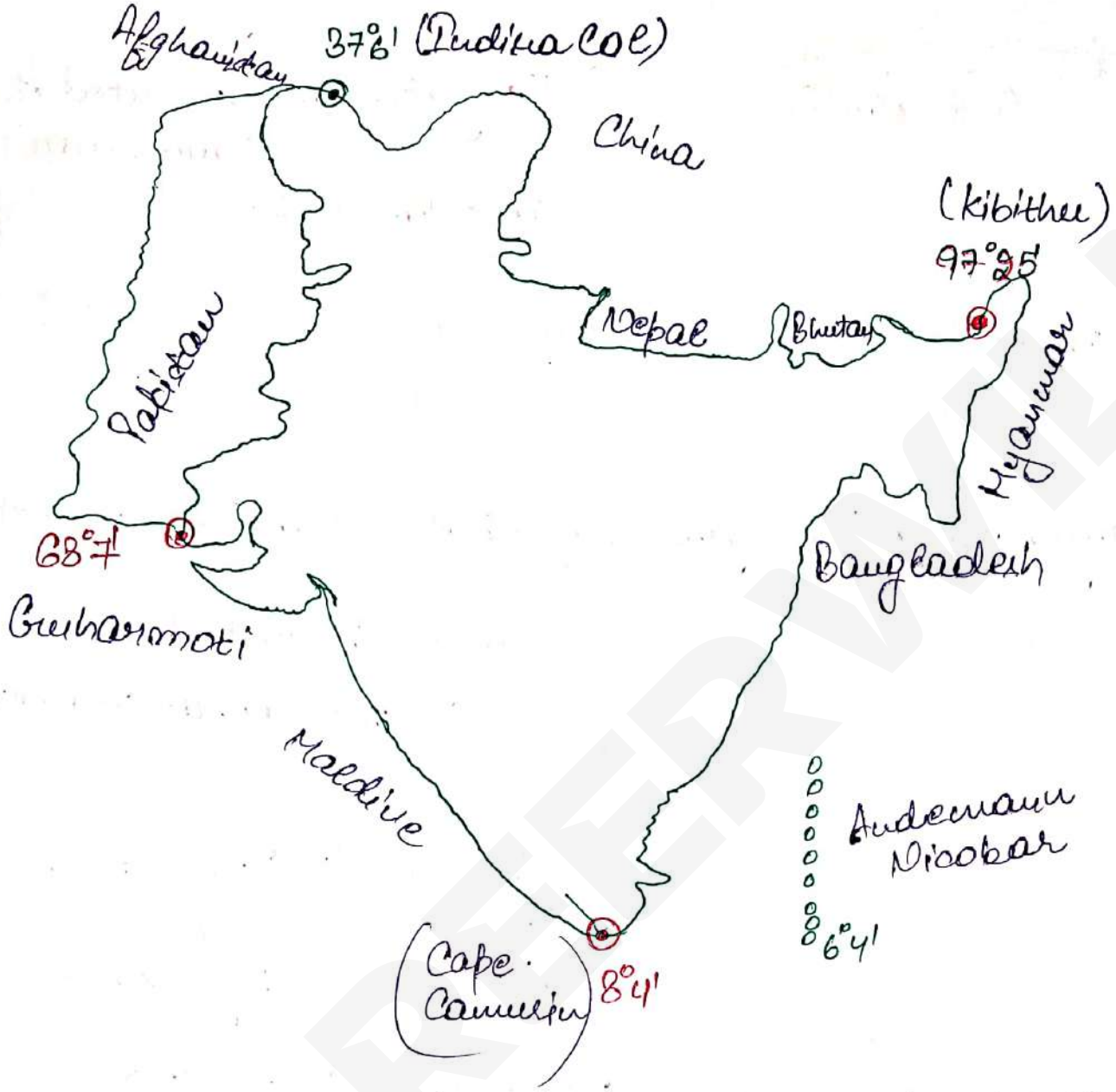

Boundary of India → Artificial Boundary

→ Physiographic Boundary → b/w 2 countries decided on the basis of Mountain. e.g

→ France —Jura Mountain (Connected by)→ Switzerland

→ France —Vosges Mountain→ Germany

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Geometrical Boundary → decided on the basis of lattitude & longitude.

→ 49° parallel line is b/w Canada & USA
→ 38th " " " " North Korea & South Korea

Artificial/Political Boundary → On the Political Basis (man made)

e.g. Pak - India
India - China
India - Afghanistan

India's Boundary

Water Boundary (Coastal line)
(6100 km) → Mainland's
Total → 7516.6 km (including Islands)

States
- Gujarat (max^m coastal line)
- Andhra Pradesh
- Tamil Nadu
- Goa (min^m)

Land Boundary
(15200 km)
- Pak
- China
- Afghanistan
- Nepal
- Bhutan
- Myanmar

Def^n of State → Given by Gamer (Britisher)
→ Defined area
→ Population
→ Government
→ Sovereignty

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Land frontier →

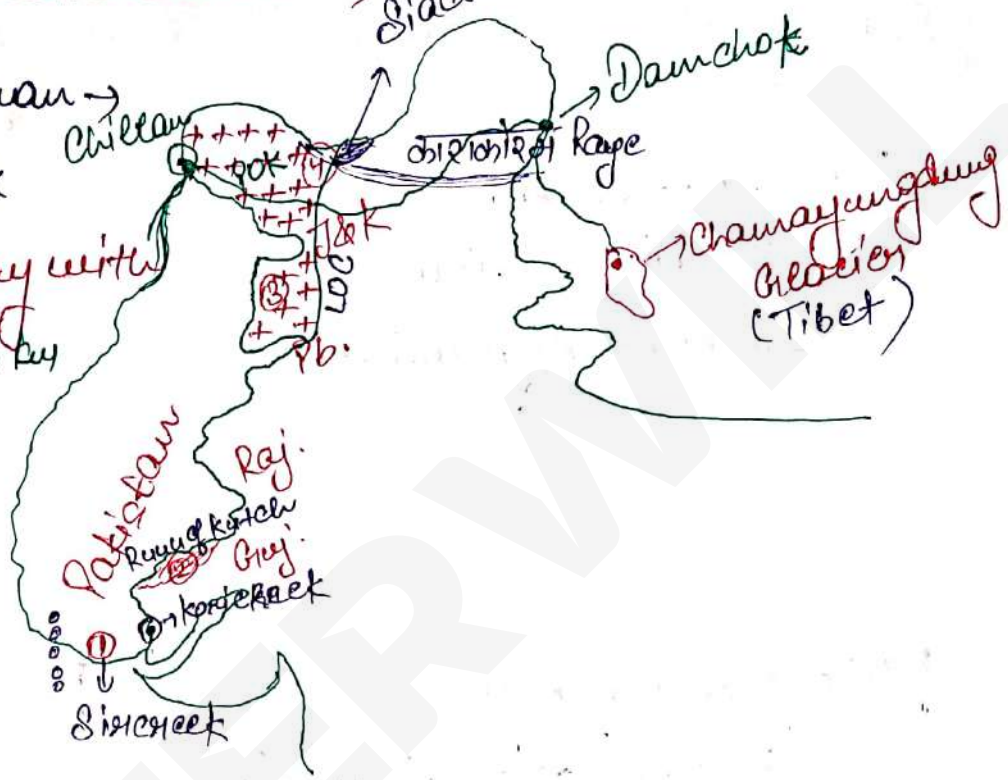
1. **Pakistan** → ESTABLISHED in 1947 (14th August)

Separation → Redcliff line.

States touch with ~~India~~ Pakistan → Siachin Glacier

Gujrat → Rajsthan → Punjab → J&K

Total boundary with India → 3323 km



Disputes

(1) **Sirkreek** → Wet area

- ↳ formed by Backward Motion of Ocean water.
- ↳ 96 km length
- Here fish, ~~Port~~ petroleum salt found in great extent.

Location — Sindh — Sircreek — Kutch

(Redlinedrawn by India) Greenline (drawn by Pakistan)

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(2) Rann of kutch → Wet area in Gujarat.
famous for
Salt Tourism

1968 → 10% area given to Pakistan
→ 90% area given to India

(3) PoK → Pakistan Occupied Kashmir
↳ Invaded part of J&K by PoK.

PoK → LOC → J&K
LOC: Line of Control

→ Kg/Godwin Austin is situated in PoK.
→ Indira Col is also situated in PoK.

(4) Siachin Glacier → undisputed after 1984.
(Ice area)

(5) Indus River →

Origin → Chemayungdung Glacier

In India, Entry pt → Damchauk
Exit point → Chillas

In 1947 → Partition decided (भारत Pak. को दो नहरों का पानी देगा)
But Pakistan Occupy PoK. So, India stops water due to which 17 Lakh Acre Land सूख गई

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During that time in 1948 America Started Temsi Project (By Limthlithigo).

Then Nehru called him to ~~Start~~ sort out that problem. Then he said partition of River is necessary.

In 1960 → Indus water Treaty

↓ conducted by

World bank

Pakistan
(utilise 80% water of)
→ Indus
→ Jehlum
→ Chenaab

India
(utilise 80% water of)
→ Ravi
→ Beas
→ Satluj

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CLASS → 2

2. Afghanistan → Touch with J&K

Boundary → 106km or 80km (Smallest)

State touch with it → J&K

India : Durand Line : Afghanistan (also with Pakistan)

↓

b/w Afghanistan & J&K in 1896

3. China → States Touch with it → J&K → H.P → U.K → Skm → A.P

Length of Boundary → 3488 km

In actual India's Boundary is with Tibet.

Tibet's $\xrightarrow{\text{Enemy}}$ Nepal

Tibet $\xrightarrow[\text{help}]{\text{got}}$ from China $\xrightarrow[\text{on}]{\text{attack}}$ Nepal.

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China annexed ~~by~~ Tibet in 1906 – 1912.
↓
China's Ruler died

Tibet announced Independent to itself.

In, 1914, One person **McMohan**
↓ did treaty

Indian — McMohan line — Tibet — China

½ + ½

In 1959 China again annexed Tibet so,

India —McMohan Line→ China

Disputes → Indo China war occured in 1962

#(1) Aksai China → Invaded part of J&K by China

J&K — LAC (Line of actual Control) — Aksai China

#(2) Brahmputra River → In China this River is known as Tsangpo
↓
Through China enters to Arunachal Pardesh.

In 2017 form 3 dams
- जादू
- लिथाया
- जंग्याम

Due to Dams water by River reduced in India Due to which, affected part of India were
- → Majuli Island (Assam)
- → Irrigation
- → Hydroelectricity

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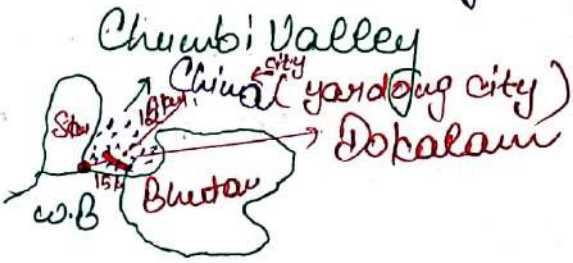
Dokalam Plateau → Located in Chumbi Valley.

Chumbi Valley is at

Tripoint → China, Bhutan, India



China (yardong city) —12 km→ Dokalam —15 km→ Nathula Pass (India)

Dokalam → It is of Bhutan

**

Dokalam Plateau is dispute b/w China & Bhutan

↓

India involved due to seven sisters.

Kalapani Dispute → काली नदी / शारदा नदी
↓ come from
Nepal
↓ go to
Ganga

China said either India, Bhutan का साथ ना दे otherwise with Nepal they will interfere in Blackwater dispute

Nathula Pass → Located in Sikkim.
↳ Natural road b/w 2 mountains
↳ utilized in trade & travel

importance → Trade with China.

Silk Route's part is Nathula Pass.

During war: In 1962 it was closed
In 2006 it is reopened

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4. **Myanmar** → It was part of India.

By Act. of 1937 → It is separated from India.

Old name of Myanmar → Berma

Here **Mandley Jail** (जिसमें रहते हुए Bal Gangadhar Tilak ने Gita रहस्य नामक Book लिखी थी)

Rangoon Here Graveyard to Bahadur Shah Zafar.

State Touch ~~to~~ Without → A.P → Nagaland, Manipur, Mizoram.

Boundary → 1643 km
↓
decided by **Hill + Forest**

A.P → Nagaland → Manipur → Mizoram
↓ ↓ ↓ ↓
Hills → Patkai hills, Naga Hill, Manipur Hill, Mizo Hill.

Part of NE Himalya

On Border line → Hill + high dense forest
↓ Problems here
→ आतंक वाद
→ Drug Supply.

Diphu Pass → Disputed part b/w Myanmar & India
↓
Located in Arunachal Pradesh.
↓
at China

India ← **tripoint** → Myanmar

Irawati River → called Lifeline of Myanmar.

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5. **Bangladesh** → Established in 1971

States with it →

W.B → Assam → Meghalaya → Tripura → Mizoram.

Boundary → 4096 km (longest)

West Bengal (Hindu) ← Bengal → East Bengal (E.B) (Muslim)

On 20 Oct, 1905 (By Lord Curzon)

then in 1911 George Pancham & Madam Marie came and cancelled the partitioning of Bengal. So, **East Bengal** remains from **1905 - 1911**

Hindu Area will be under India ← 1947 → Muslim Area will be under Pakistan

During partition

(E.B became Pakistan) ← (But it was far way from Pak.)

So, In **1971** → war occurs and East Pakistan named Bangladesh.

So, 1905 - 1911 → East Bengal

1947 - 1971 → East Pakistan

1971 → Indo - Pak war.

↓

Bangladesh.

Dispute →

(1) **Tista River** → disputed River.

In Sikkim → Zemu glacier

↓

(Origin of Tista River)

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Tributory of Brahmputra River is Tista River

(1983) Partition 39% water utilize by India
→ 36% " " " Bangladesh
→ 25% remain as it is in river

But Bangladesh was 48% but India denied

So, Tista River is dispute b/w India & Bangladesh

(2) Newmoor Island → in Sipperwan Area.
↓ also disputed
Presently पानी में डूब चुका है

(3) Tim Bigha Corridor

Enclave
↓
any portion of State that is surrounded by an other country

To resolve this Problem agreement b/w India & Bangladesh Occured called Land Boundary Agreement in 1974
↓
To vanish Enclave word
↓ India
↓ Bangladesh

Enclaves
↓
Dahgram Angarpota → In India
→ But right is of Bangladesh

Berubari → In ~~India~~ Bangladesh but right is of India
↳ Bangladesh Gave it to India

→ But it is not given to Bangladesh by India. So to connect it with Bangladesh Tim Bigha Corridor was made

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Sunderban Delta → In Bangladesh

Any river ~~go~~ flow with no. of sediments, after covering so distance, velocity of river ↓, so river will have no capacity to flow forward with sediments and deposit these sediments at endpoint and that formed fertile area is called Delta.

→ Largest Delta of the world.

→ Formed by Rivers → Padma ← (called Padma to Ganga here)
→ Jamuna ← (called Jamuna to Brahmputra)

Joint stream of Both is called **Meghna**

So we can say, this Delta is formed by Meghna.

→ Mangroov forests are found here (इसकी wood water में कभी खराब नहीं होती)

→ India Sunderban Delta → South part of Major Delta.
↓
In India

In 2019, Sunderban Delta announced as 27th Ramsar Wetland of India
↓
City of Iran

Here in 1971, Convention occure, in which demand was that, it is necessary to conservate wetland.

1st Wetland of India → Chilika Lake in 1981

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6. Sri Lanka → Old name → Celon (CGL)

→ Cocamut shape country.

India —Palk Strait→ Srilanka
Gulf of Mannar (Gems निकाले जाते हैं यहां से)

Dhanushkodi → Talaimannar
(India) (Sri Lanka)

Rameshwaram → Pumban Island
(India) (Sri Lanka)
↓
Ramsetu
OR
Adam's Bridge
(48 km)

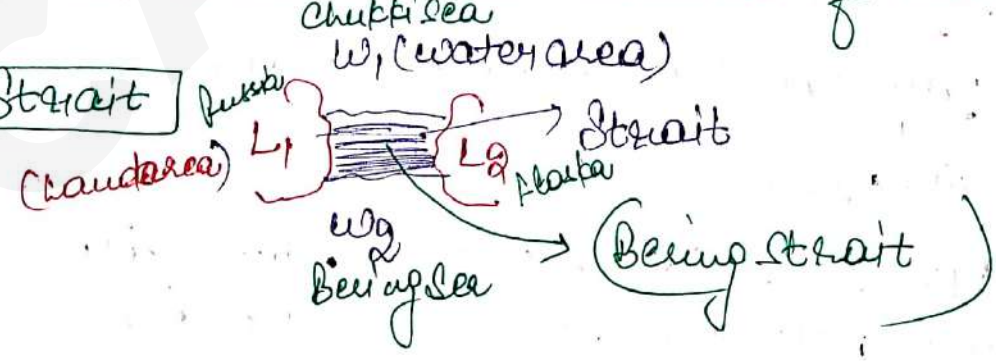
Jafna Peninsula → famous for → LTTE → Liberation of Tamil Tiger Eleam. → Murdered Rajiv Gandhi. (in 2009 Vanished)

Boundary Line is not decided till.

* SL claims to India that they come beyond 200 Nm and 6.5 Cr. kg Fish of ~~India~~ China has been taken by India per year.

* SL also called Island of Gems.

Strait



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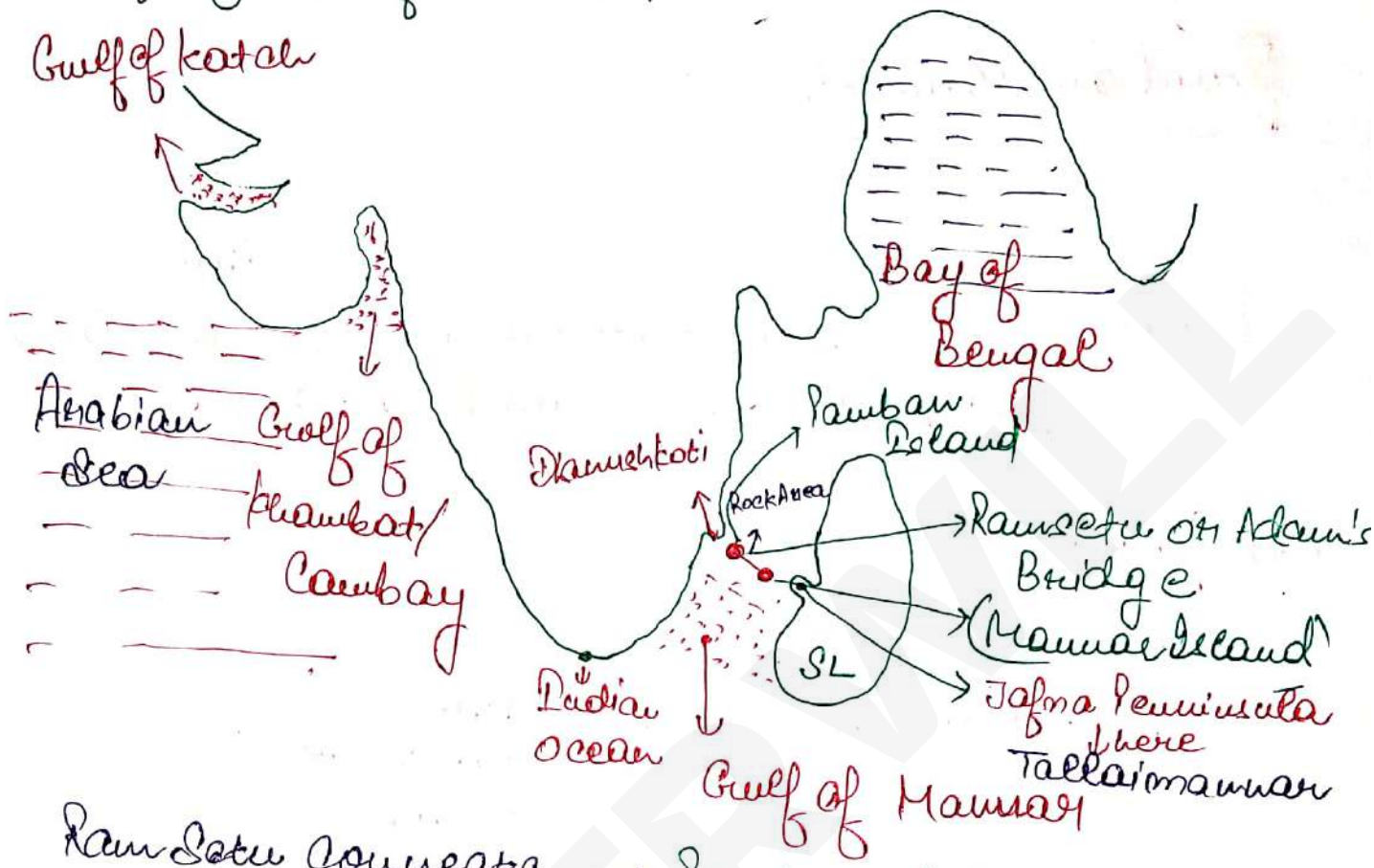
Gulf →

Narrow ← Gulf
Part of Bay is Gulf.

Bay → That water Body which is covered by land from 3 sides.



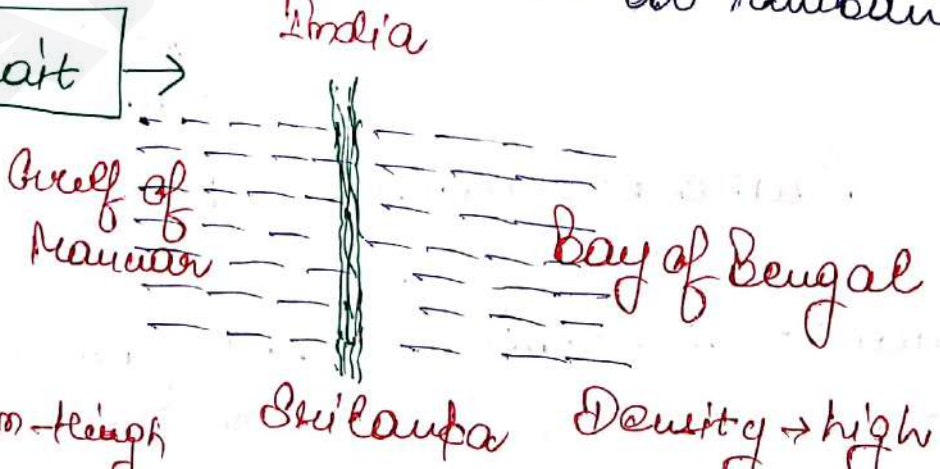
Ram Setu connects → Pamban Island with Mannar Island

OR

→ Dhanushkoti with Tallaimannar

- Pamban Island is situated in Gulf of mannar.
- Rameshwaram is situated on Pamban Island.

Palk strait →



Temp High.
Precipitation High
Rain ↑
Salinity → Low
Density → Low

Density → high

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Palk Strait → Connects Bay of Bengal to Gulf of Mannar and separates India to Srilanka.

Pamban Channel → Separate India to Srilanka.

India

Srilanka

Channel → long narrow water body which separates two land area.

(7) **Nepal** → With Nepal India has natural Boundary.

States touch with it → U.K
→ U.P (maxm)
→ Bengal
→ Sikkim

Share boundary → 1753 km

(8) **Bhutan** → with Bhutan India has natural boundary.

States touch with it → Sikkim
→ Bengal
→ Assam (maxm)
→ A.P

Share boundary → 699 km

Bangladesh > China > Pakistan > Nepal > Myanmar > Bhutan > Afghanistan
4096 km 3488 km 3323 km 1753 km 1643 km 699 km 106 km

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CLASS 3

(9) **Maldives** → Located in Arabian Sea.

↓

Made up of Coral Island.

Coral → an aquatic organism

↓

Survive its life on symbiotic process

Coral + Zooxenthallae Algae

↓ (white in colour) — Symbiotic relation

↓ gave 60% food & colour to coral

↓

Both's skeletal form Coral reef

↓ on it

Maldive is located.

Global warming → Temp ↑

↓

Ocean temp ↑

↓

due to which Zooxenthallae expires

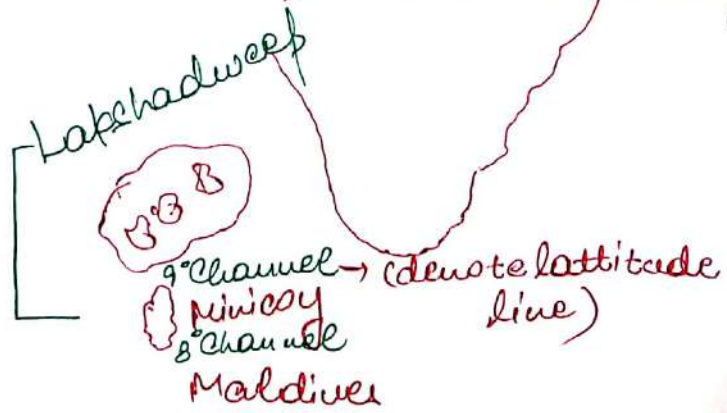
↓

Coral converted into white ~~coral~~ colour which is called Coral Bleaching

Biggest Problem of Maldives → Coral Bleaching

India and Madive are connected by 8° Channel

Islands of India



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Importance of Corals → 60% medicine of cancer made up of corals.

→ good for tourism [Japan get good income from it]

→ When Coral Island forms full then it is inhabitate.

→ **States having Boundary with 3 Countries**

(1) Sikkim → Nepal, China, Bhutan

(2) Bengal → Nepal, Bhutan, Bangladesh & with 3 SAARC Countries (South Asian Association of Regional Corporation)

(3) Arunachal Pradesh → Bhutan, Myanmar, China

(4) Jammu & Kashmir → Pakistan, Afghanistan, China

→ **States having Boundary with 2 Countries**

(1) Assam → Bhutan & Bangladesh

(2) Uttrakhand → China (Tibet) & Nepal

(3) Mizoram → Myanmar and Bangladesh

→ **States having Boundary with 1 Country**

(1) Bihar → Nepal.

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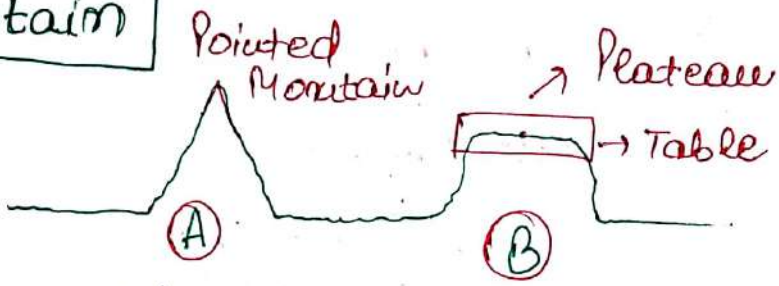
Physiographic region of India

- Mountain
- Plateau
- Island
- Plains

Mountain

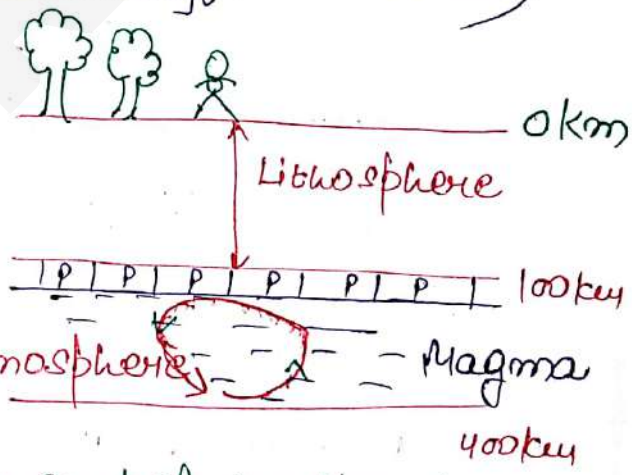


Those high elevation areas which have sharp upper part.

Types of Mountain

(1) **Folding Mountain** → known as Newest Mountains (∵ Movement of Plates occurs continuously)

Plate → Area lies b/w Asthenosphere & Lithosphere is called Plate.
↳ (7 Major Plates)



Magma → Molten form of metals.
↓ in it
formation of Convection Current occurs
↓
Hot magma due to low density go upward & Cold magma due to high density go downward.
↓ so
magma (moves)
↓
Plate (moves)
↓
Lithosphere (moves) which is called Earthquake.

Asthenosphere
↓
Here amount of radioactive Substance ↑ Release Energy (+) → Uranium, Thorium.
↓
Temp ↑ (1900°C)
↓
Pressure (↑)

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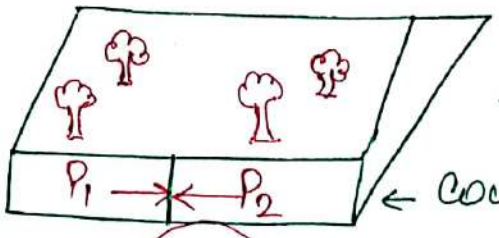


→ Fold mountain

↑ due to which

← compression force applies

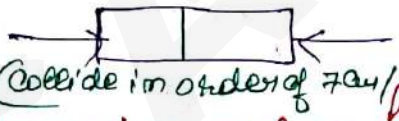
← as magma moves

magma move → Plate moves
↓
P_1 & P_2 collide
↓ called
convergent

Note → Lithosphere → (0–100) km
Asthenosphere → (100–400) km
↓
Radioactive Substance
Temp 1900°C, Magma

Plate → b/w Lithosphere & Asthenosphere
↓
move ∵ → in magma → convection current flow.

1. **Fold Mountain** → Formed due to convergence of two plates.



collide in order of 7cm/year

E.g (1) Himalya —formed by→ Collision of Eurasian Plate & Indo Australian Plate
due to movement of Plate height ↑
8848 m (old) → 8850 m (new)

(2) Andes Mountain (in South America) —formed by→ Collision of South American Plate & Nazaca Plate

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(3) Rocky Mountain (in North America) → formed by Collision of North American plate ~~Kokas~~ cocos Plate . . .

2. **Block Mountain** →

Plate → moves → forms **Cracks**

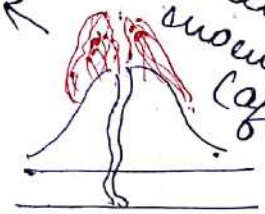
(Cracks वाला भाग ऊपर की तरफ उठ जाएगा)
↓
which is called **Block Mountain**

That part is called **Rift valley** ⇒ Mountain located b/w Rift valleys.

Magma (Pressure ↑)

E.g सियारा निवादा in USA
Salt Range in Pakistan
Satpura in India

3. **Volcanic Mountain** → (Magma उपर आएगा) Volcanic mountain (after cooling)



So, magma try to come out

Temp ⊕ ⇒ Pressure ⊕

formed by Volcanism.

E.g In, **Indonesia**, Africa, Jap
↓
Krakatao
Aconcagua (in South America)
Kilimanjaro (Africa)

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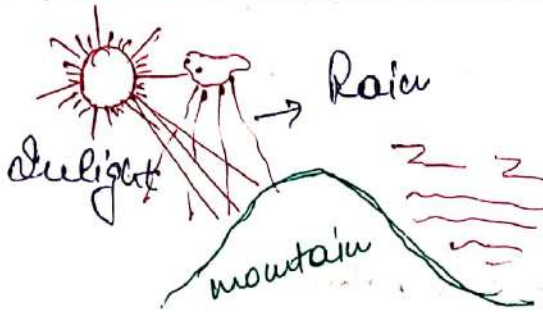
4. Residual Mountain ⇒



(weather phenomenon)
↓
due to which erosion occurs
↓
and shape & size of mountain changes
↓
That mountain will called as **Residual Mountain**

So, formed by erosion of a major mountain by weather phenomenon.

e.g (1) Aravali (oldest mountain)
↳ (Previously folded mountain)
(2) In U.P Mathura, Govardhan Mountain.

Height → Folding (+)
Residual (−)

Himalya → Young Folding mountain
Youngest + Heighest → ∵ Its highest Peak is **Mount Everest**
↓
Located in Nepal (8850m)
↓
Here called, **Sagarmatha**

Length → 2400–2500 km

Width ⇒ West (J&K) 500km
East (A.P) 300km

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Shape → Bow shape (or Arc shape)

Formed in → Tertiary Era

Origin of Himalya → Two Theories

Plate word given by → J.T Wilson

Geosyncline

Based on **Continent drift** theory. given by Alfred Wegnor ↓ he said

There is a Tethys sea

Sediments deposit

On the application of compression force sediments ऊपर की तरफ उठ गए | i.e Risen

↓

So Himalya formed.

★★ So, Himalya is formed on Tethys sea.

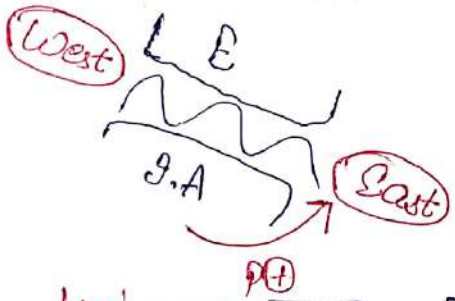
Plate tectonic Theory

Explained by → Morgan

given by → **Harry Heiss** ↓ said formed by due to convergence of two plates

Eurian | Indo Australian

Collision occured → Anticlock wise



Height (+) **East** (P+) → Rainfall (+), Forest Area (+), Biodiversity (+)

↓ (in East Area)

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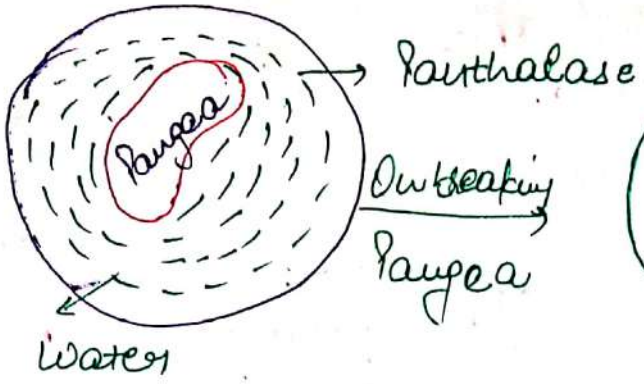

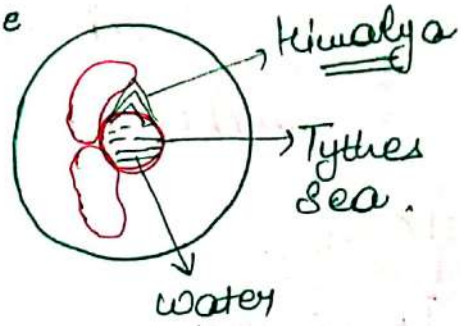

Division of Pangea → (in Carboniferous era)

Angaraland or Laurentia

(1) Eurasian plate
(2) North America plate

Gondwana Land

1. South America Plate
2. African plate
3. Indo-Australian plate
4. Antartica plate

All over the world, Total seven larger plates.

(7) → Pacific ocean (largest plate on earth)
↓
formed by Residual or Reliat part of Panthalasa.

* Himalya is situated b/w Indus river & Brahmputra river.

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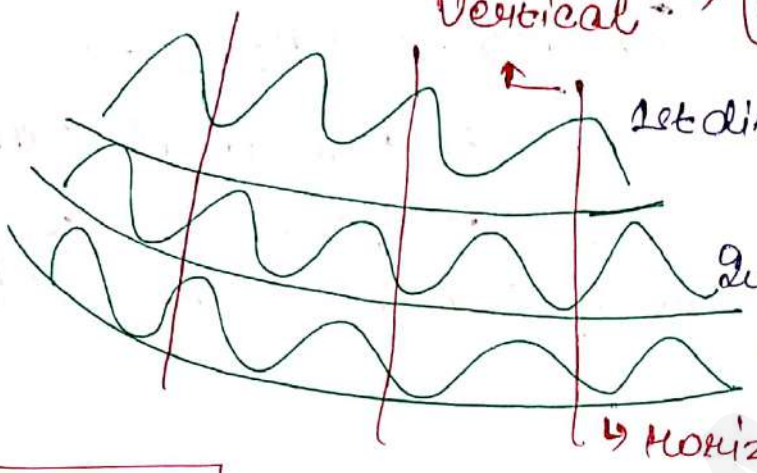
CLASS 4

Division of Himalya

- Lattitudual (Horizontal)
- Longitudinal (Vertical)

Vertical → (Divided on the basis of River)



Horizontal →
(1) Greater Himalya (Inner Himalya)
(2) Lesser Himalya (Middle Himalya)
(CGL 2017) (3) Shivalik (Outer Himalya)

Vertical → On the basis of River/Regional Division
(1) Kashmir Himalya
(2) Kumayun Himalya
(3) Nepal Himalya
(4) Assam Himalya

1. Greater Himalya

→ Formed in Eocene & Oligocene era.
(1) Major part of Himalya.
(2) Range is from → Nanga Parbat (Mountain Peak) (in J&K) to → Namchabarwa (Mountain Peak) (in Arunachal Pradesh)
(3) Heighest part of Himalya → So → Mount Everest int
↓ So
Covered by Snow → Socalled Himadri

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→ Due to high, vegetation will be less

→ Average height → 6000m.

going above 4800m vegetation will not occurs or will be little bit.

Mountain Peaks on Great Himalya (West ← East) →

(1) Namchabarwa (in Arunachal Pradesh)

(2) Kanchanjunga (in Sikkim) (Some Part is disputed with Tibet China)
(8598m) → Highest peak of Himalya in India

(1) Makalu
(2) Everest
(3) Manaslu
(4) Annapurna
(5) Dhaulagiri
} in (Nepal)

(1) Nandadevi → Undisputed highest Peak of India (7816m)
(2) Badrinath
(3) Kedarnath
} in (Uttrakhand)
(4) Trisul
(5) Neelkanth

Glaciers of Great Himalya →

→ गोमुख Glacier → (Origin of Ganga river)

→ मिलाम (Milam) Glacier → (Origin of Sharda River)

→ यमुनोत्री or बंदरपूंछ Glacier → (Origin of Yamuna River)
↳ (in Uttrakhand)

Zemu → Glacier (in Sikkim)
↓
(Origin of Tista River)

Rocks on Great Himalya

- Granite
- Shist
- Gneis

] → Archean Rocks (Age According)

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* Metamorphic Rocks are found in Greater Himalya.

Highest Peak of Himalya → **Mount Everest** → 8848km (By Indian Govt)
→ 8850km (By China Govt)

⇓

Place

- Nepal (in it called) → Sagarmatha
- Tibet (China) (in it called) → Chomolungama

Highest Peaks of Himalya	Highest Peaks of India
1. Mount Everest	1. K2 (On the Trans Himalya)
2. K2	2. Kanchanjunga
3. Kanchanjunga	3. Nandadevi
4. Lahotso	
5. Makalu	

Decreasing ↓

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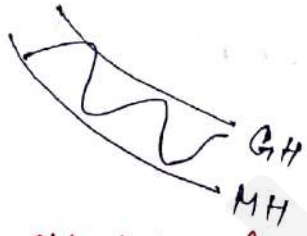
2. Lesser Himalya (Middle Himalya)

→ Located in South and parallel of Great Himalya
→ It is called Himalachal
→ Formed in → Miocene era.



Great Himalya (G.H) —Main Central thrust→ Shivalik Himalya (S.H)
(Separated by)

Valley → दो पर्वती Areas के बीच वाला मैदानी भाग।

Valleys b/w G.H & S.H → Kashmir Valley
Kullu Valley

Ranges of Middle Himalya

(1) Peer Panjal → in (J&K + H.P)
(2) Dhauladhar → (H.P + U.K)
(3) Nagtibba → U.K
(4) Mahabharat → Nepal
(5) Patkoi Bum → (North to South)

gp. of same age hills is called Range

Problem → Deforestation

Rocks → found (Sedimentary rocks)
- limestone
- Sandstone
- Quartz

Note → Vaishno Devi Mandir is on Trikut Choti in Peer Panjal

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~~Shivalik Himalya~~

Merg → It is a small grassland which found on the slope of lesser Himalya in J&K. It is called **Bugyal** in Uttarakhand.

Average Height → **4000 to 4500 m**

3. Shivalik Himalya

→ Southern Himalya

→ Located South & parallel of Middle Himalya.

Shivalik Himalya —Main Boundary Fault→ Middle Himalya

Valleys Here → → ~~East~~ West valley's are called dwar

E.g Haridwar

→ East Valley's called → Doon,

E.g Kothridoon, Dehradun

→ Chumbi Valley

→ Formed in Pliocene era.

→ Formed by deposition of sediments by River

→ Youngest Part of Himalaya.

→ Extension → Portuan Basin (in Pakistan) → Arunachal Pradesh

→ In **Arunachal Pradesh** Shivalik hills are called

- Dafla
- Miri
- Abhor
- Mishmi

In Nepal

- Churia
- Murian

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Dwar ← Main Boundary fault → doon, Chumi — Shivalik Himalya

Main Central Thrust → Kashmir, Kullu Valley — Middle Himalya

Great Himalya

→ Average Elevation → 1700m
→ Found in lesser parts.
→ Sedimentary Rocks are found in it.

Trans-Himalya → Formed before Himalya
→ Located in North of Himalaya.

Trans-Himalya —Indo-tsango Shuture zone (ITSZ)→ Great Himalaya

Ranges on it

(1) **Karakoram** (North Extension (in J&K))
↳ **Peaks** → K2 or Godwin Austin (8611 km) (highest Peak) (in PoK)
→ Gasherbrum
→ Marerbrum

karakoram
Ladakh
Zaskar

↳ **Glaciers** → Siachin Glacier
Hisper
Biafo
Balboro

(2) **Ladakh Range** → in **J&K + H.P**
on it **Peak** → Raka Poshi (in PoK) **
(Highest)
↳ world's high slope peak

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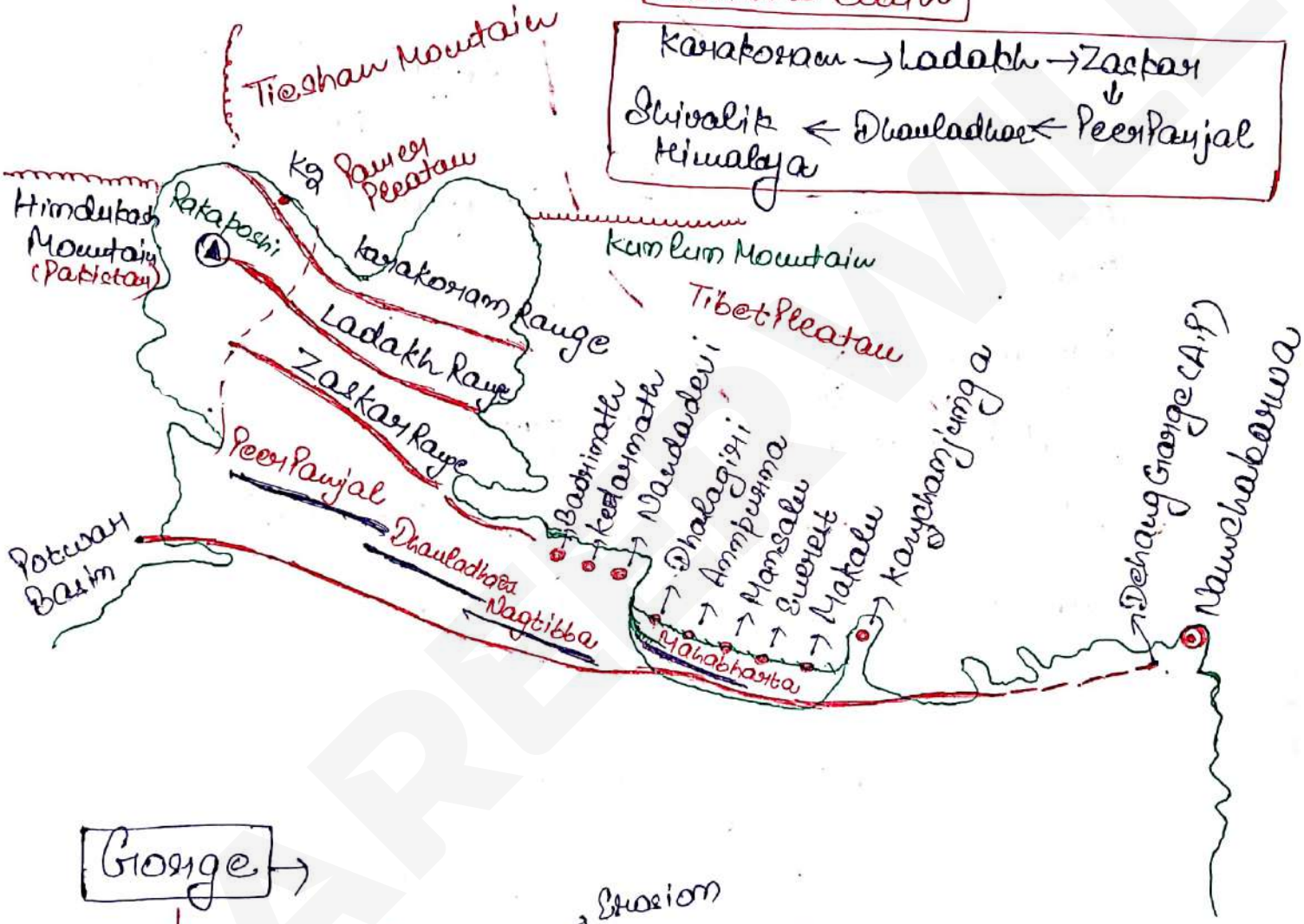
3. Zaskar Range → Located in South of Ladakh Range
↳ Peak omit Mount Kamet (in U.K)

4. Kailash Range → Tibet (China)

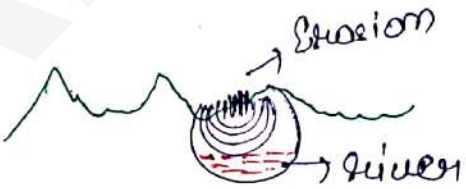
* Highest point of Hill is called Peak.

North to South

Karakoram → Ladakh → Zaskar
↓
Shivalik Himalaya ← Dhauladhar ← Peer Panjal



Gorge →
↓
Part of mountain cut by water due to Erosion and river flows here.



* Indus river is b/w Ladakh & Zaskar

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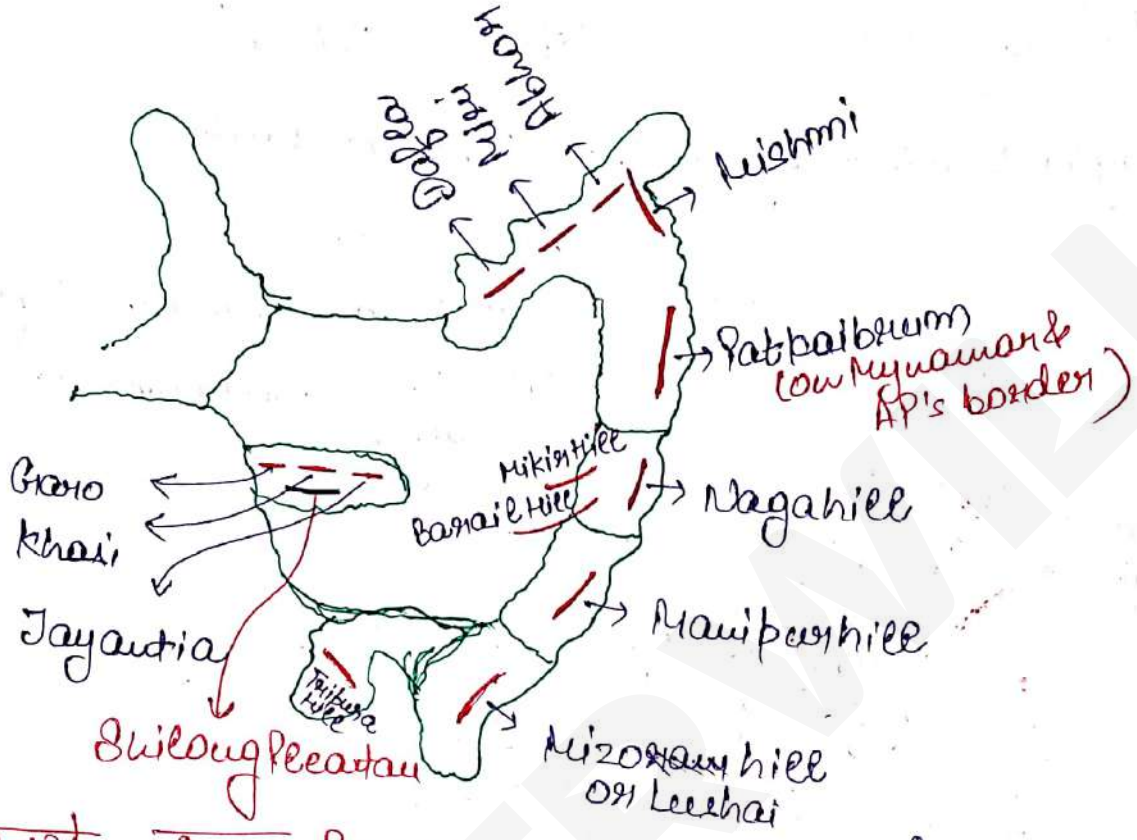
North East Himalaya or Purvanchal Himalaya



सबसे ज्यादा Rain Meghalaya में होती है।

Because, Garo + Khasi + Jayantia hills + Shilong Plateau

form funnel shape

↓

due to which Monsoon वापिस नहीं जा पाता।

Tea Production Most in Assam (65%)

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CLASS → 5

Biodiversity → includes Plants + Animals

Vegetation → includes only Plants, Forest

Regional Part of Himalya

↓

divided on the basis of rivers.

(a) **Punjab Himalya** (or Kashmir Himalaya) — Area b/w → Indus River, → Satlej River

(b) **Kumaun Himalya** → Satlej River, → Kali River

(c) **Nepal Himalya** → Kali River, → Tista River

(d) **Assam Himalya** → Tista River, → Dihang / Brahmputra River

Acc. to Length → Nepal > Assam > Punjab > Kumaun
(Largest Himalaya) (Smallest Himalaya)
(800 km) (720 km) (500 km) (320 km)

More vegetation is Assam & Nepal Himalaya because in East part rainfall more.

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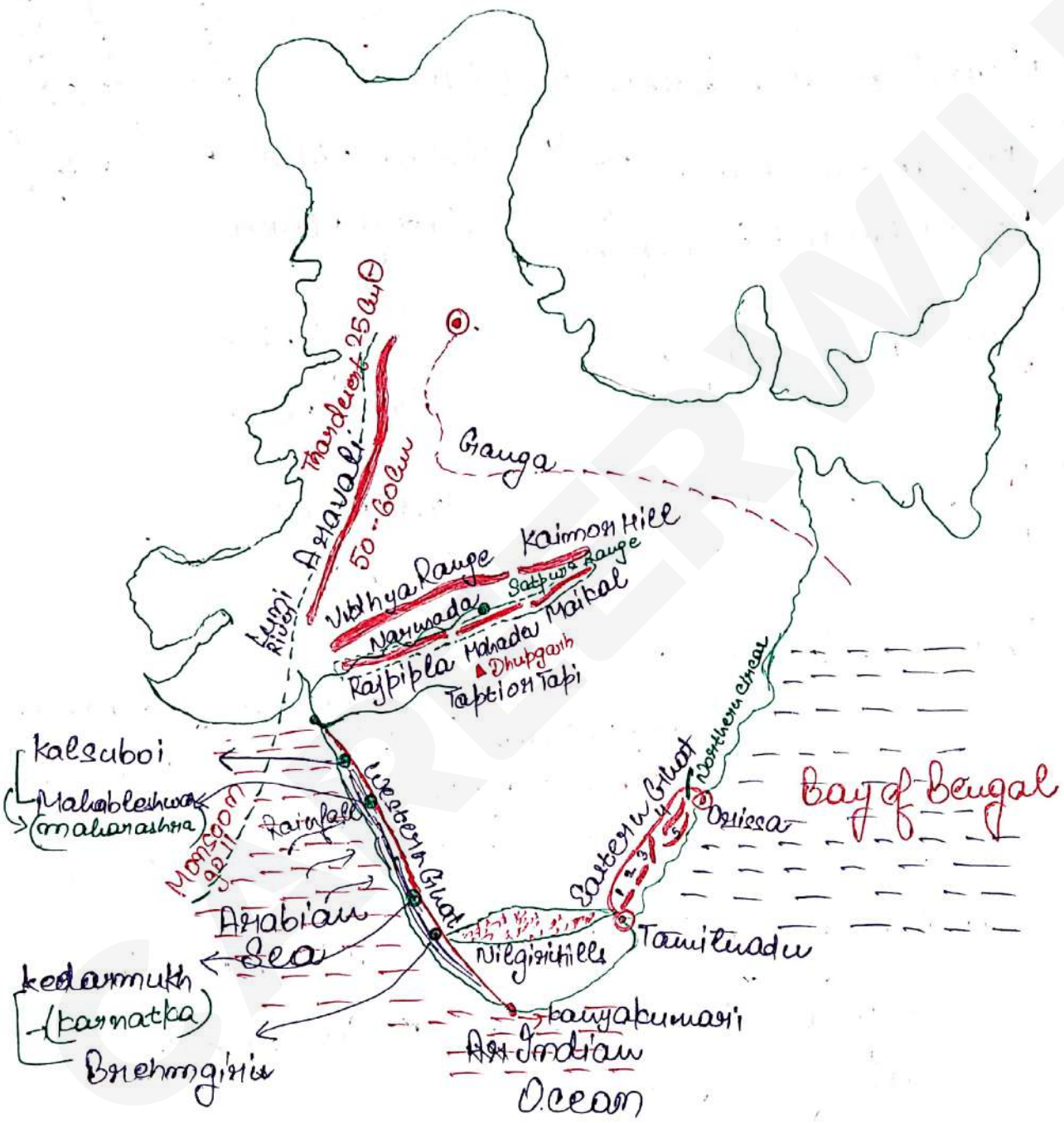
Peninsular India → Peninsular Mountains

Part of Gondwana Land.

In South India, there are Block mountains & Residual Mountain



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1. **Aravali Mountain** → Oldest folded Mountain of World

→ Formed in Precambrian era.

→ Range → Gujarat (Palanpur) → Rajasthan (800 km) → HR → Delhi (Majnu Tilla)

Rajasthan ↓ here: Mount Abu ↓ ▲ Guru shikhar (1722 m) (Highest peak of Aravali)

Delhi ↓ here: Raiseena hill ↓ on which President House formed

In Udaipur (Rajasthan) → Aravali is called Jarga Hill

In Ajmer (Rajasthan) → Aravali is called Harshnath Hill.

→ Aravali is → (1) **Climate divider** (means in both directions different climate)

In east direction of aravali rainfall is less than 25 cm. But monsoon coming from bay of Bengal strikes with it and rainfall occurs (50-60 cm)

So, Climate divider → Aravali's East zone → Semi arid
→ Aravali's West zone → Desert

→ (2) **Water Shade** → दो Rivers के पानी को Separate करेगा।

↓

Aravali Separates → Luni River from Ganga River.

→ It is an Example of Relict or Residual Mountain

→ Here Sedimentary as well as Metamorphic rocks are found.

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2. Vindhyachal Range or Mountain

Extension → Bhamer Hills (Gujarat) to Bundelkhand (U.P & M.P) to Baghelkhand (U.P & M.P) to Kaimur Hills (Bihar)

(Bhamer Hills) Gujarat → M.P (also U.P (little bit)) → Chattisgarh → JH → Bihar

Gujarat ↓ (Jobat)

Bihar ↓ (Sasaram)

** Vindhyachal divides → South India — North India

also → ** Narmada River — Ganga River

River originated from Vindhyachal → Mahi River

→ It is a Block Mountain / Escarpment Mountain

→ Kaimur Hill → Part of this Range.

→ Max^m Height → 400–500 m

3. Satpura Range

→ It is an Example of Block Mountain.

→ In Gujarat it is called Rajpipla Hill.

→ In M.P " " " Mahadev Hill.

→ In Chattisgarh + M.P " " " Maikal Hill.

→ AGL Highest Peak of Satpura → Dhopgarh (1350m)
UPSC in Pamchmadi (M.P.) on Mahadev Hills

Sequence →

Ganga River
↓
Vidhatya Hill
↓
Narmada
↓
Satpura
↓
Tapti

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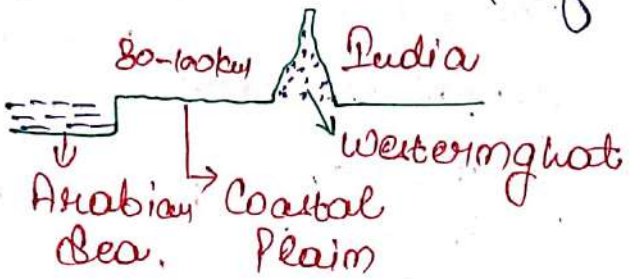
Amarkantak → Highest Peak of Maikal
Rivers originate → Son and Narmada

Western Ghat ⇒ It is an Example of Escarpment Mountain or Block Mountain.

Ghat → A narrow strip of mountain.



** **Another name** → North part of Western Ghat is called Sahyadri Mountain.

(Extension)

→ Started from Mouth of Tapti to Kanyakumari

Extension in 6 States.

Gujrat → Maharashtra → Kerala → Karnatka – Tamilnadu
Goa

→ Formation → When India split from Africa.

→ On western Ghat Rainfall occurs from
↓
* arrival monsoon of Arabian Sea.

→ So, * सबसे पहले Rain होती है यहां → In Kerala.

Rainfall (+) → Vegetation (+) } → Biodiversity (+)
→ Animals (+)

→ * 16th parallel line passes from here & divide it into

Northern Sahyadri | Southern Sahyadri

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Highest Peak of Western Ghat → Anaimudi (in Kerala) (2695m)
(Also known as Elephant mountain)

Also highest Peak of South India and Annamalai Mountain

Peaks here →
(increasing)
Kalsubai
Mahableshwar] (in maharastra)
kedarnath
Brehmgiri] (in karnatka)

Eastern Ghat → formed by deposition of Sediments.

→ Started from → Odisha → Andhra → Tamilnadu
→ It is a group of hills.
→ River water of Eastern Ghat do erosion
→ Height of Eastern Ghat is ⊖ in respect of western Ghat

Hills →
(1) Shevroyhill (Also Aquarthamalai)]
(SSC CGL) (2) Javali Hill] → (Tamilnadu)
(3) Palkonda Hill
(4) Nallamala Hill
(5) Venkonda Hill
} Audra Pradesh (+ Telangana)

Also Sri Shelam (in AP), (7) Tirumala Hills (in A.P).

→ Eastern Ghat → Width ⊕
→ Western Ghat → height ⊕
→ In Orissa it is called Northern Circars.

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CLASS → 6

Highest Peak of Eastern Hills → Mahendra giri (SSC CGL)
↓ (1501 m)
(In odisha)

Highest Peak of Eastern Ghat → Vishakapattnam Peak (1680 m) (UPSC)
(in Andhra Pradesh)

Nilgiri Hills → Form Knout (गांठ)

Location → in Tamilnadu (CGL 2017)

** It is a connecting place of Western Ghat and Eastern Ghat.

Highest peak of Nilgiri Hills → Dodabetta (2637 m)
(in Tamilnadu)

→ It is called as Blue mountain.

→ It is an example of Block mountain

→ Toda tribes is found on the Nilgiri Hills

→ Sholas Forest is found on the Nilgiri Hills. (UPSC)

Ammamalai Hills → In South of Nilgiri.

→ Situated on Tamilnadu + Kerala (more Extension here)

** → Higest Peak of Ammamalai Hills → Anamimedu (2695)

→ Sholas forest is found on Ammamalai Hills.

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Cardamum Hills →

Most of the part are situated on kerala but some on Tamilnadu.

Palani Hills

→ It's situated in Tamilnadu

→ Situated in the east of Anamalai Hills.

IAS Pre → 'Kadaikanal' is a tourist Places situated on Palani Hills.

Sequence of Hills →

Nilgiri
↓
Anamalai
↓
Cardamum
↓
Nagarkoyal → (last)

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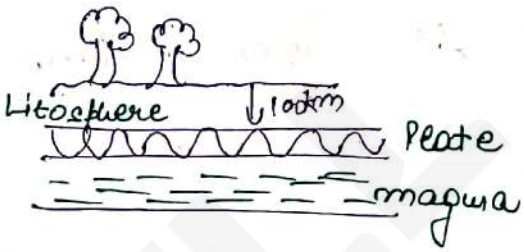
Plateau of India

Defn → High Elevation areas whose upper point is flat.

Useful → Source of minerals.
Source of Soil..



Types of Plateau →

(1) Plate tectonic Plateau →
↓ due to
Plate movement
↓ collision occurs
If collision occurs at low speed
↓ then
Plateau forms.

E.g →

(2) If Plate tectonic plateau is surrounded by mountains then called as

Intermost Plateau
↓ E.g
Deccan Plateau, Pamer Plateau, Tibet Plateau.

(2) Volcanic Plateau → Formed by Volcanism due to → Lava - Solidification of Surface.

CAREERMILE

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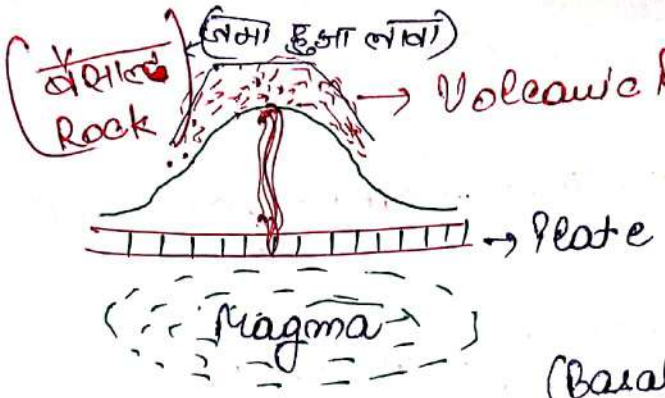

when Volcanic occurs → (Basaltic) बेसाल्ट Rock forms
↓ On erosion
Black Soil forms

E.g → Deccan Plateau
→ Bolivia Plateau

(3) **Dissected Plateau** → Same as Residual Mountain
→ Formed by erosion.

---

(1) **Mewar Plateau** →

→ Located in Rajasthan + M.P
→ b/w Aravali & Malwa Plateau
↓
Here on this plateau is **Banas River Basin** Area.

(2) **Malwa Plateau** →

→ Situated in M.P
→ Rocks found here are **Basaltic**
↓
So Black Soil found here.
→ Malwa Plateau come in Chambal River Basin.

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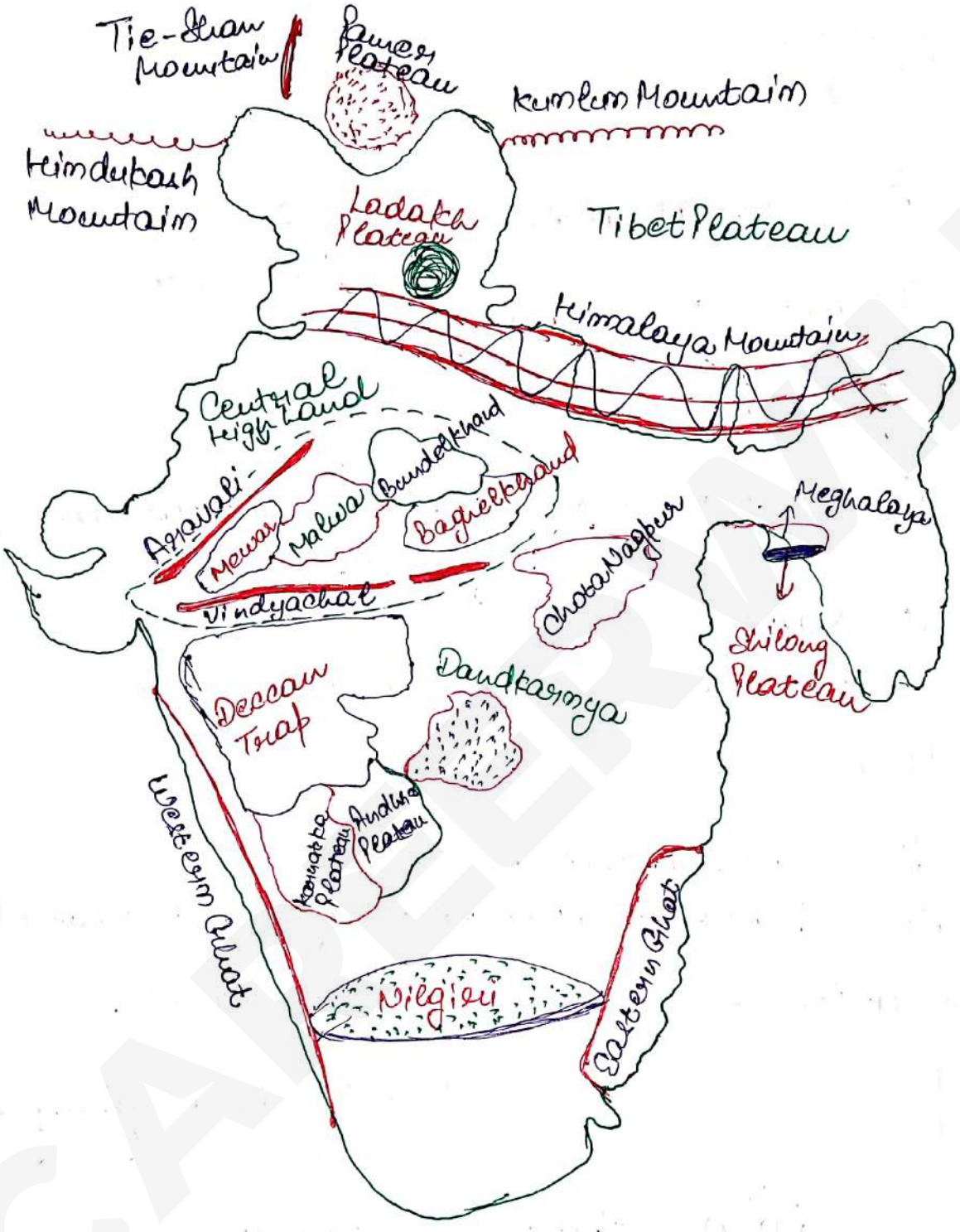

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** Chambal River is famous for Soil erosion
↓ form
** Bandland

(3) Budelkhand Plateau →

→ It is situated in M.P + U.P
(more here)

→ Granite Rocks are found here.
↓ found
Red Soil Here

→ In the north of Budelkhand Plateau, Yamuna River is found.

→ In east → Baghelkhand Plateau.

→ In west → Malwa Plateau.

(4) Baghelkhand Plateau →

→ It is situated in U.P + M.P

** → It separated Son River from Mahanadi.

→ Location → East of Bundelkhand.

(5) Shilong Plateau → Located in Meghalya

Garo Khasi Jayantia
Shilong Plateau
form funnel shape.

So, world's high Rainfall Occurs.

→ Mangroove forests are found here.
(found in wet area)

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(6). Chota Nagpur Plateau

→ East Plateau of India

Extension → Bihar – Odisha – Chattisgarh – West Bengal
Jharkhand (also)

Here Minerals are found in more Extent
- Metals
- Non Metals
- Coal

** Due to which, Chota Nagpur Plateau is called Ruhr State of India.
↓ due to which

Industrial Rich Area But Economically weak Area.

Hazaribag Plateau
↑
Chota Nagpur Plateau → Rajmahal mountain (in Santhal of Jharkhand)
↓
Ranchi Plateau

Rivers Related to this Plateau → Swarn Rekha, Damodar

* Highest Peak of Chotanagpur Plateau → Parasnath Hills (1370m)
↑
In Giridih

7. **Deccan Plateau** → Largest Plateau of India.

↓ Parts

(a) Deccan trap → Basaltic
↓ So
Black soil found

→ Hills are → Harishchandra
→ Satmala
→ Ajanta

Area → Gujrat
Maharashtra
M.P
Karnatka

(b) **Karnatak Plateau** →
↓ Peak here
Kudremukh
↓
Iron Ores are extracted from here and export to Japan

(c) **Andra Pradesh Plateau** →
→ Location → A.P + Telangana
→ Hills come here also. (already written)

8. **Dandkaranya Plateau** → In (CH + Odisha + Andra Pradesh)
→ Mineral found here
→ But poor area so extraction not occurs properly.

→ **World's Heighest Plateau** → Tibet Plateau
↓ (4500m)
between Kunlun Mt. & Himalaya Mt.

→ **World's Largest Plateau** → Pameer Plateau
↓
Also called Roof of the World.

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India's highest Plateau → Ladakh Plateau.

India's Largest Plateau → Deccan Plateau.

Magma contains → Gas + Molten + Water vapour + fire ball.

Magma − gas = Lava

after cooling of Magma converted into Lava.

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CLASS → 7

Islands of India

A large area which surrounded by water.

Total = 247 islands | Divided into 2 parts

(43 islands) → **Islands of Arabian Sea**

(204 islands) → **Islands of Bay of Bengal**

Islands of Arabian Sea

These are Coral Islands

* Lakshadweep
* Minicoy

Islands of Bay of Bengal

Considered as Extension of Bay of Bengal

* Andaman & Nicobar
* Newmoon Islands

Lakshadweep → Total Island → 36

→ It is an example of coral Island

Andaman Nicobar → Located in Bay of Bengal

→ Capital → Port Blair (13th largest Port of India)
(Situated on South Andaman Island)

→ It is an Extended Part of Arakanyoma mountain, Myanmar

→ It is a U.T

→ First Census in 2011 was conducted here.

→ It is an Example of Volcanic Island.

→ Andaman — 10° Channel — Nicobar (Separated by)

→ ** Nearest Country to the Andaman Nicobar → Myanmar

→ *** Nearest Country to the Great Nicobar → Indonesia

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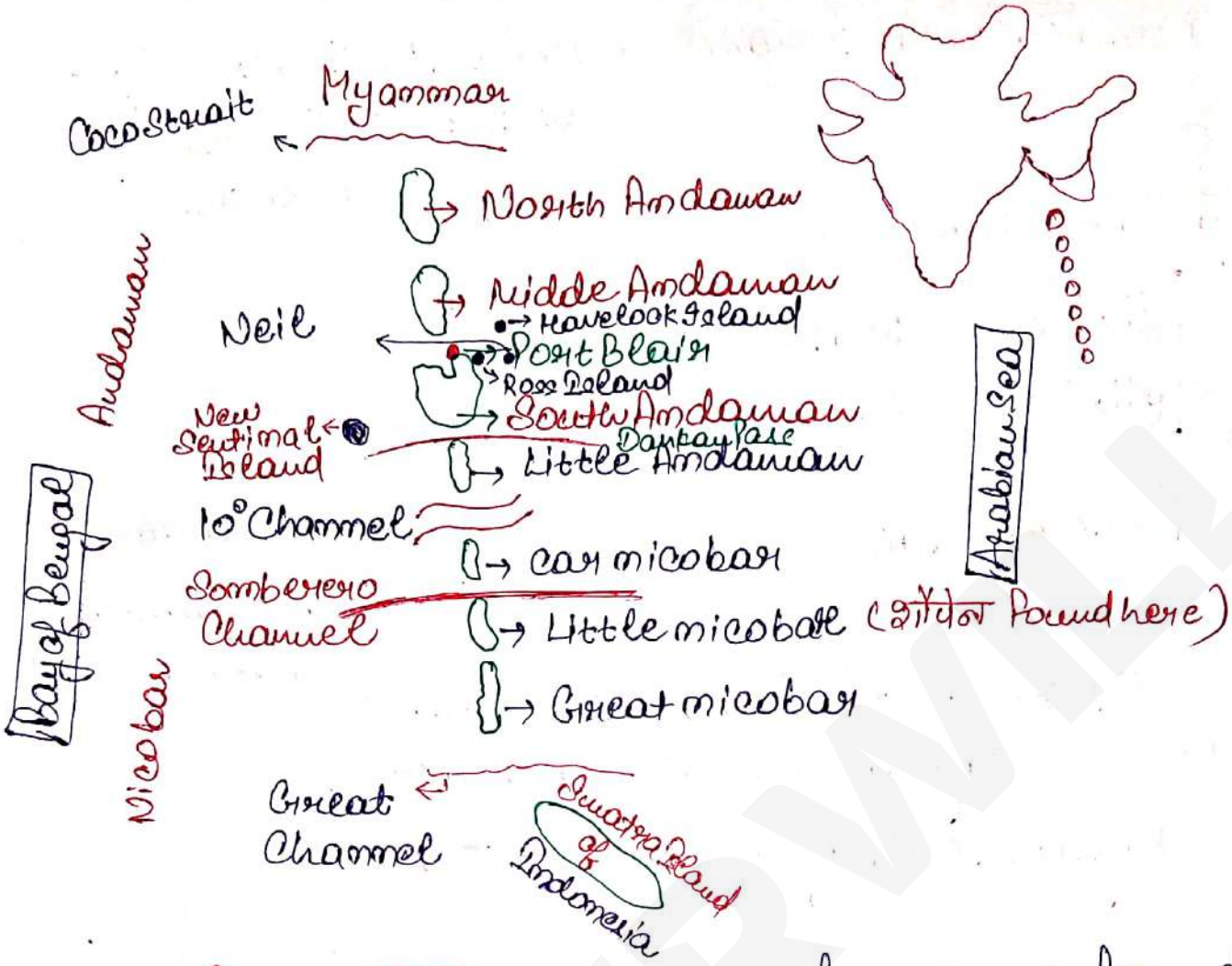

North Andaman → Evergreen forest are found here.

** → Highest Peak of Andaman & Nicobar → Saddle Peak (739m)

→ Narcondam Volcano (in the East of North Andaman)
↓
(Dormant volcano of India)

Middle Island → ** Only active volcano of India
Barren island

Current Affair → Recently modi Govt. changed the name of 3 Islands.

Old Name	New Name
In the East of South Andaman (1) Neil Island	Saheed Island
(2) Havelock	Swaraj Island
(3) Ross Island	Netaji Subhash Chandra Bose

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New Sentinal Island → Here Sentinalese Tribe रहती है। ↓ Situation is like (आदि मानव)

Formed in France

शैम्पेन ↑ → (Grapes wine)
शैम्पेन → Man eater tribes

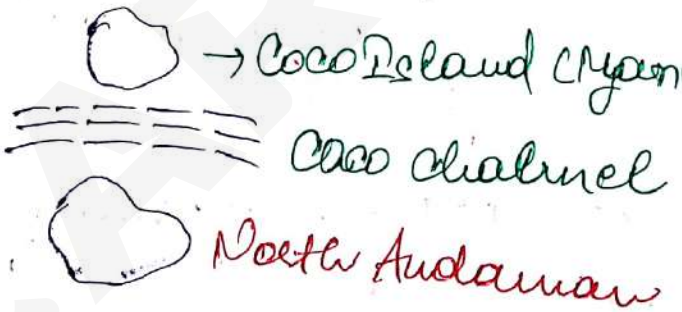
→ Duncan pass is in b/w → South Andaman, → Little Andaman

→ Cellular Jail is in Port Blair (in ~~Middle~~ South Andaman)
(अंग्रेज काला पानी की सजा देते थे यहां)

Pass → way to connect two places.

→ Highest peak of Nicobar ~~or~~ → Mount Dhuliyan or Mount Thullier (500m approx) (in Great nicobar Island)

→ Coco channel → Coco Island पहले India में था और अब Myanmar में है।



Coco channel
↓
Separates Coco island to North Andaman
OR
Myanmar & Andaman Nicobar

In Andaman & Nicobar there are two Islands
↓
Interview Island
Sound Island

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Newmoore Island →

Formation ⇒ By deposition of sediments by Ganga River.

→ Disputed b/w India & Bangladesh.

Lakshadweep → Located in Arabian Sea.

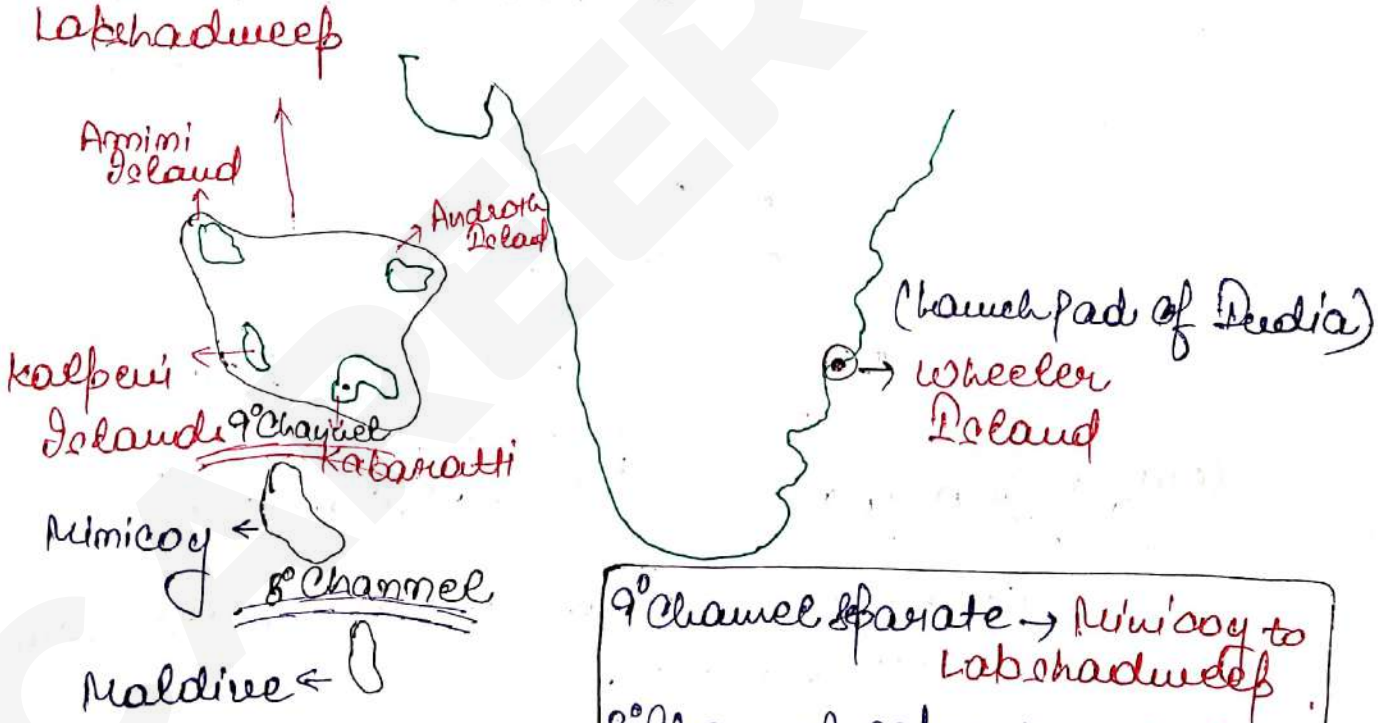
→ Capital → Kavaratti

→ Total Islands → 36

→ Inhabitate Islands → 10

→ It is a U.T

→ It is an example of coral Island.



9° Channel separate → Minicoy to Lakshadweep

8° Channel separate → Maldiv to minicoy.

→ Corals are called Rain Forest of Ocean.

→ Coral is most ~~the~~ Biodiversity area of Ocean which is made up of $CaCO_3$ and Polyp animal.

Scanned by CamScanner

Food of Corals is → Blue green Algae.

Location of Corals → 5°N'S' to 23½ N'S'

Temp required → 25°C - 27°C

Salinity required → Avg. 35%

* Corals are not found where Rivers merges into an ocean.

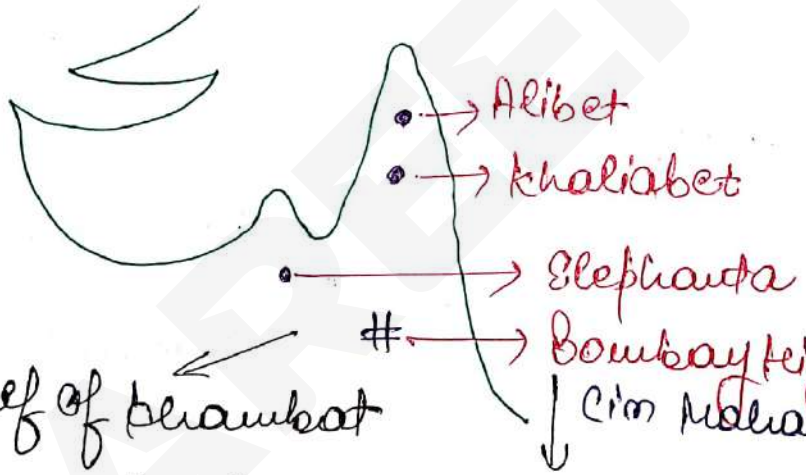
** Size of Corals → 1-2.5 Cm

* Largest Island of Lakshadweep → Minicoy

[Acc. to Google → Androth]

[In Gulf of Khambat] → 3 Islands

- Aliabet island
- Khaliabet island } (In Gujrat State)
- Elephanta } (In Maharashtra State)



In India max^m production of Petroleum occurs here.

→ Where is Great Barrier Reef ??

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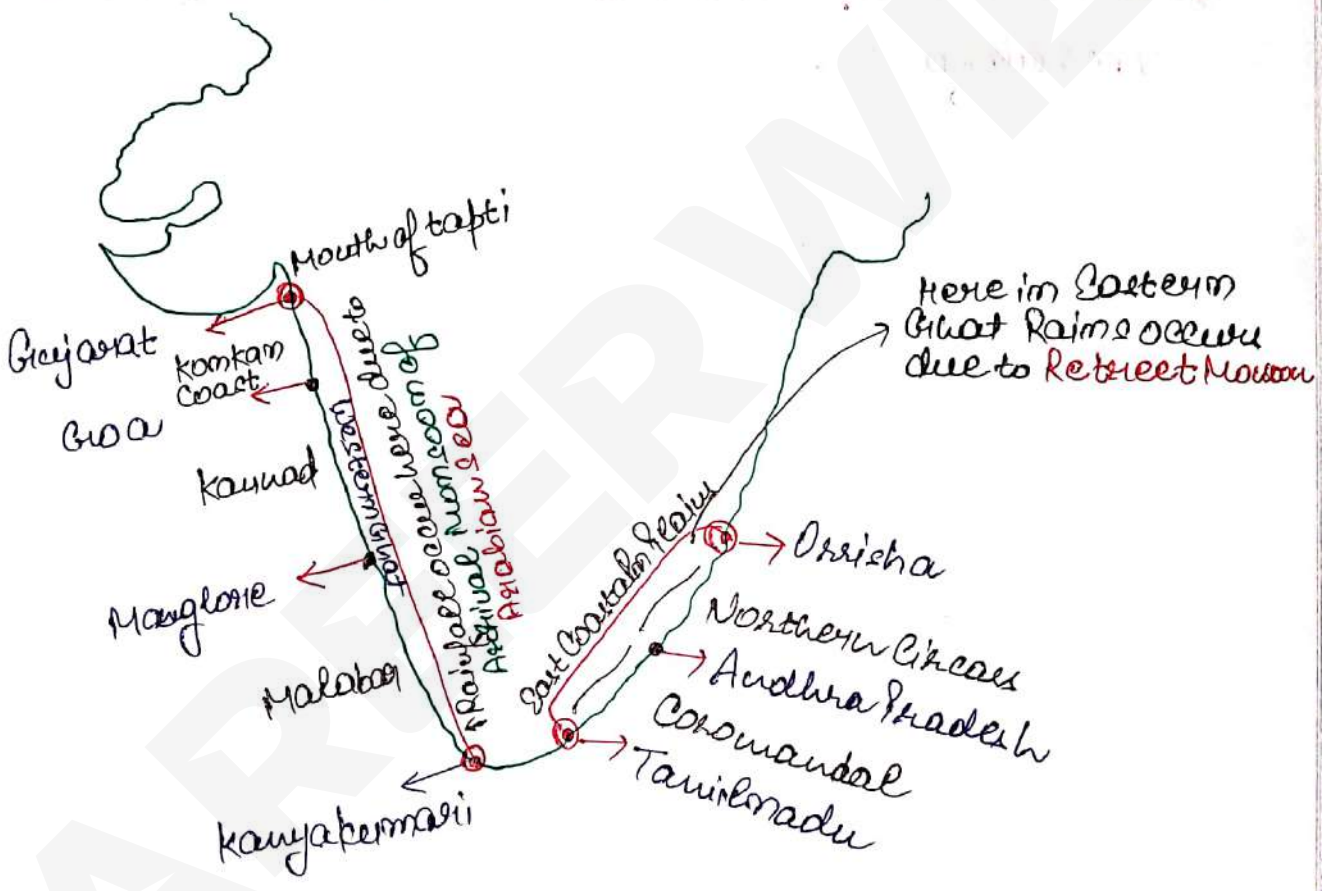
Plains of India

Mainland Plains

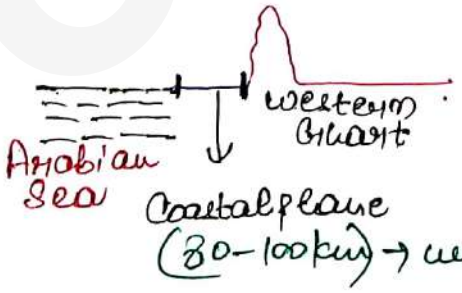
Plains of Central India → formed by Rivers.

Coastal Plains

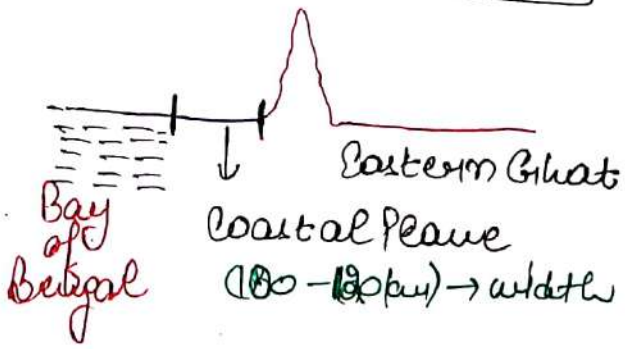
Coastal Plains of India



West Coastal plain



East Coastal plain



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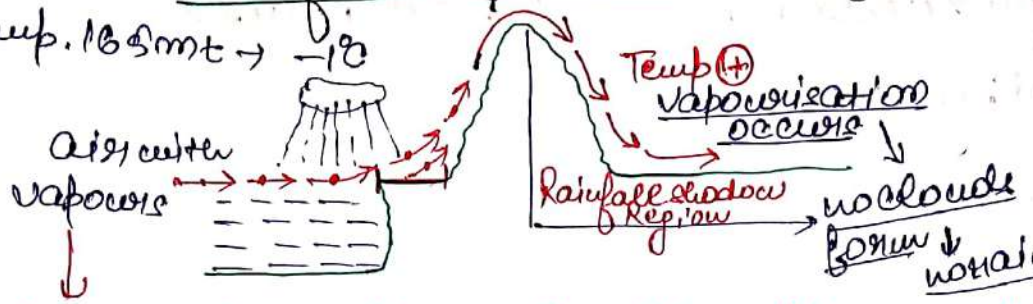
Ques Why Arabian Sea Arrival Monsoon don't do rain in Eastern Ghat ??

Ans Because Eastern Ghat is located in Rainfall Shadow Region of these Monsoon

Temp. 16 Smt → -10



Temp ⊕ vapourization
water → vapour
temp. ⊖ condensation

due to ↓ in temp condensation occurs and clouds do rainfall.

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CLASS 8

Passes of India

Pass → A natural Route located b/w two mountains is called Pass.

Importance → 1. Utilize (Use + Conserve) for trade & travels.
2. Used in Ancient time also

** BRO → Border Road Organisation (in 1960)
↓
Conserve the passes

** Head Office of BRO → New Delhi

→ Work → Passes के आस पास जमी बरफ को हटाना।
→ Making of Border Roads

Note → In middle India any road by formed by NHAI (National Highway Authority of India)

Passes of Jammu Kashmir

⇒ Du Zojila Pass Pak. से अधिकार कर लिया था in 1947 Operation Rum by India Govt. Operation Broom

Notation of Pass → JK

in winter season covered by snow. So Clean & Maintain by BRO

** (1) Zojila Pass connects → Srinagar to Leh.

** (2) Banihal Pass connects → Srinagar to Jammu.

↳ Importance → Jawahar Tunnel Pass through this pass.
↳ Inaugrate by Nehru in 1958
or Banihal Tunnel

Scanned by CamScanner

(3) Burgil Pass → Connects POK to J&K.

(4) Khunjreba Pass
(5) Aghil Pass
(6) Karakoram Pass
→ Connects India to China (J&K) to (Xinxiang)

(7) Khyber Pass →
(8) Gomal Pass →
(9) Bolan Pass →
Connects Afghanistan to Pakistan

(10) Ladak La → Connects J&K to Tibet

CAREERWILL

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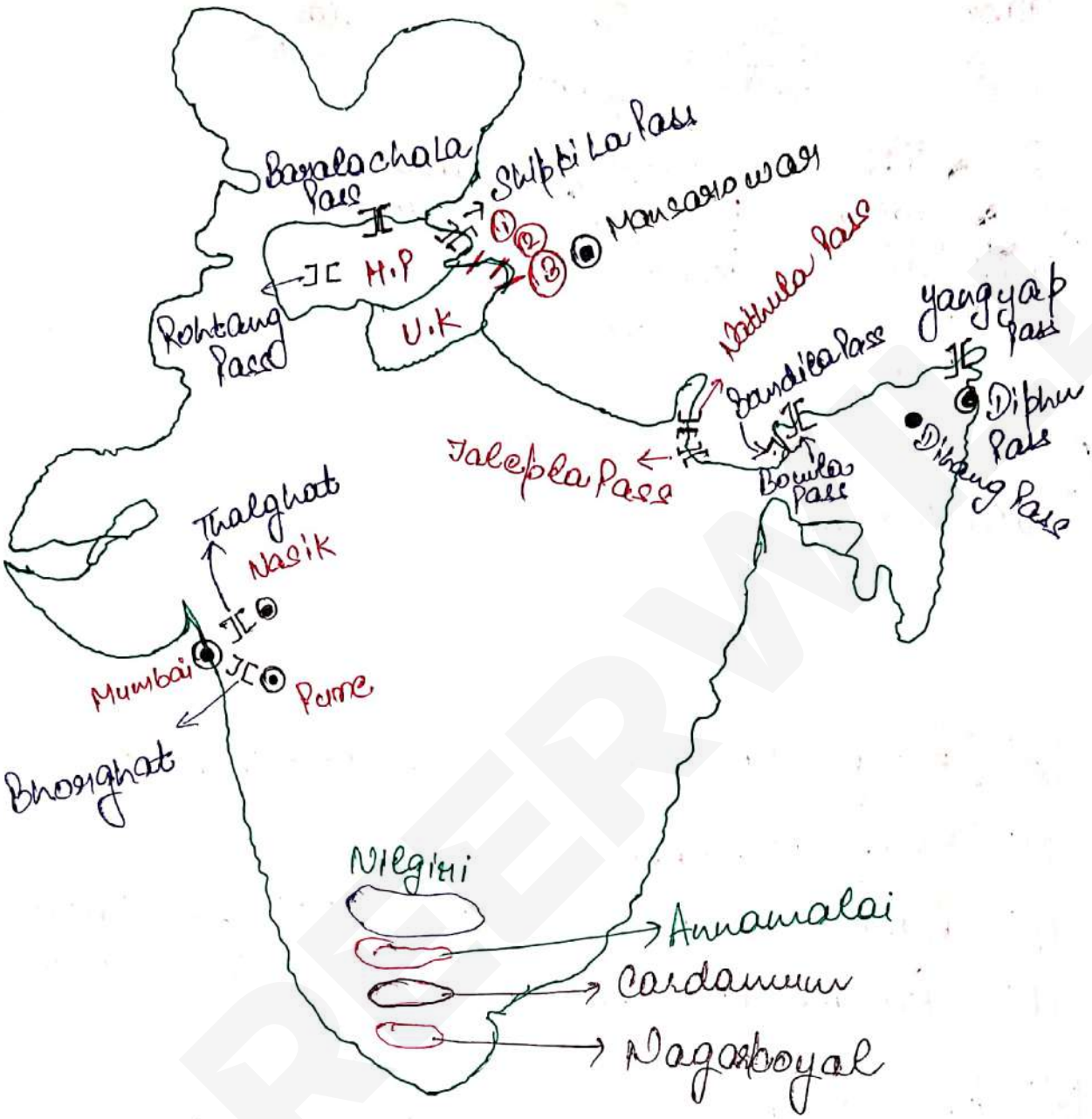
Passes of H.P



(A) Baralachala Pass → Connects Lehto H.P
↓
Origin Point of Chenab.

(B) Rohtang Pass → Origin point of Rabi & Beas
→ Connects Kullu valley to Lahul valley

(C) Shipkila Pass → Connects Tibet to India
→ Satley River enters in India by this Pass.

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Passes of U.K →

1. Mana Pass
2. Niti Pass
3. Lipulekh

→ Connects Tibet to U.K

Imp

↳ Travel to Mansarowar

Passes of Sikkim →

(A) Nathula Pass → By this pass trade b/w India and China occurs.

↳ Road also link Mansarowar.

↓ Part of Silk Route.

→ in 1962 → During Indo-China war closed by Indian Govt.

→ In 2006 → Reopened on the basis of trade treaty.

(B) Jalepla Pass → Connects India to Bhutan.

↳ also in China

Passes of Arunachal Pradesh →

(A) Diphu Pass → Located at a tri-point of China, India, Mayanmar.

→ Disputed b/w India & Mayanmar.

(B)** Yangyap Pass → From this pass Brahmputra River enters in India.

→ Connects China to India.

(C) → Bomla Pass → Connects India to China

(D) → Bondila Pass → Connects India to Bhutan

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(E) Dihang Pass → Local in A.P.

Passes of Maharastra

→ Thalghat → connects Mumbai to Nasik

→ Bhorghat → Mumbai to Pune

** Phalghat → connects Kerala with Tamilnadu (Cochin with Chennai)
→ B/w Nilgiri & Ammamalai

Sincotta → B/w Cardamum & Nagarkoyal
→ Connects Kerala with Tamilnadu

Note → Highest Mountain pass of India is Karakoram pass.

→ In Manipur → Tuzu Pass

→ Borau Ghat, Haldi Ghat → In Aravali Range

CAREERWILL

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Rivers of India

River → A natural water flowing stream.

Himalayan River

Source → Glacier (area of Ice)

Rivers → Perennial River (सदाबहार नदियां)

(+)

* Rivers form मैदानी भाग।

(1) Ganga
(2) Indus
(3) Brahmputra

Peninsula River.

Source → Hill/Rainfall area

(−)

Rivers → Seasonal River.

Rivers falling in Arabian Sea

(1) Narmada
(2) Tapti
(3) Luni
(4) Sabarmati
(5) Mahi
(6) Mandobi River

Rivers falling in Bay of Bengal

(1) Damodar
(2) Mahanadi
(3) Krishna
(4) Kaveri
(5) Swarn Rekha
(6) Godavari

Tributary (सहायक नदी) → जब एक River का End दूसरी River में हो जाता है।

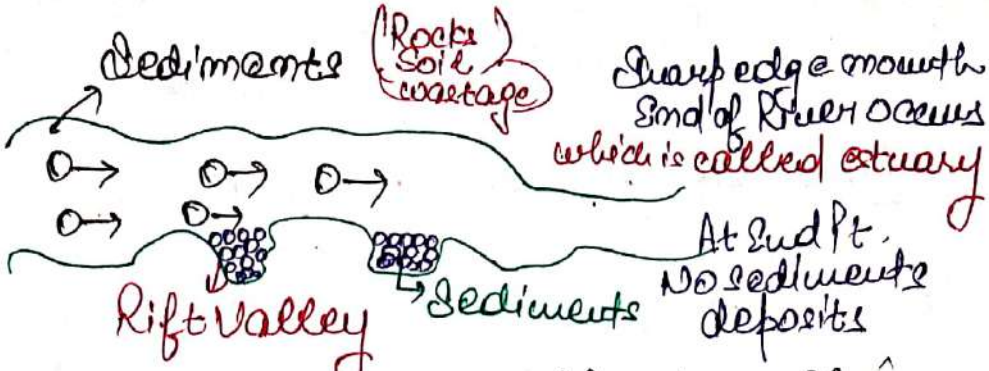
When a River Ends into another River

(TR)

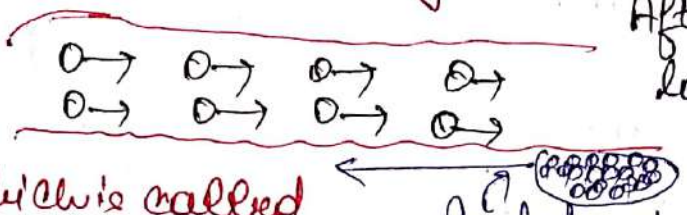
Distributary (when a River divided into 2 parts) → Branch of River

Estuary →

River (A)



River (B)



After travelling long Distance Velocity (−)
↓
So deposit sediments at the End Point

which is called delta
↓
always at the End point of River

→ Rift Valley River will not deposit sediments at End point so Delta will not form
e.g. Narmada, Tapti

Advantages of Rivers →

→ Source of Drinking water
→ Irrigation water
→ Hydroelectricity production
→ fertile soil. (by flood or river water)
→ Edible food → fish
→ Stone + Sand got by River → useful as Building material

Problems of River → **Pollution based problems**

(a) Largest dam → Creates pollution
(b) wastage of house hold → Sewage
↓
(U.P Put 751 ton per day sewage in Ganga river)
(c) Industrial Pollution

Ganga $\xrightarrow{90\%}$ U.P → Kannauj (in UP) → Kanpur (more Polluted here)

Scanned by CamScanner

(d) Plastic pollution → Yangci River of China is more plastic depositing river. ~~of our~~
↓
harm aquatic Animals.

Dispute based problem → ~~Ut~~ Utilizing of River water.

State to State
↓
(Solved by Centre Govt.)
↓
In 1956, Indian Govt. formed an act IRWDA (Inter State River water Dispute Act)
↓
Judgement formed by this pannel cannot by changed by supreme court or high court!

Country to Country
↓
(Said solved by Centre Govt.)

Country to Country Dispute
↓ can be resolved by
World Bank
↓
Indus water treaty in 1960
Bw India & Pakistan

Ganga River

→ Longest River of India (2525km)
→ Self Purifying River.
↓ because
Virus → Bacteriophase → killing of Bacteria.
↓
In ganga dissolve oxygen {DO} is more which is used by aquatic animals.
→ More fish found → Dolphin

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Origin → Gangotri Glacier.

Ganga River passes from 5 States of India.

U.K → U.P → BH → Jharkhand (Sahebganj) → WB → Bangladesh (Here it is called Padma)

Drainage area of Ganga (It's water utilizing states)

↓

15 States → Approx. 26.2% area

In 2008 → It became the National River of India

Map :- In U.K from Satopanth Glacier a water stream originates (Alkananda) and flows in South. On the other hand from Gangotri Glacier a river originates → Bhagirathi

In Devprayag → Both Alkananda & Bhagirathi joins.

and In Devprayag both river's joint stream is called Ganga.

(in U.K in Gadwal)

* Total Prayags → 5
* when Dauli Ganga joins Alkananda (called) → Vishnuprayag

Nandakini + Alkananda → Nandprayag

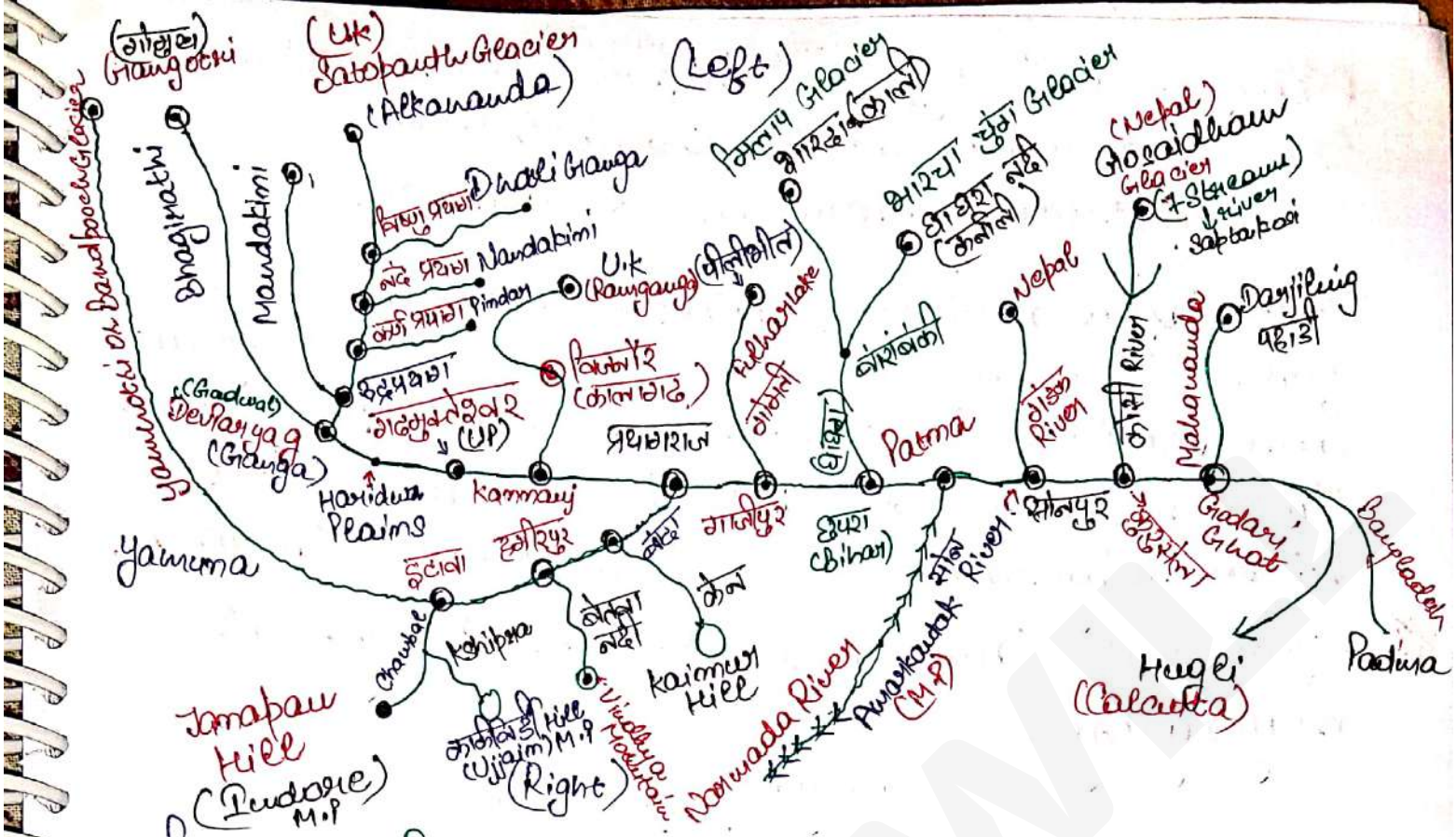
Pindar + Alkananda → Karnprayag

Mandakini + Alkananda → Rudraprayag

Bhagirathi + Alkananda → Devprayag

After that Ganga River enters in Haridwar Plains then in U.P (Gadmukteshwar) then go to Kannauj → Here pollution of Ganga starts

Scanned by CamScanner



From U.K Ramganga Originates, on taking U-turn enters into Vigmore (Kalagarh) and then in Kannauj meet with Ganga.

Ques → 1st Tributory of Ganga (Left) → Ramganga
meet at → Kannauj

Then Ganga enters in Prayagraj (Allahabad)

From, Yamunotri or Bandarpoonch glacier one river Originates → Yamuna that flows parallel to Ganga.

Ques Longest Tributory of Ganga → Yamuna.

Yamuna Reaches at Etava. From M.P's Indore there is a hill Janapau hill a river originates which is Chambal meets Yamuna rivers at Etava.

~~Tributory of~~ Tributory of Yamuna → Chambal

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Also from M.P's Ujjain, from Kakriwardi Hill one more river Kshipra Originates which meets Chambal river.

Tributory of Chambal → Kshipra.

Then Yamuna river reaches to Hamirpur then from Vindhyan Mountain, river Betwa originates and meets with Yamuna at Hamirpur. When Yamuna reaches at बांदा, from Kaimur Hills river originates केन and meet with Yamuna.

** After that Yamuna meets with Ganga at Prayagraj.

So, Ganga's) Tributory
Yamuna) Tributory
Chambal, Betwa, Cane, Tons (टोंस)) Tributory
(कुंभ का मेला लगता है यहां) ← Kshipra

* Chambal river is famous for Soil erosion
↓ To Two types
↓ Gully Erosion
↓ Layered Erosion

done by this river

** (Basin) or Area Eroded by Chambal River is called Badland.

** Most of the घड़ियाल are found in Chambal river.

→ After that Ganga reaches at Ghazipur. In पीलीभीत there is a lake Pullhar Lake
↓ river originates
Gomti
↓ at Ghazipur meet
Ganga

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Ques A tributory of Ganga which originate by Nepal??

Ans Gandi River

After that Ganga reaches at छपरा (Bihar).

From U.K Border ~~a river~~

- From मिलाम Glacier → Sharda or Kali River
- From आरचा चुंगा Glacier → Ghagra River

meet at वाराणसी

↓ river name Ghagra

↓ meet Ganga at छपरा

Largest tributory of Ganga → Ghagra.

(On water volume base)

After that Ganga reaches at Patna.

In M.P from, Amarkantak two rivers originate.

- Son River
- Narmada

Both flows in opposite direction but origin pt. same.

Son River → (meet Ganga at Patna)

Ques → Tributory of Ganga which flows from South to north? → Son River

Scanned by CamScanner

After that river reaches at Sompur.

From Nepal
↓ river originates
Gandak
↓ meets ganga at
Sompur

After that river reaches at कुरसेला.

In Nepal, There is a Glacier → Gosaidham Glacier
↓
From this glacier 7 streams are originated
↓ river
Saptakosi

But in India 3 streams come
- Arun
- Sun
- Tamur

→ Kosi River
↓
which is famous for Soil Erosion & Changing its route.

4 streams went in the nepal

Sorrow of Bihar → Kosi River

Wango river is called Sorrow of China

→ After that River reaches at Godavari Ghat.

From Darjeeling Hilly Area, a river originated → Mahananda.
↓ joins ganga at
Godavari Ghat

→ After that Ganga
- go → Bangladesh (Here called Padma)
- go → Hugli (Distributory of Ganga)

Last Tributory of Ganga → Mahananda.

Scanned by CamScanner

Pollution Problems of Ganga

→ Sewage
→ Industrial
→ Operation Blue Mountain
↓ due to
China

In 1962 → Indo China war
↓ ↓
(Loss) (Win)

After that India ने America से हार सिखाया।
China continously developing it atomic power
Then, India decided to put RADAR at Nanda devi which is at the border of China, to know the military operations of China & India will put Plutonium fuel cylinders here to attack on China.
↓ But due to mishappening
cylinder वहीं दब गया
↓
at origin pt. of Ganga
↓
which can pollute Ganga water & causes cancer.

CAREERWILL

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Class 9

Indus River

Origin → Kailash Range in → (Bophar Chu Glacier) (in Tibet) → Part of Chemayungung Glacier

↓

China/Tibet → India → Pakistan in → attock (Fort)

↓

Indus flows on surface

India ↓ flow in J&K

Enter + Damchok

Exit + Chillar

↓

(in PoK Area)

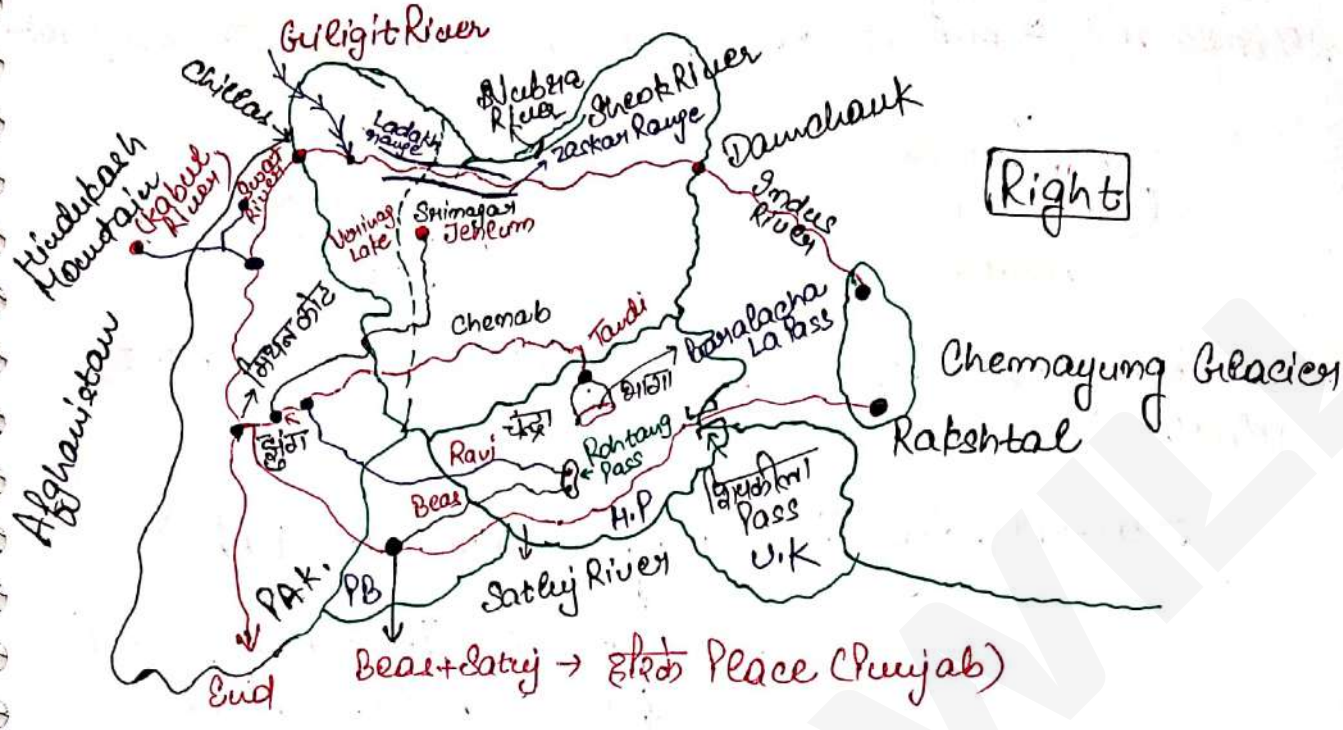
Pakistan → In Pakistan there is a place Mithancot ↓ where 5 major tributaries of Indus come

→ End of Indus River occurs in Karachi in Arabian Sea.

Indus River flows b/w Ladakh and Zaskar Range.

Length of Indus River → 2880 km

In India approx. 960 km



Origin of Indus River → Chemayung (China/Tibet) Glacier.
Enter point in India → Damchauk
Exist point from India → Chillas
Indus River flow b/w Ladakh Range & Zaskar Range.

From Srinagar's Verinaag lake
↓ river originates
Jehlum
↓ via POK to India Pak border go to Pakistan

From H.P, From Baralachala Pass
↓ Two streams originate
चन्द्रा भागा
meeting
Tandi (H.P)
Here → ↓ called
Chenaab

Scanned by CamScanner

Chenab and Jehlum meet at Jhung (झुंग)

Tributory of Chenab → Jehlum

Also in H.P there is Rohtang pass, two rivers originate

- Ravi River (Meet with Chenab)
- Beas River (Meet with Sajlej River)

From Rakshtal via Shipkila pass one river pass which is ~~Sat~~ Satlej.

Beas + Satlej meet at ~~होरो~~ Place (Punjab)

↓

Here Beraj (बैराज is formed)

↓ from which one River originates

Indira Gandi ~~River~~ Canal

Then Satlej & Chenaab meet as Mithancot.

Jehlum River →

Origin → Verinag Lake → Srinagar.

It pass through POK + Wuller Lake

↓

Tributory of Chenab

Chenab + Jehlum ⇒ Jhung

→ It flows in Pakistan & J&K.

→ It cross through the Pirpanjal Range.

Chenab River → Origin → Baralacha Pass.

↓

Flow in → H.P → J&K → Pakistan

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Tributory of Chenab → Jehlum, Ravi

It cross the Pirpanjal.

बारामूला, रियासी से होकर बहती है।

↓

Here world's Highest Railway Flyover form किया जा रहा है।

Ques → world's Highest Railway Flyover is formed ~~where~~ ing on which River → Chenab

in ~~on~~ which state → J&K

on which place → Ryasi (रियासी)

↓

will be completed in 2020.

Satluj River → Origin → Rakshtal of Chemayung glacier.

→ Enter in India by Shipkila Pass.

→ flow in H.P → PB → Pak. (take more benefit from all)

→ Tributory of Satluj. → Beas River.

Beas River → Kullu (City) — Manali (City) होते हुए flow करती है।

Valley's of Bea → Kulu Valley, Lahul Valley.

Old name of Bea → Bipasha.

Beas Kund → near to Rohtang pass.

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Ravi + Chenab meet at → Mujaffrabad

Gilgit River

Origin → Afghanistan

1st Tributory of → Indus. (Right Tributory of Indus)

2nd Tributory of → Indus is Shook river

→ Nubra River is the Tributory of Shook river (Originate from Karakoram range)

Kabul River

Origin → Hindukash moutain (Afghanistan)

→ kabul River is the tributory of Indus

Flow in Afghanistan - Pakistan.

→ Tributory of kabul River → Swat River (Flow in Pakistan only)

It water is used in Irrigation.

It's valley is → Swat valley which is called 'Heaven of Pakistan'.

Gomal River →

Origin → Sulaiman Range.

→ Gomal River is the tributory of Indus River.

→ Flow in Afghanistan → Pakistan.

→ Kundar River, Zhob River] → Tributory of Gomal River.

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Brahmputra River

Origin → Mansarowar Lake
(Part of Chemayungdung Glacier)

Flow → Tibet/China → India → Bangladesh

Other name in → Tsanpo River → India → Jamuna (in Bangladesh)

Tsanpo River → Enter → Yangyap pass (A.P) Arn.

Tsanpo River → Exit → Dhubri (Assom)

Other name in → Dihang River → Brahmputra

Distance covered from China to Bangladesh → 2900km.

Distance covered in India → 917km

→ In Bangladesh Brahmputra form a delta called Sunderban Delta → world's largest Delta.

★ South ~~West~~ ~~Bengal~~ part of Sunderbandelta is located in W.B.

★ In 1987 Sunderban Delta is announced as World's heritage.

→ Mangroove forests are found here.

→ Tiger reserve is found here.

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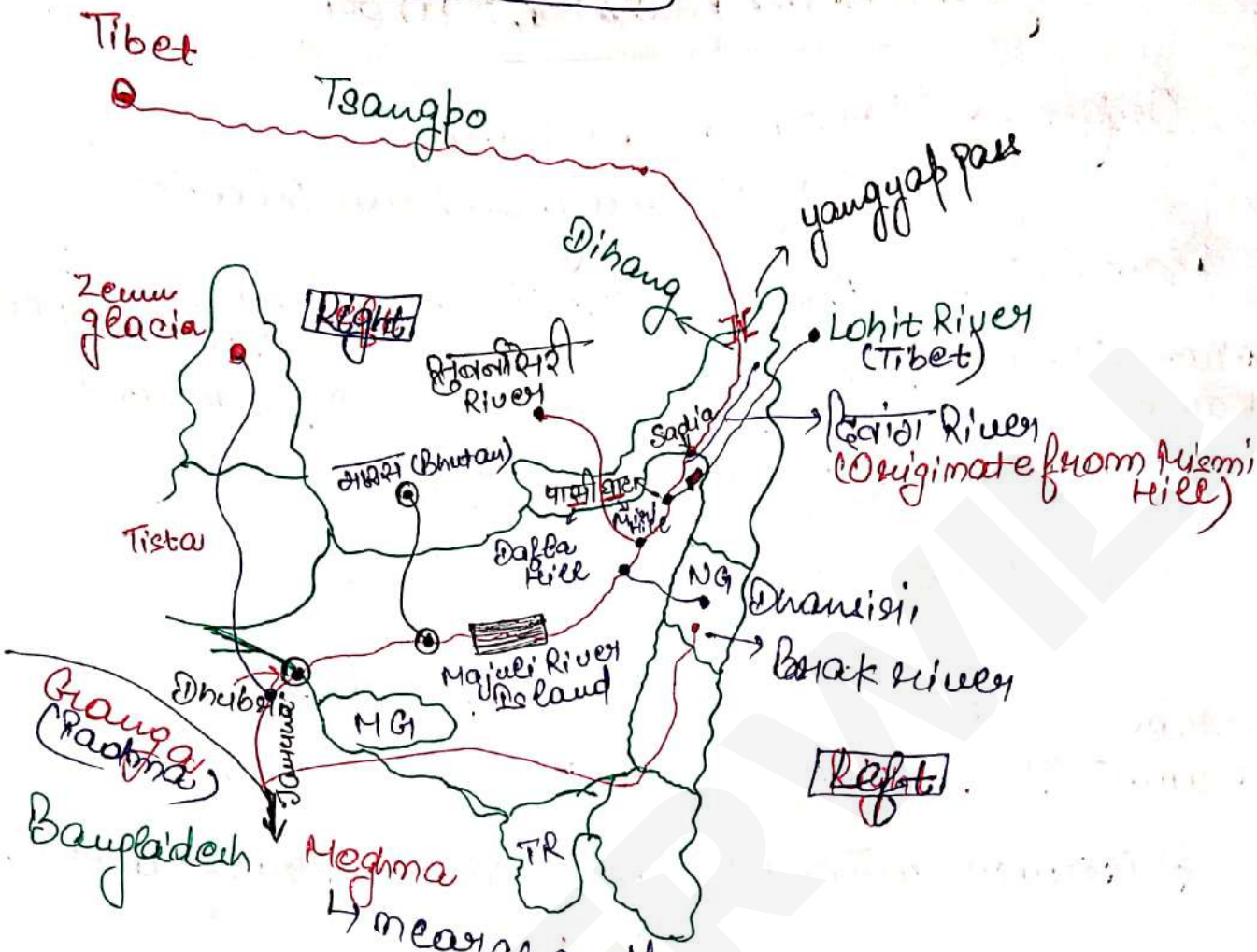
Class → 10



Brahmputra river (Tsanpo) via yangyap Pass enters in A.P (called Dihang) here then go to Assom. From Tibet a river Lohit River originate

Lohit River → Tributory of Brahmputra.

→ Lohit River + Brahmputra River meet at → Pasi Ghat (Assom)

→ In Lohit River red sediment are found.
↓ so called as
Bloody River

→ ** On Lohit River Bhupen Hazarika Bridge is formed

Scanned by CamScanner

Bhupen Hazarika Bridge ** (Length → 9.15 km)

connects

- Sadia (Assom)
- Dhola (Arunachal Pradesh)

Also called Sadia - Dhola Bridge.

→ From, Tibet, one river originates

Subnasiri River → Joins Brahmputra at Lakhipur

→ Origin → Tibet.

→ Flow in → Tibet → A.P → Assom

→ Subnasiri River flows b/w Dafla Hill, Miri Hill

From Nagaland, river originates Dhansiri → which Joins Brahmputra river.

** Brahmputra River forms an Deland

↓

Majuli River Deland (in Assom)

** Initially it was a part of Jorhat Distt.

Simple Island is Green Island

↓

It is world's largest River Deland

In 2016 →
- It is included in Guinness Record.
- It is announced as Distt. (due to 1.5 lakh population approx)

From Bhutan a river originates ~~which jo~~ → Manas

From Nagaland a river originate from Japova Hill → Barak River

Scanned by CamScanner

Barak River flows in →
Nagaland → manipur → Mizoram → Assom

From, Zemu Glacier, a river Tista Originates and meet brahmputra (Jamuna in Bangladesh) at Bangladesh

Also Barak River meets Jamuna in Bangladesh.

→ There Joint Stream is called → Meghna
i.e Padma + Jamuna + Barak → Meghna.

→ **Left Tributory of Brahmputra**
→ Devang
→ ~~Submasiri River~~
→ Dhansiri
→ Barak
→ Lohit

Right Tributory of Brahmputra
→ Submasiri River
→ Manas
→ largest & longest tributory of Brahmputra

Bogibeel Bridge → In Assom on Brahmputra River

(formed in 2018) connects Dibrugarh Dhemaji

Length → 4.9km.

→ On this bridge there is a national highway, i.e One road goes and one railway line go from it.

Scanned by CamScanner

Peninsula River System

→ Origin → Hill/ Rainfall water

→ These rivers are called Seasonal Rivers

→ These rivers form less Delta.

Some joins → **Arabian Sea**
- Luni
- Mahi
- Narmada
- Tapti
- Sabarmati

Some joins → **Bay of Bengal**
- Damodar
- Swarna Rekha
- Godavari
- Mahanadi
- Kaveri
- Krishna

Arabian Sea Rivers

(A) **Luni River** → Origin → Aravali Range, Ajmer (Rajasthan)

→ Flows in Rajasthan – Gujarat
↓
(Pass through deserted area) ↓ so called

Deserted River

→ At Origin pt. known as Sagarmati

Sagarmati + Saraswati $\xrightarrow{\text{meet at}}$ Govindgarh (Rajasthan)
↓
called Luni River

Scanned by CamScanner

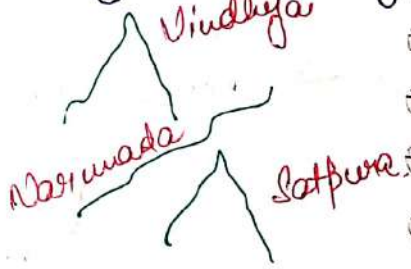
In Gujarat lack of water
↓ when river reach at
** Rann of kutch
↓
वहाँ पर ही River, Inland (अंदरूनी में विलीन) हो जाती।

(B) Narmada River (Length → 1312 km) (Amarkantak)

Origin → Amarkantak (M.P)
(West Part)

Passes through → 3 states
(Amarkantak) M.P → Maharashtra → Gujarat
Watershed → (87%) (1.5%) (11.5%)

* Narmada river is called Lifeline of M.P
* It flows westwards.
* It pass through rift valley so it forms Estuary
* It flows b/w Vindhya & Satpura Mountain.



* In M.P → Jabalpur
↓ formed by Narmada ↓
Bhedaghat — Dhumdhar Water

* Narmada Bachao Andolam (NBA) → 1985 में चलाया गया।
↓ By
Medha Patekar.

→ In 1961 → Jawahar Lal Nehru
↓ targeted
Utilizing Narmada River Water

Scanned by CamScanner

Class → 11

(D) → **Sabarmati River** → Length → 324 km

→ Origin → Aravali Range (Udaipur)

→ Flows in → Raj. → Guj → Bay of Khambat

→ It is 3rd westward River.

→ Ahemadabad, Gandhinagar] → Located on its Bank.

→ National Pollution control Board measured that ↓

It is largest Polluted River of Rajasthan

(E) → **Mahi River** → Length → 583 km

→ Origin → Vindhya Range ↓ in M.P → Raj. → Gujarat → Indian Arabian Sea.

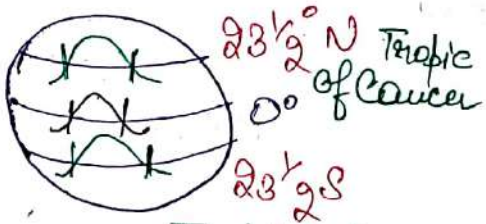
→ It cuts **Tropic of Cancer** two times.

Note →

Tropic of Capricorn cut 2 times by → Limpopo

Equator cut 2 times by → Congo/Zaire

} → Bathare in Africa.



Scanned by CamScanner

Bay of Bengal Rivers

(A) Godavari River → Length → 1465 km

Origin → Trymbkeshwar, nasik (MH)

Flow → MH – CH – Telangana – Andhrapradesh – Bay of Bengal

→ 2nd longest River of India.

→ Longest River of South India.

→ ** This river is known as South Ganga & old Ganga (On the basis of length)

→ ** Ganga of South → Kaveri (Pureness के Basis पर)

→ 3rd → in the form of two streams.
- Gautami
- Vasishta

→ ** Ganga of M.P → Betwa River

→ Largest tributory of Godavari River

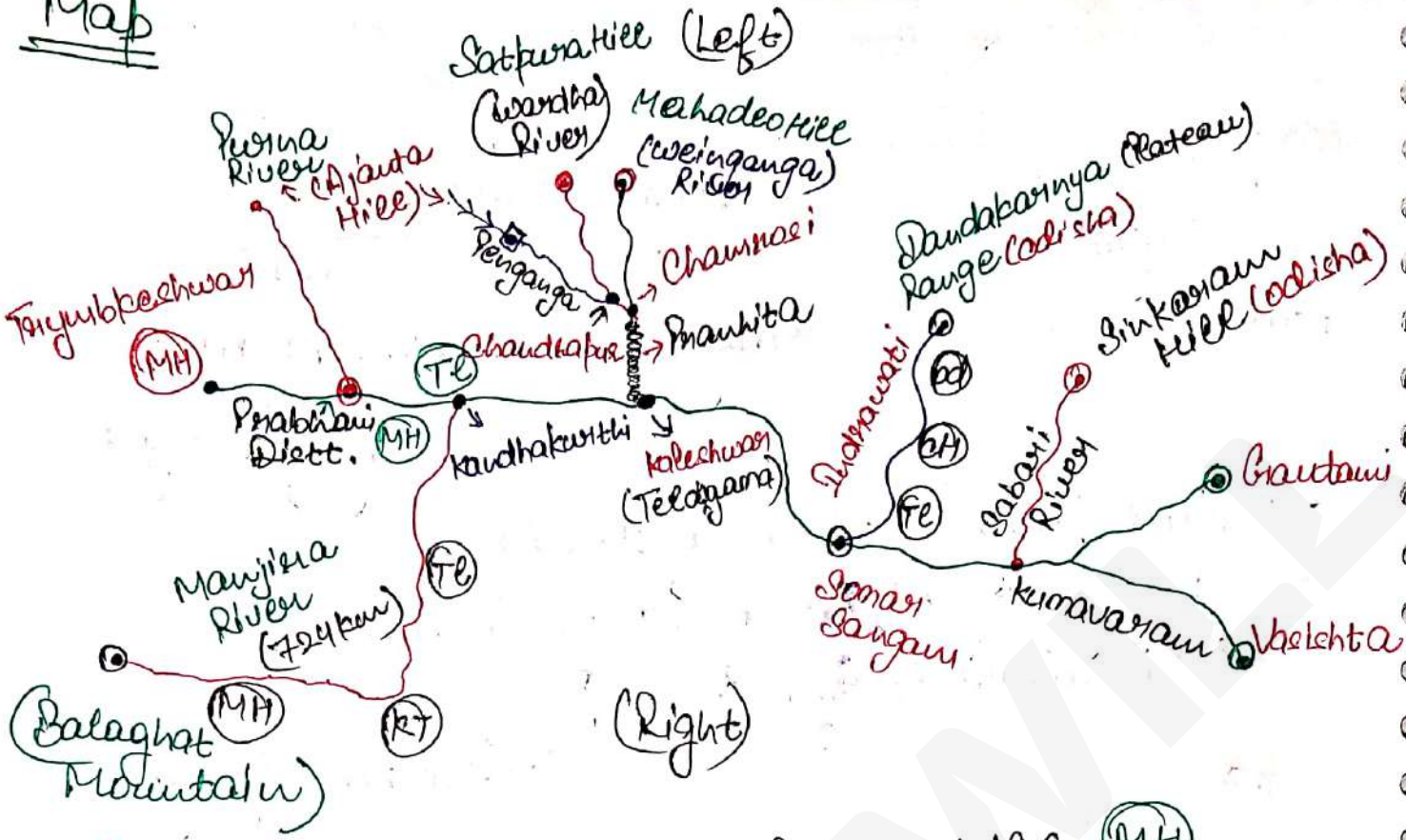
Right R Tributory → Manjira River (724 km)

Flow in → MH → KT → TL

→ Last tributory of Godavari River → Sabari River

Scanned by CamScanner

Map



Purna River → Origin → Ajanta Hill → (MH)

→ It is Tributory of Godavari.

→ Pura + Godavari $\xrightarrow{\text{Meet at}}$ Prabhani (MH)

Manjira River → Origin → Balaghat

→ Flow → MH → KT → Tl

→ Length = 724 km

→ Manjira + Godavari $\xrightarrow{\text{Meet at}}$ Kandhakurthi. (Tl)

→ Largest

Waingangа → Origin → Mahadeo Hill (MP)

Waingangа + Wardha $\xrightarrow{\text{meet at}}$ Chamrosi

Wardha → Origin → Satpura

Pengangа + Wardha $\xrightarrow{\text{meet at}}$ Chandrapur.

Indravati

od.
↑
CH
↓
(MH)

Sabri

od.
↑
CH
↓
Andhra

Scanned by CamScanner

→ Nasik is situated on the bank of Godavari River.

→ Rajahmudri city is the city of Andhra Pradesh
River Bank → Godavari

(B) Krishna River → Origin → Mahableshwar, MH
↓
Part of Western Ghat

→ Flows parallel to the Godavari River.

→ MH → Kt → TL → Andhra
(27%) ↓ 44% (29%) (in South India)

→ Krishna River form K-G Basin → Land form area formed by rivers.
↓
Largest Basin of South India
↓
Good for Rice crops.

K → Krishna
G → Godavari

→ Tributory of Krishna

Bhema River → Origin → Bhemeshwar (MH)
↓ 2nd in Krishna River
(861 km) → Largest tributory
(Left) → North

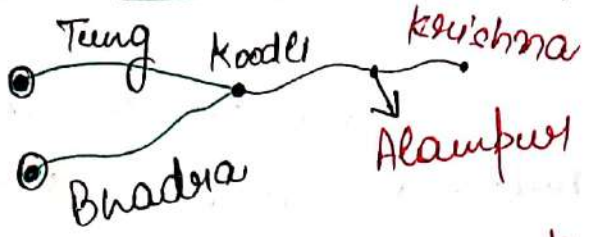
Koyna River → It also originate from Mahableshwar.
It is known as Lifeline of Maharashtra
→ Only flow in Maharashtra.

Krishna + Koyna → Karad

Tungbhadra → Major River of Krishna River.

Scanned by CamScanner

Originate from Varadha Parbat



Map →

Ghatprabha } → Originate from Western Ghat (MH)
Malprabha } Distt. Sindhugarh.

Kaveri River → Origin → Brahmgiri, (kt)

Flow in → (kt) – Tamil Nadu

It is only Perennial River of South India (सदाबहार)

kt → ~~उठते हुए~~ मानसून से वर्षा प्राप्त करता है। (In June)

Tamilnadu → ~~लौटते हुए~~ मानसून से वर्षा प्राप्त करता है। (In Oct-Nov-Dec)

Disputed river b/w (kt) & Tamilnadu.

Scanned by CamScanner

Shivsamudram waterfall is on this river.
also, Shivsamudram Island is on this river.

Class 12

(C) **Subarnrekha River** →

Origin → Ranchi Plateau.
Flow in → (JH) — Odisha → WB → Bay of Bengal
→ It is a major river of Jharkhand.
→ Waterfall on it → Hundru waterfall

(D) **Damodar River** → Origin → Chota Nagpur Plateau.

End → Bay of Bengal.
→ More amount of fossils found in it.
So called fossil's river.

(E) **Mahanadi** → Origin → Singhawa Hill
↓
Located in Chattisgarh
Length → 858 km
Flow in → (CH) — Odisha.

in Odisha two place

Sambalpur → ↓ Here dam formed → Hirakund dam. → World's biggest dam
Length → 26 km

Cuttak → ↓ Ends in Bay of Bengal

Scanned by CamScanner

→ In River valley of Mahanadi coal is found.
→ Major river of Odisha.
→ Major tributary of Mahanadi → Sheonath.
→ Coal is found in Rift Valley of Rivers
- Godavari
- Mahanadi
- Damodar

Plains of India → (On river basis)

formed by Rivers.
So, fertile (+) → useful for agriculture.

classification

Physiographic
- Bhabar Plains
- Tarai Plains
- Bhanger Plains
- Khadar Plains

Regional
- Coastal Plains
- Indus River Plains
- Ganga River Plains
- Rajasthan Plains

(1) Bhabar Plains →

→ It form in South of Shivalik
→ Porosity (more) is high.
So → Small Rivers disappear.
→ Extension → J&K to Assam.

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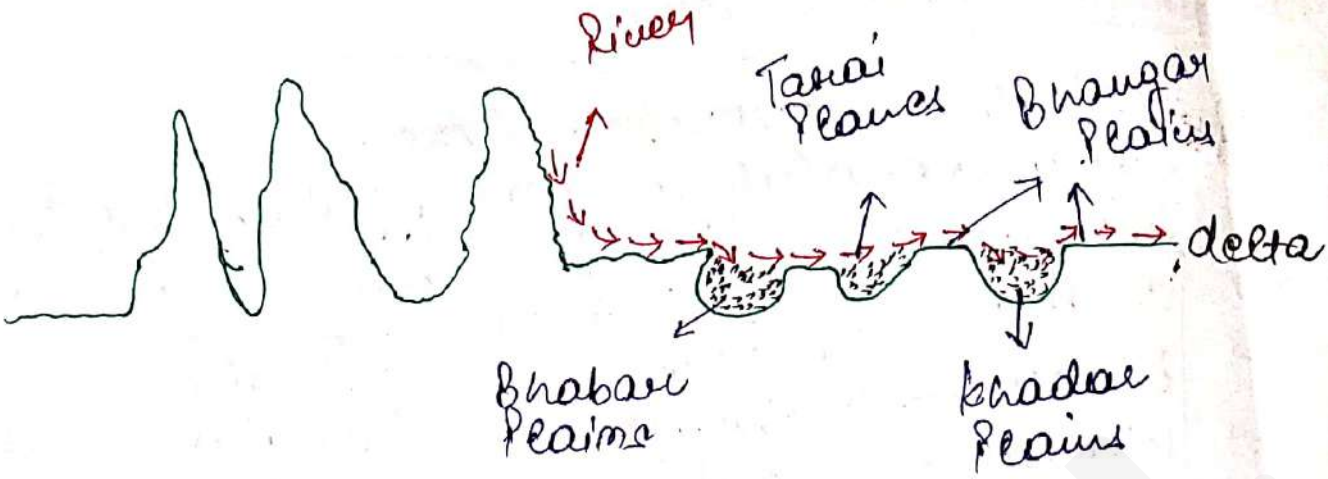


(2) Tarai Plains →

→ Form in South of Bhabar.

→ More rainfall here → so vegetation more → so mosquitoes are found → so ** Malaria occurs

→ खेती ही होती है But Punjab, HR, UP, Bihar arranged खेती there.

(3) Bhangar Plains

→ found on high areas than flood area.

→ Alluvial soil found → old soil → has more stone → so fertility (−)

→ Dry area of Bhagar has Reh, Khallar

(4) Khadar Plains

→ found in flood area.

→ River deposite new sediments continously → so fertility maintained here → so more fertile plains from all.

Uk - U.P - PB - HR - BH - WB

Scanned by CamScanner

Indus River Plains

→ Irrigation developed here.
→ ** Green Revolution was applied here so more fertilizers used. So here continuously fertility (−)
→ It has 5 major tributary.

Indus	Tributory
→ Jhelum	→ Jehlum
→ Chenab	→ Chenab
→ Rabi	→ Rabi
→ Bea	→ Beas
	→ Satluj

→ Doab → (मैदान) → Doaj → Fertile land b/w two river.

→ Plain Area b/w → Indus – Jhelum → Sidhu Sagar → J&K
Jhelum – Chenab → Chal Plains → H.P + J&K
Chenab – Rabi → Rachna → H.P + PB
Rabi – Beas → Bari → H.P
Bea – Satluj → Bist → PB
] Called

→ Green Revolution was started by Norman Borne Log

Rajastan Plains

→ Arid Soil / मारुस्थली मिट्टी found here.

PB's Plains
↑
Pak's Plains ← Raj. Plains → Ganga Plains
↓
South-Guj. Plains.

→ These plains are divided into 2 parts.

Scanned by CamScanner

25 Cm (+) Rain Plains

→ Fertility Normal
↓ also called
Rohi Land

→ Production of Crops like wheat, Mustard, Gram.

25 Cm (−) Rain Plain

→ fertility low

→ It is Thar desert area.

Ganga River Plains → Divided into 3 parts.

Upper Ganga

Plains here

(A) Rohelkhand Plain
↓ B/w
(Ramganga – Gomati River)

(B) Avadh Plains
↓ B/w
(Gomati – Ghaghra River)

Middle ganga

Plains here

(A) East UP Plains
↓ B/w
(Ghagra – Gandak River)

(B) Saram Plains
(Gandak – old Gandak)

(C) Mithla Plains
(Old Gandak – Kosi)

Rainfall → flood Here (+)
(+) ↓

Lower ganga

↓

Kosi River to ~~Brahmp~~ ~~utra~~.
Mahananda

Coastal Plains

→ West Coast Plains

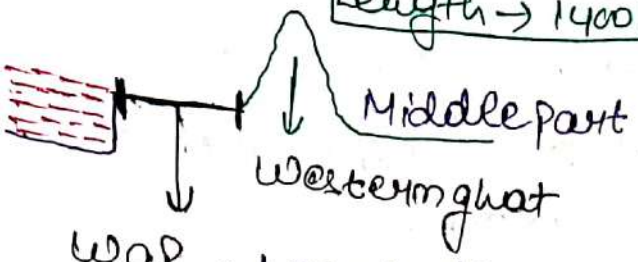
→ East Coastal Plains

Scanned by CamScanner

West Coastal Plains

WCP

Length → 1400 km



WCP → located b/w Arabian Sea & Western Ghat.

- Kokan Coast → Guj to Goa
- Kanad Coast → Goa to Mangalore
- Malabar Coast → Mangalore - Kanyakumari

Eastern Coastal Plains

Length → 1100 km

B/w Bay of Bengal and Eastern Ghat

- Northern Circars
  ↓
  Odisha to Andhra
- Coromandal
  ↓
  Andhra to Tamilnadu

→ Beaches are found here.

Ques → Where is Marina Beach ??

Ans Chennai

Highest Peak of Eastern ghat → Jinghagada.

CAREERWILL

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Class → 13

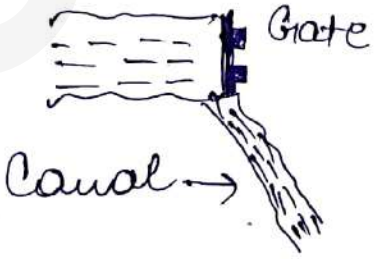
River Project of India → In 1948 1st Project was started.

1st project → Damodar Valley Corporation
↓ stared on the basis of
Temisi Project (of USA)

Started by → Pt. Jawahar Lal Nehru
He gave the name to that project
↓
Temple of Modern India

* River project is also known as
Multi-project] Helps in → Hydroelectricity Production
→ Irrigation
→ Control flood
↓
For it → Barrage / Dam] → formed

Barrage
↓ motive
→ Control flow of River, and construct canal
→ In Barrage Gate लगाए जाते हैं।

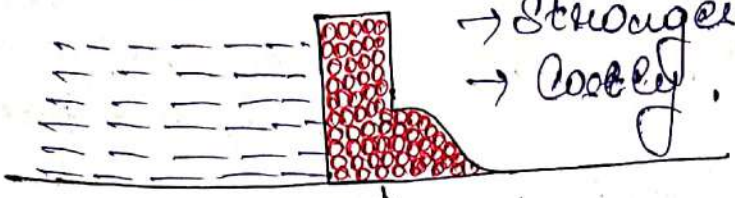


Dam
↓ motive
→ Store large amount of water
↓
→ Hydroelectricity production
→ Reservoier → To store Extra water
also called Artificial Lake

Scanned by CamScanner

Dams are of 3 types :-

(A) **Gravity Dam** → Constructed by Concrete



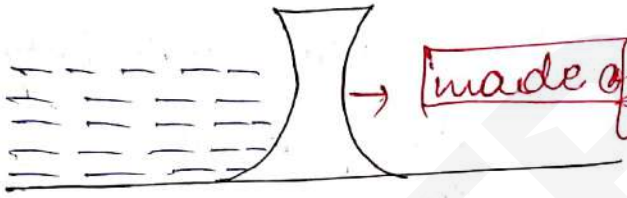
→ Strongest
→ Costly.

↓

Weight (+) So → Balance (+)

E.g → Hirakund Dam (Odisha), Bakhra Nangal Dam (Punjab) ↓ (Highest Gravity Dam)

(B) **Arc Dam** →



→ made of Stone + Steel

→ India has only 1 Arc dam → Idukki dam (Kerala)

(C) **Rock filler** → made from Stone + Soil.

E.g Tehri Dam (U.K) (Garhwal)

Effects ~~Project of Ganga River~~

(1) Deforestation
(2) fertile area (−)
(3) Earthquake possibility.

Scanned by CamScanner

Project of Ganga River

→ Ganga River passes from 5 states.
→ Water utilization by 13 states by Project.

(A) Rihand Dam → located on Rihand River.
→ Tributary of Son River.
→ It is in Sonbhadra Distt.
→ Here there is a Reservior
↓
Govind Ballabh Pant
↓
India's Largest Artificial Lake.
→ It is a Gravity Dam.
→ Profitable for → U.P + M.P + CH

(B) Tehri Dam → located on Joint Stream of Bhagirathi + Bheelangana.
U.K (Garhwal)
→ Length → 261 m (260.5m) → India's highest dam.
→ It is opened in 2006.
→ Water utilized by → U.K – PB – U.P – Delhi.
→ It is a Rock filled Dam.

Chambal Project

Chambal River is famous for soil erosion
Raj. + M.P → started joint projects whose motives was → Soil Erosion (–)
→ Irrigation
Under this joint project they made two dams

Scanned by CamScanner

One at Rajasthan, one at M.P
↓ Ranapratap Sagar dam
↓ Gandhi Sagar dam

Farakka Barrage → Located in W.B on Ganga River.
↓ Project.

In Hugli River → water is low
↓
→ used in trade Route
So formed to Increase water in Hugli River.

→ Started work in 1975.
→ Under this project electricity (2100 MW) power station has been established.

Indus River Project

→ Indus River Disputed.
→ Indus water Treaty occur in 1960.

(Jehlum River Project) Tributory of Indus River → Jehlum

1. Krishangangа Project → Located at the boundary of POK in J&K.
→ Opposed by Pak.
→ Target height was → 97mt
↓ But due to the opposition by Pak. via World Bank (UNO) reduced to 37mt

Krishangangа is the tributary of Jehlum

→ Target was to generate 330 mw electricity.

Scanned by CamScanner

2. **Tulbul Project** ⇒ Joint Project of Jehlum + Wular Lake

→ This Project do the cleaning of Wular Lake.
→ Under Jehlum river hydroelectricity will be produced.
→ Wular Lake is India's largest fresh water Lake.

Chenab River Project ⇒ Trick (ट्रिक)

1. **Baglihar Project** → Capacity → 450mw.
   ↳ Located on Chenab River in J&K.
   → In 2005 opposed by Pakistan.
   → Profitable for JK - PB - HP - U.K
2. **Salal Project** → Capacity → 115MW
   → Located on Chenab River
   → 3 Plant are put on Chenab River of 115MW under this Project.
3. **Dulhasti Project** → Capacity → 390MW
   → Located on Chenab River.

* World's highest ~~for~~ Railway flyover is forming in Riasi (J&K)
↓
will completely form in 2020.

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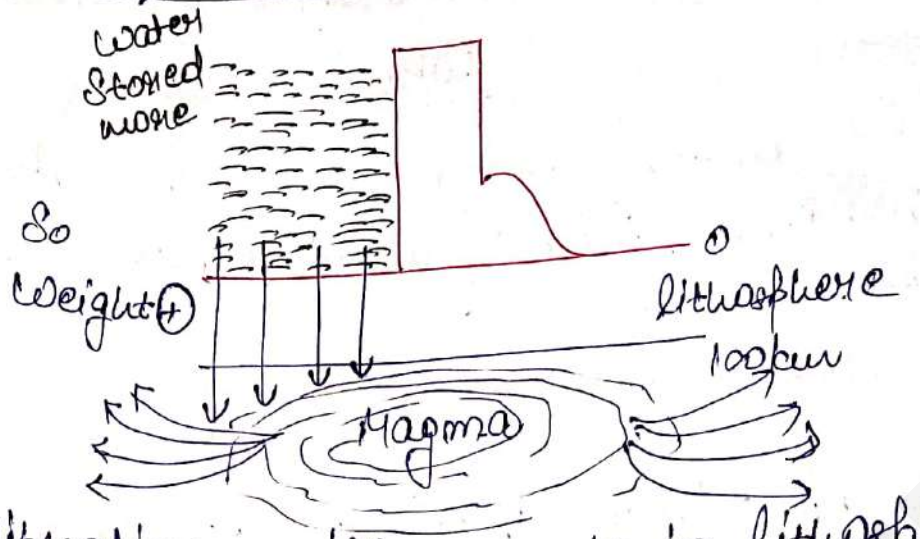
How Earthquake Comes



vibrations will generate in lithosphere which is called Earthquake.

(can come in 50km area)

Class 14

Project of Ravi River →

(1) **Thein Project** → Located in J&K

→ Profitable for J&K + HP + PB

→ Three plants of 150 MW are established under this project.

→ Dam formed under this project
↓
Ranjit Sagar Dam
(Pathankot)

(2) **Chamera Project** → In J&K.

→ 3 Power Stations of → 500 MW
→ 320 MW
→ 250 MW
are formed.

Scanned by CamScanner

One more Project has been announced to 51. formed in J&K ↓

Shahpurkandi Project (By Modi Govt.)

it will be completed in 2022.

Project of Beas River

↓

(1) **Pong Dam** → In H.P (Kangda)

→ Formed in 1975.

→ Near dam Reservoir ~~was~~ is formed

↓

Maharana Pratap Reservoir or Lake (H.P)

↓

announced as Ramsar wetland

Wetland → wetarea where at least from 6 month पानी भरा हो।

→ They are called Sponge of earth.

→ In City of Iran, i.e Ramsar Exibition was organised to conserve all the wetlands of world.

**

(2) **Bhakra - Nangal Project** →

→ Located on Satluj River.

→ Under Bhakra Nangal project two dams are formed

→ Bhakra Dam → made for electricity Production

→ Nangal Dam → made for irrigation.

Both are formed on **PB + HP**'s Border.

Scanned by CamScanner

Capacity of these dams 1350 MW.

Current

Sir Chhotu Ram → was farmer's leader
↓
known as father of Bhakhra Nangal dam.

→ In Rohtak's सांपला his 64 feet Statue formed whose अनावरण Done by Modiji.

→ ~~Bhra~~ Bakhra Nangal Dam is highest Gravity Dam. (226 mt).

Largest Dam of India → Sr. Sarovar Dam.

due to

Narmada Project flows in → MP → MH – Guj.

In MP, Guj → there was a drought Problem

In 1961 Nehruji thought → with Narmada water that problem can be resolved

→ Said to utilize narmada water for irrigation.

So, they thought they will form in

Gujarat → Sardar Sarovar dam → (1450 mw)

M.P → Indira Sagar Dam
Omkeshwar (Khandwa)
Bargi (Jabalpur)

Target dam height was 181 mt.
↓ but People opposed
So, reduced to 136 mt.

But due to inhabitate NBA was started.

→ 57% electricity supply to M.P from Sr. Sarovar Dam.

→ Statue of Unity is also on Sr. Sarovar Dam (182 mt)

Scanned by CamScanner

Tapti River Project →

→ Ukai Project → In Surat city of Gujarat.

Krishna River Project →

(A) Tungbadra Project → Tributory of krishna is Tungbadra River.
Under this Project Pampa dam was formed.
↓
Joint Project of kt. + Andra

(B) Nagarjun Sagar Project → In Andhra Pradesh on krishna River.

(C) Koyna Project → koyna is located in MH
koyna → Tributory of krishna on which koya dam is formed.

(d) Almety Dam → Located on krishna River in karnatka

Mayraskshi Project
↓
flow → river in JH, WB
In WB a dam was formed → Masanjor dam
↓
called as Canadia dam.

Kaveri Project
↓
Only Perenial River of South India.

Scanned by CamScanner

1. Shivsamudrum Project → It is a barrage Project
2. Mettur Dam → In Tamil Nadu
3. Most important River of South India is Kaveri river.

Idukki Dam → on Periyar River in Kerala
→ only arc dam of India.

Mulla periyar Dam → on Periyar River
→ on Cardemum Hill
→ in Kerala
→ But conducted by Tamilnadu.

Matatila Project → on Betwa River
→ in Lalitpur
→ famous for tourism.

CAREERWILL

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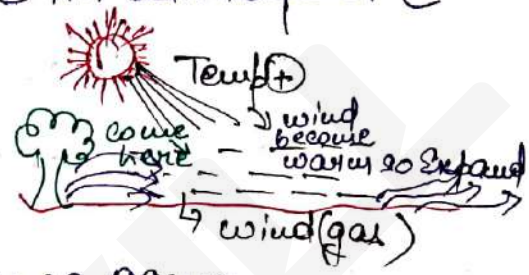
Class→15 Climate of India

→ **Climate** → ~~Instant~~ Season + weather का पिछले 30 years से 50 तक जैसा पाया जाना।

→ **Season** → Cyclic change in fix time

→ **Weather** → Instant change in atmosphere



atmosphere full of gases

↓

Temperature difference occur.

↓

movement will occur in gases

↓

moving gases are called Air.

$Temp \propto \frac{1}{Pressure}$

T(+) → P(−)

T(−) → P(+)

→ Temp(+) → air expand → air mass low

↓

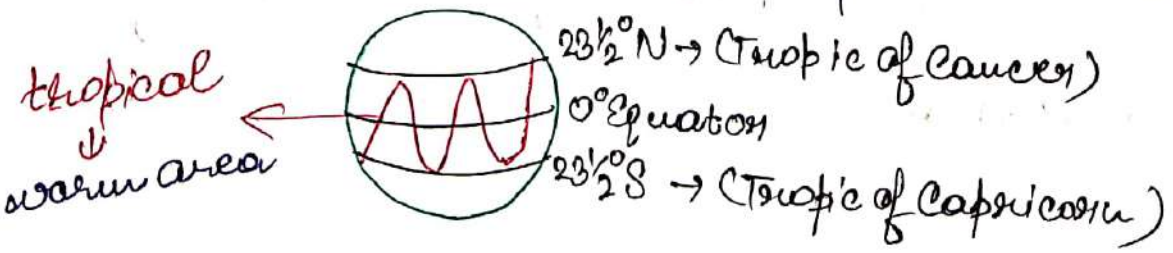
P(−)

→ Wind Blow from high Pressure to low pressure.

→ In Close system → $P \propto T$

In open system → $P \propto \frac{1}{T}$

India Climate —is→ tropical monsoon



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Tropical zone → Area located b/w Tropic of Cancer and Tropic of Capricorn.

↓

Because South India located in this zone.

Monsoon → India में Rainfall करवाते है।

→ 56% Agriculture depend upon Monsoon.

→ 60-65% of population depend upon agriculture

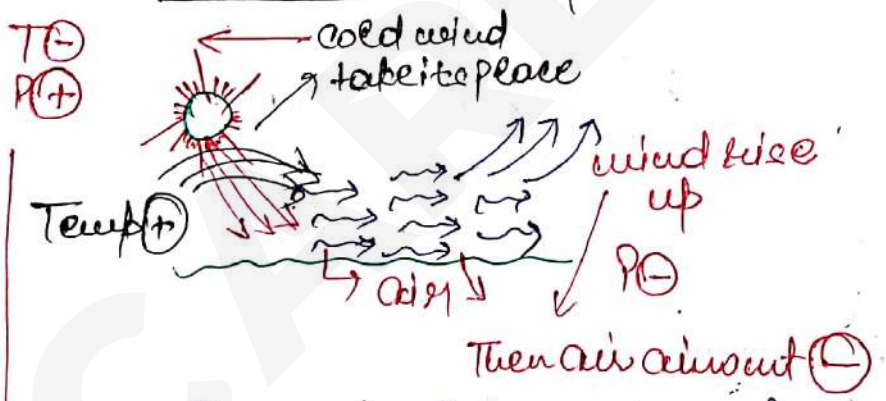
Origin of Monsoon ⇒

Def^n Monsoon → It is a wind → which change its direction acc. to the season.

Monsoon formed from the word "Mausim" (↑ Meaning) ↓ arabic word

Acc. to science, monsoon is the latent heat of Indian ocean.

→ (A) Thermal Concept → Given by Halley in 1686



→ So wind always blow from P(+) to P(−)

In June → 21st → Sun is ⊥ to the tropic of cancer

↓ Summer Season ↓ T(+), P(−)

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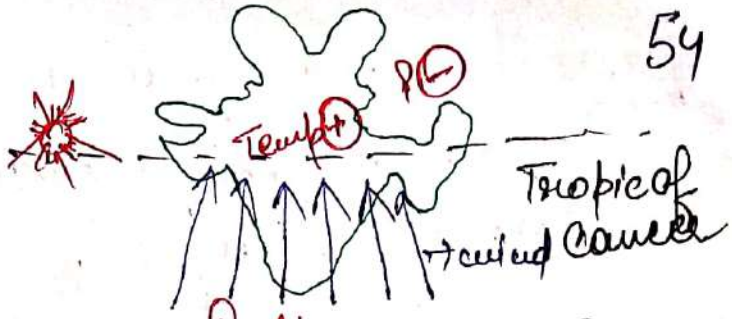
In Summer season

wind blow from

P⊕ ← Indian Ocean

↓ to

P⊖ ← North India



So, India ocean → Temp⊖ Pressure⊕

In winter season → Sun will be ⊥ to Tropic of Capricorn.

wind blow from North India → Temp⊖, Pressure⊕

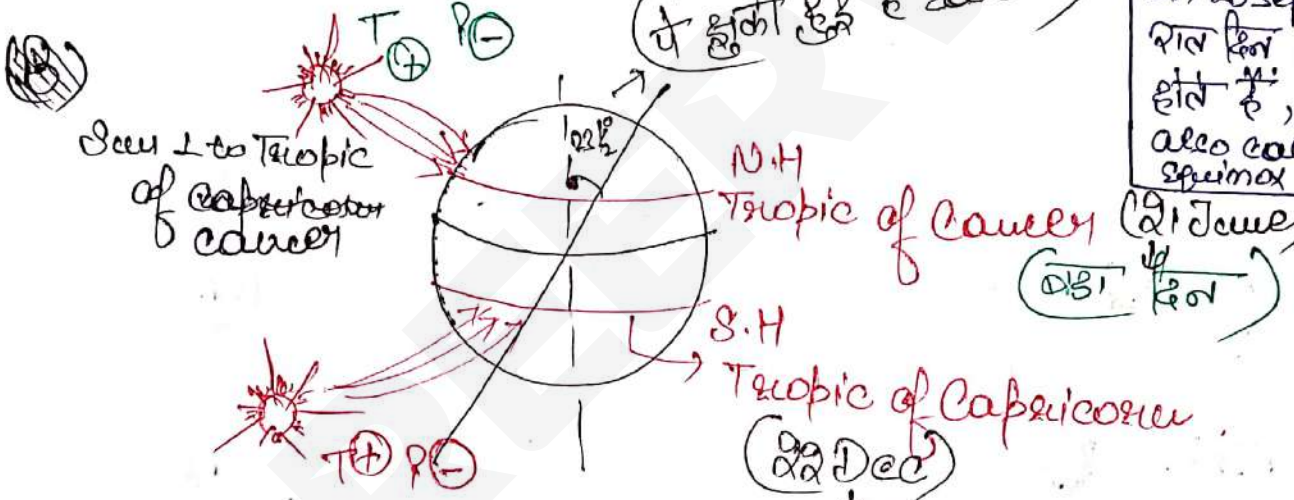
↓

Indian Ocean → Temp⊕, Pressure⊖

(ये झुकी हुई है Earth)

on 23 Sept को रात दिन equal होते हैं, 21 March also called equinox

(B)

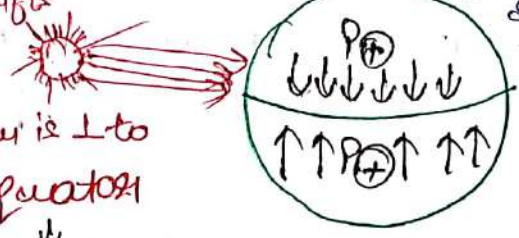


(B) Dynamic Concept → Given by Flohn (1951)

↓

Shifting of Pressure belt → ITCZ → shifts

wind blow from N.H & S.H & collide at some pt.



Sun is ⊥ to Equator

↓

T⊕ P⊖

** (Area) Pt. which, convergent of wind occurs

↓ called

ITCZ zone

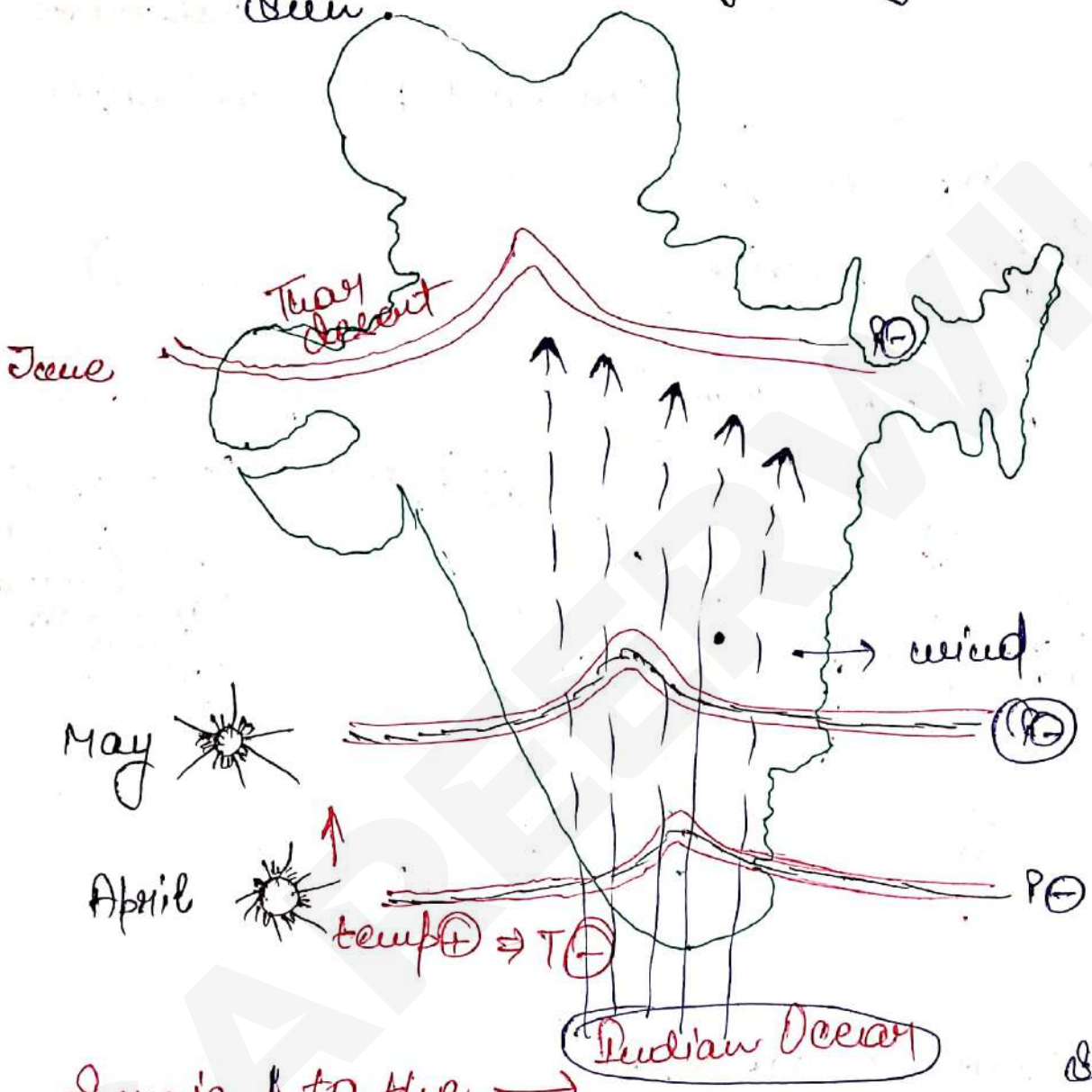
(Intertropical Convergent zone)

Scanned by CamScanner

ITCZ → convergent area of air.

↳ always shifts because Sun position always change ⇓

So ITCZ → always change wrt to the Sun.



Sun is ⊥ to the → Sunlight makes forward N.T

In Summer Season

(A) Equator → ITCZ → zone

Sun at Angle in March → 0° (Sun on Equator)

⇓

April → 8°N

⇓

May → 16°N

⇓

June → 23½°N – 24° N

Scanned by CamScanner

In June → Thar desert Temp (+)
where pressure is low ↓ (Itcz) shift

wind flows from Indian Ocean to Thar desert → i.e to North India

↓

Then rainfall occurs in North India
(i.e why in kerala rain occurs firstly)

In winter season → (Just opposite)

Sun is ⊥ to the tropic of capricorn
wind blows from North India to Indian ocean. (But no rainfall occurs)

South to North → Rainfall (occurs)
North to South → Rainfall (Not occurs)

Indian Meteorological Department

Divided India's Monsoon into 2 parts.

North East Monsoon	South-West Monsoon
(a) winter season	(a) Wet season
(b) Summer season	(b) Autumn season

(A) Winter Season → How rainfall occurs ??

↓ In

North India ⇒ 10-15°C (T⊖ P⊕) so direction of wind
South India ⇒ 20-25°C (T⊕ P⊖)

Scanned by CamScanner

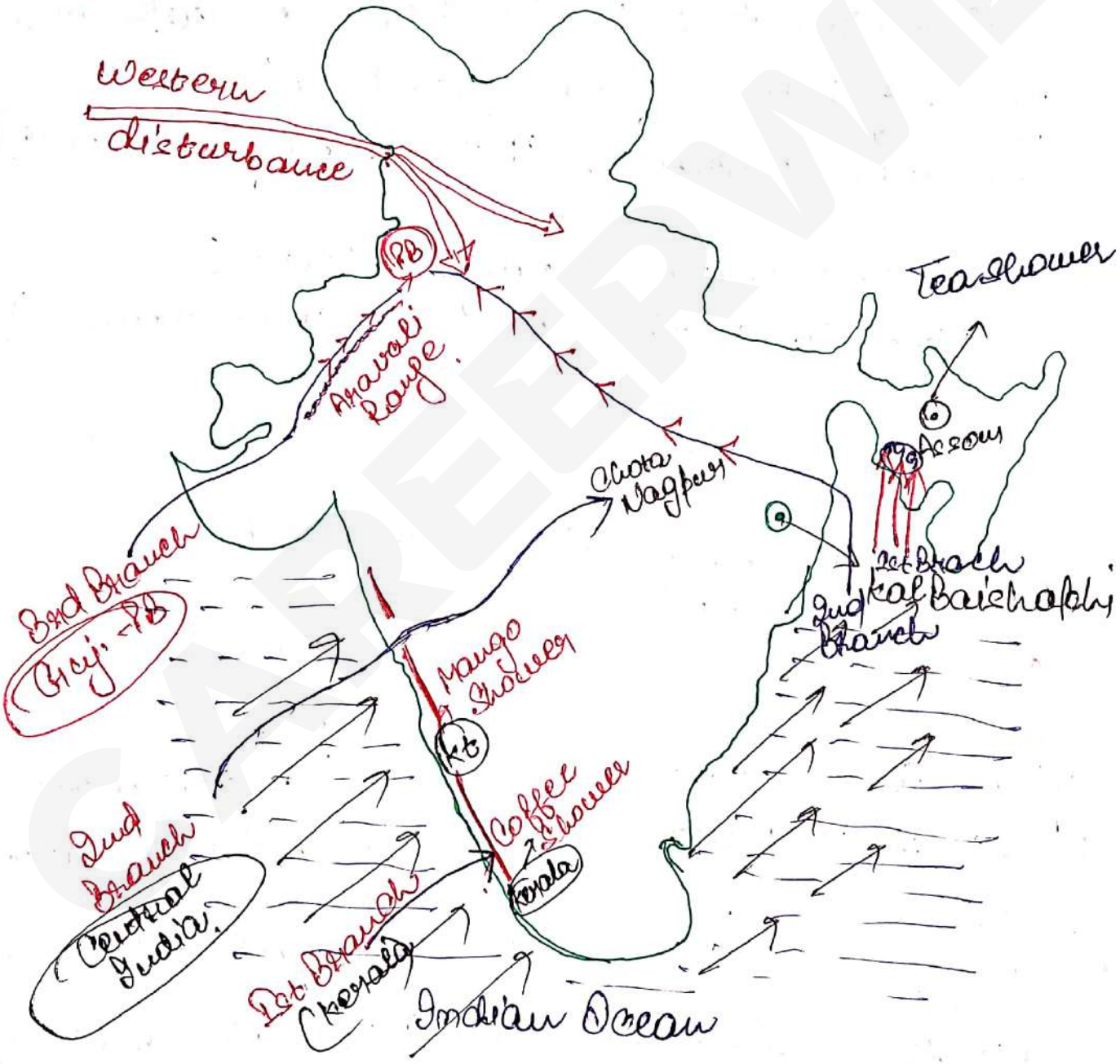
wind blow from North India to South India.

** In winter season No rainfall occurs due to Monsoon. (∵ of lack of moisture)

But in winter rainfall occurs due to ** Western disturbance

↳ wind which originate from ** Mediterranean Sea. Rainfall will occur in J&K, H.P, U.K, Delhi, Rajasthan, Punjab, Haryana.

4% of total rainfall occurs in winter season.



Scanned by CamScanner

Rainfall in Rajasthan in winter is called 56.
Mabat.

In Summer Season → dry & dusty wind blow.

→ (A) **Loo Wind** → Blow in North India.

↓

In normal conditions it is a dusty wind

↓

If it absorbs humidity i.e **Loo + Humidity**

↓

Then, **Storm Rainfall** occurs

↓

In west Bengal it is called **Kal Baishakhi**

** 10% of total rainfall occurs in Summer Season.

South-West Monsoon

- **Arrival Monsoon**
  - ↓ direction
  - **S-W to N-E** → in **June 1st week**
    - from
    - Arabian Sea (65%)
    - Bay of Bengal (35%)
- **Retreat Monsoon**

Scanned by CamScanner

First of all Monsoon will Rise from Arabian Sea, which do rainfall by 3 Branches.

(A) Kerala (In June 1st week)

(B) Central India

(C) Gujarata, Punjab

Monsoon that will Rise from Bay of Bengal which do rainfalls by 2 Branches.

(A) Meghalaya

(B) WB - BH - UP - PB

Class → 16

Retreat Monsoon

↓

Retreat Monsoon Time

↓

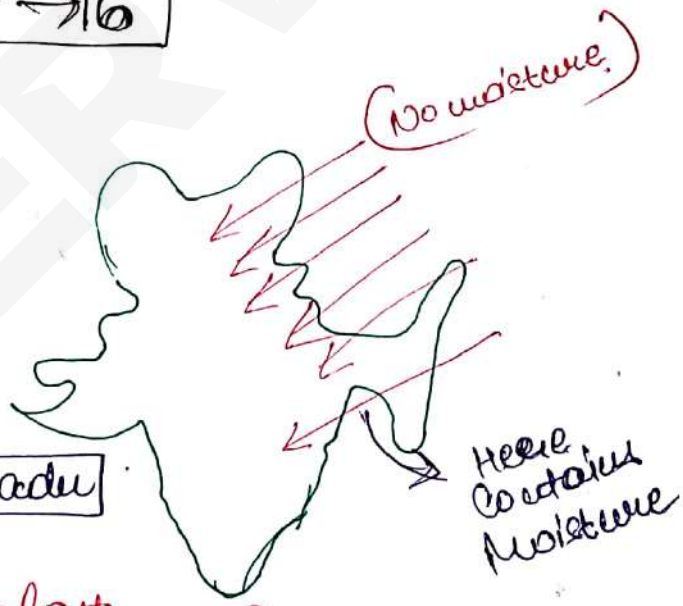
Oct. — Nov — Dec.

do rainfall in

Odisha | Andhra | Tamil Nadu

↓

Here at last Rainfall occurs



Via Monsoon of Bay of Bengal

Note :- Effect of JET Stream on Monsoon

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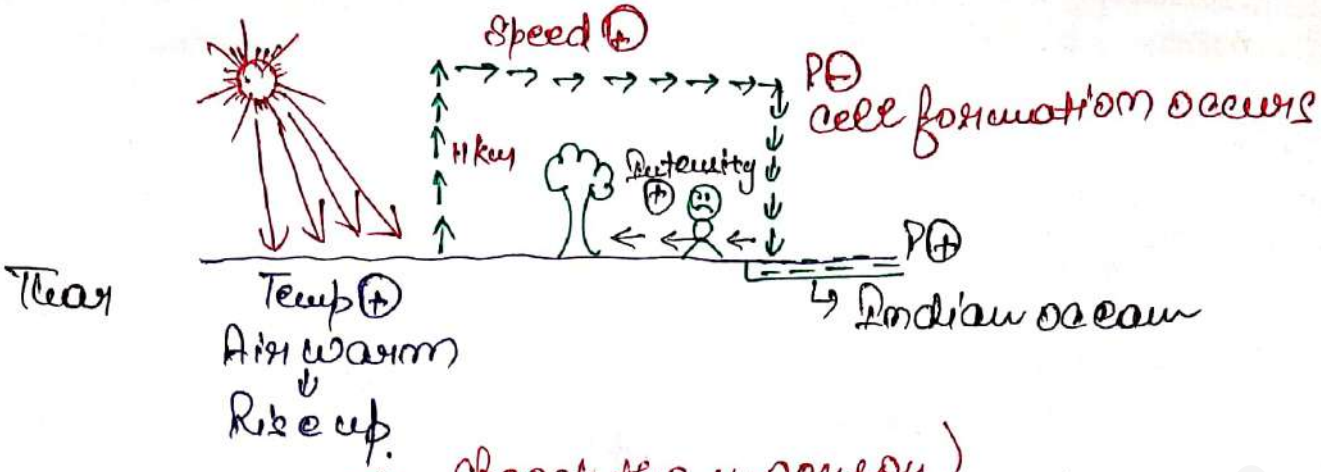
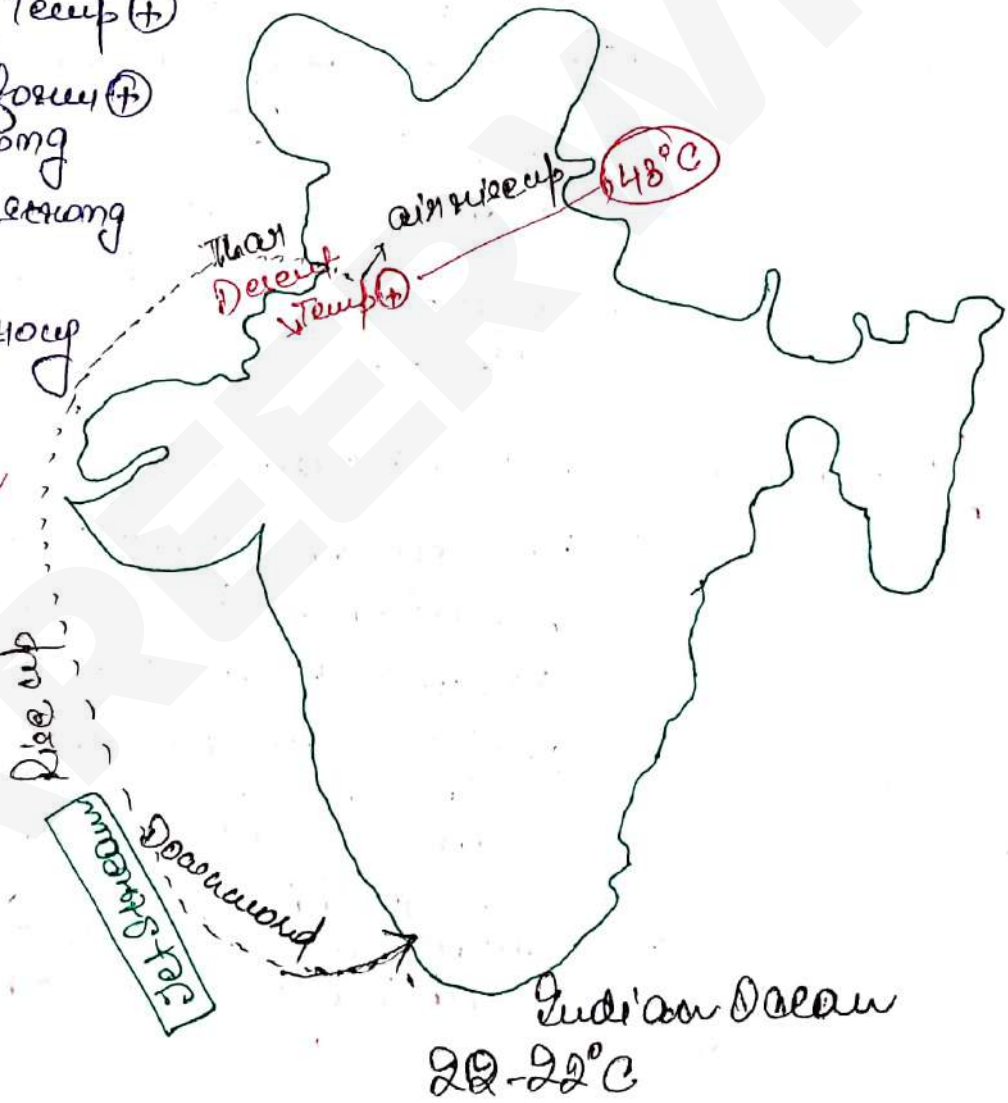


(boost the monsoon)

Jet Stream → High speed wind which blow on 11km height.

If Thar desert Temp ⊕
↓
Jet Stream form ⊕
↓ If strong
Monsoon strong
↓
Rainfall strong



* If Jet Stream is weak then drought occurs

CAREERMILL

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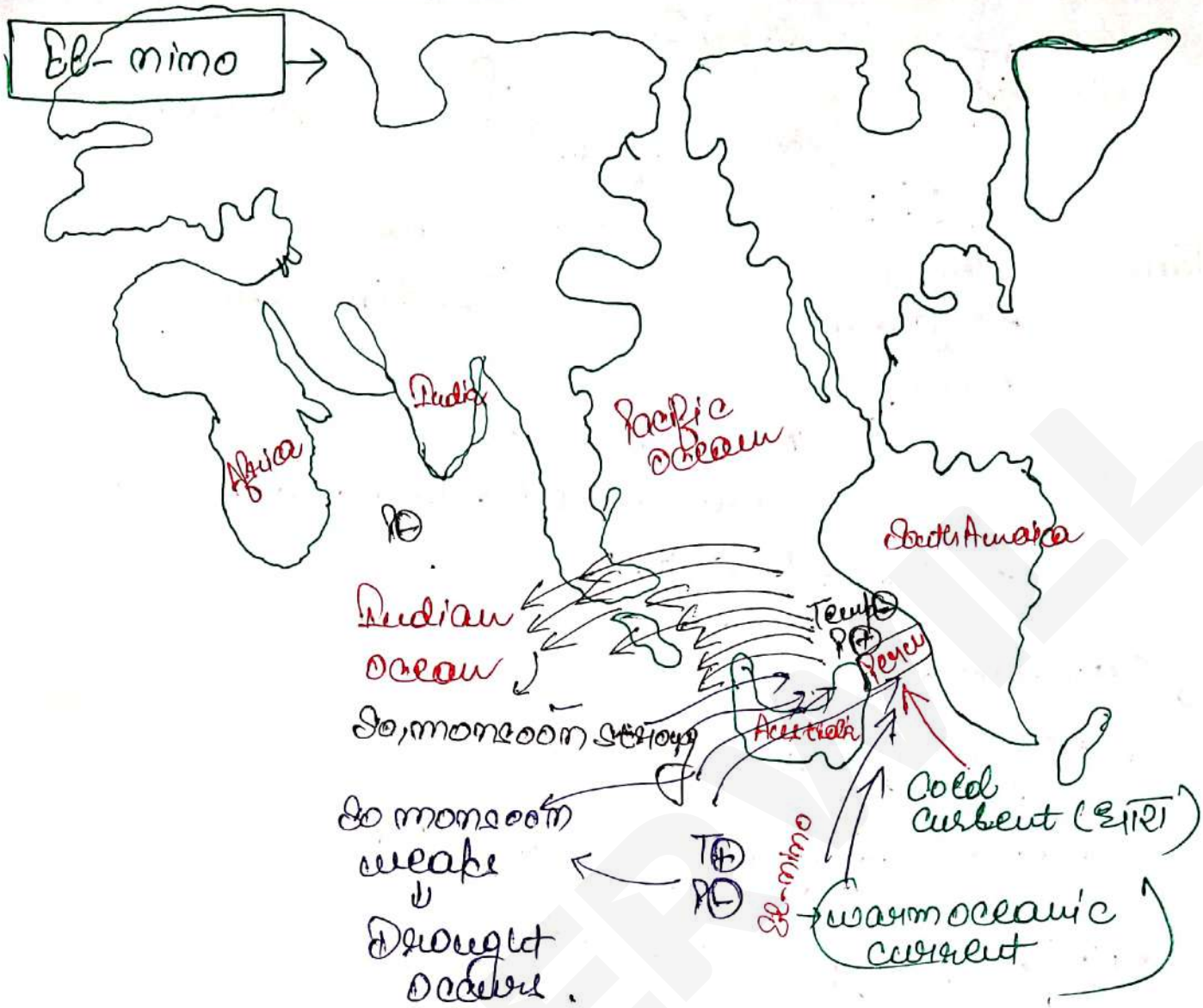

El-nino → warm oceanic current

→ Formed in coastal area of South America. (June-July)

→ Replace Peru Current.

→ Pacific ocean R(−)
↓
due to which Drought occurs in India

→ weak Indian monsoon

→ Origin → Coast of Peru, in Pacific ocean.

CAREERWILL

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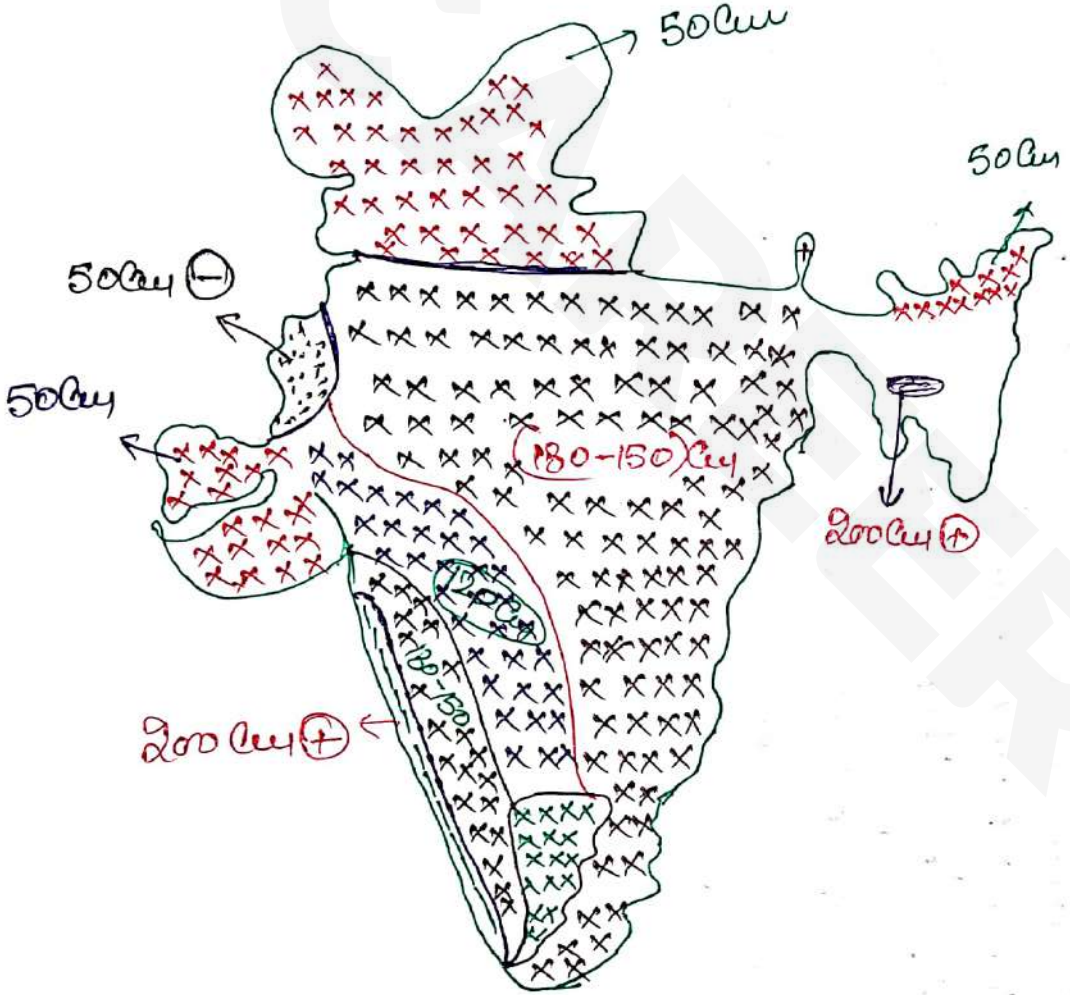
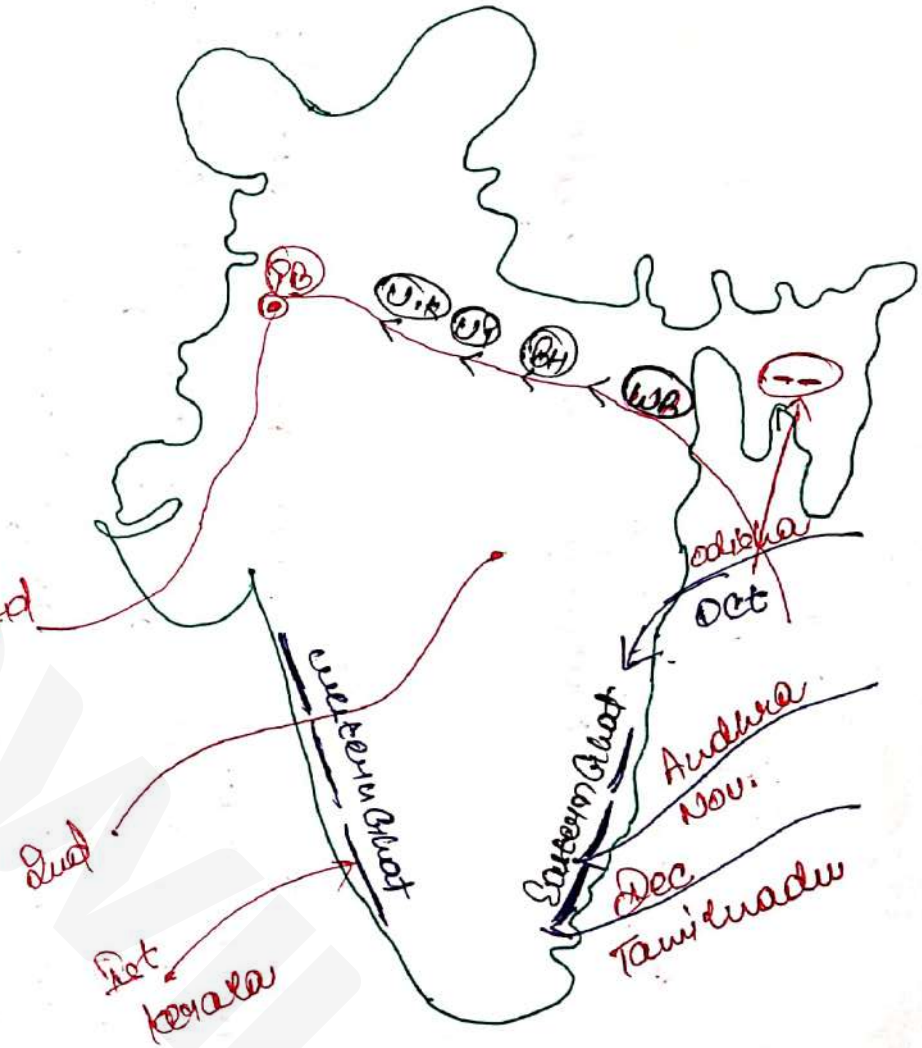
Distribution of Rainfall In India



Arrival Monsoon & Retreat Monsoon



Rainfall is measured by an Instrument
↓
Raingauge

Scanned by CamScanner

Acidic Rainfall

↓ Reason

SO_2, NO_2

↓

Effect → Fishes die

→ Building's colour fade

Soil

Questions → (1) In India सबसे ज्यादा Rain कहां से होती है?

Arabian Sea

(2) In India where firstly Rainfall occurs?

Kerala

(3) In which month rainfall starts?

1st week of June

(4) In Meghalya how rainfall occurs?

By Bay of Bengal Monsoon

(5) What type of Indian Climate → Monsoon Climate.

(6) India's climate is tropical

(7) El-nino originates in which ocean → Pacific Ocean

CAREERWILL

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Soil → Study of soil is called Pedology

Def → It is an upper fertile layer of lithosphere in which plants grow up.

Formation →

Soil = Rock Particle + Organic Substance
↓ ⊕
More fertility

Formation of soil is known as Pedogenesis.

→ pH value of soil → 6–7

- ⊕ Basic in nature ↓ to neutralize add Gypsum
- ⊖ Acidic in nature ↓ To neutralize add lime

Indian Council for Agriculture Research

↓ divides soil in

Indian Soil → 8 type

- → Alluvial soil
- → Black soil
- → Red soil
- → Laterite soil
- → Mountainous soil
- → Arid soil
- → Peat soil
- → Saline soil

CAREERWILL

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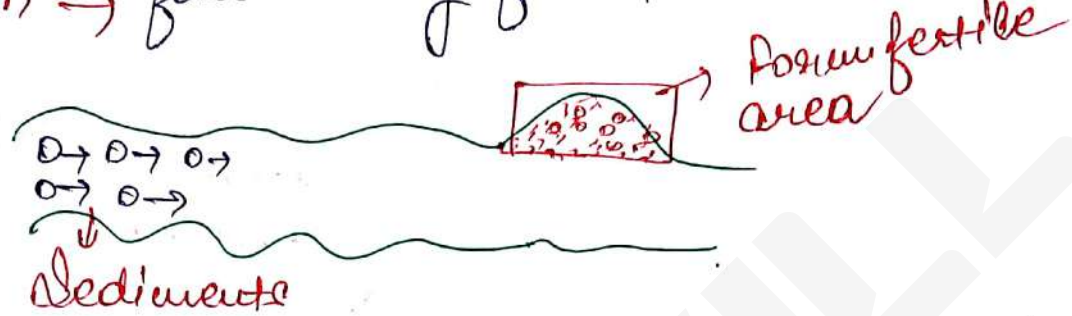
Class → 17

(A) Alluvial Soil → covers 40-43% area of India

Another name → kachari soil.

Formation → formed by flood / Rivers.



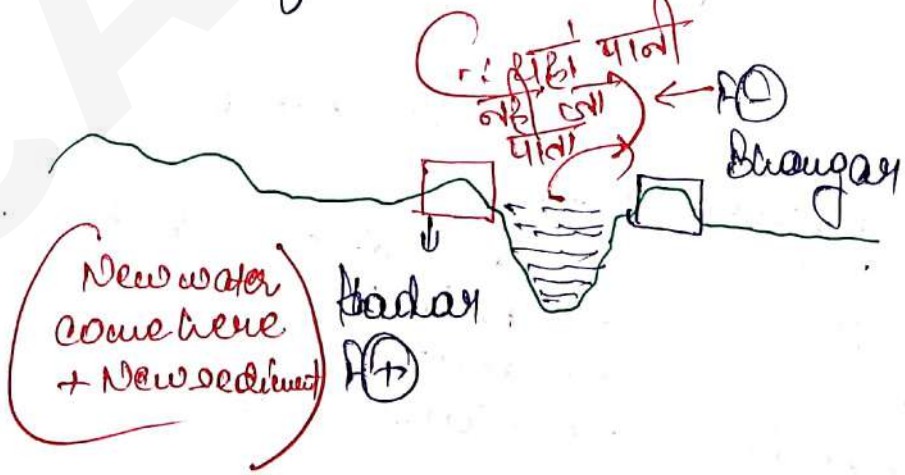
On the basis of fertile area formation this soil is divided into 2 parts.

Khadar
- → New soil
- → Fertility (+)

Bhangar
- → Old soil
- → Fertility (−)
- → Found in High Area.

In Alluvial soil → Potash & Phosphorus
↑ Fertility

Tarai Soil → In it Nitrogen present is more
↳ also part of Alluvial soil.



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UP, PB, BH, U.P, W.B, HR, Andhra

Here Alluvial soil is found

→ All crops can be produced in this area or soil.

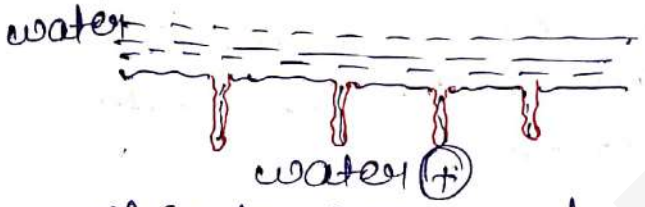
(B) Black Soil

→ Formation → By volcanism

→ volcanism form → Basalt Rock erosion → Black soil.

→ Colour is Black due to Magnetite Titeniferous + Silicate

→ In this soil Porosity (+) due to which capilary (+)
↓
water absorption power (+)



when temp (+) ⇒ vapourisation (+)
↓
due to water vapours
↓
Cracks will form
↓
So called Self Ploughing soil

→ other names → Cotton soil
→ Regur (M.P side कहा जाता है)
→ Chernozium (International name)

→ कौन कौन सी फसलें की जाती है → Cotton, Sugarcane, Rice.

→ Area in which Black soil found → Deccan Plateau — Guj — M.P. (Telangana, Kt, MH, Andhra)

CAREERWILL

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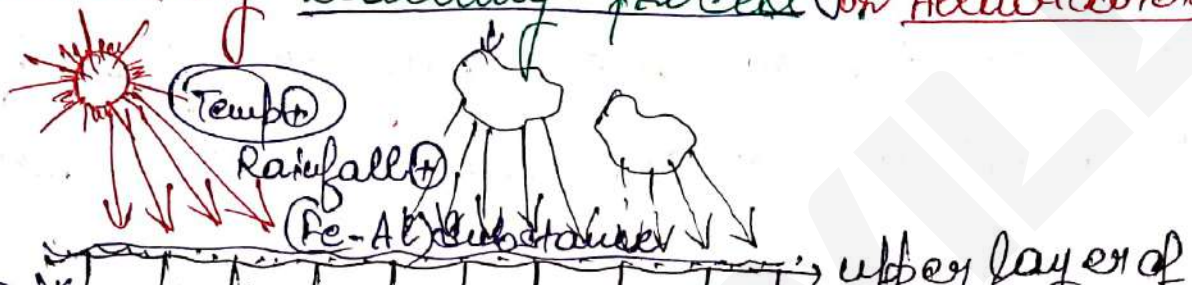
(C) Laterite Soil ⇒

→ word formed from word → **later** ↓ means Bricks.

→ It is also called, formed by **Bricks**.

→ Formed by Leaching process or Alluviation

→



(Silica Substance ↓ more soil acidic)

Nutrients move downward with water, due to which upper layer become → unfertile.

→ This soil will be more basic and less acidic.

→ Found in high Rainfall area.

→ Found → Meghalaya, MH, KT, Kerala, M.P (T(+))

→ Crops which can be ~~found~~ get from this soil → Cashew (काजू), Vegetable, Pasture (झाड़ियां)

(D) Montaneous Soil ⇒ Found on high elevation areas.

→ On mountains Temp(−) → Ice(+) ↓ so

Acidic soil ← upper layer having silica. ← leaching process(×)

Scanned by CamScanner

Humus → Organic substance + fossils (Vegetation)
Temp. (+) responsible, No movement of soil, forest area (+)

→ imcifiect humus found in this soil. (जीवाश्म)

→ due to acidic nature all crops cannot be produced.

→ Plantation cropping can be done
↓
crop of Tea / Coffee / Species.

→ found in → J&K - UK - HP - Sikkim - Arunachal Pradesh - Kerala - Kt.

(E) ~~Red Soil~~ ⇒ (E) **Arid Soil**
↓
found in those area which receive Rainfall ≈ 50cm
> 50cm

→ temp (+) ⇒ vaporization (+) ⇒ minerals (+)

- (50cm) Rainfal → called Rohiland, Rajasthan area
  - Crops → Wheat, grams, barley, Mustard
- (25cm) Rainfall → Date, Cactus

Scanned by CamScanner

Area → Rajasthan
Gujarat
S-W ← HR
PB

(F) ⇒ **Red Soil** ⇒ Found where temp (+), Rainfall (+)

→ Rainfall (++) ⇒ Laterite soil will found
→ Rainfall (+) ⇒ Red soil.

→ Red colour due to Ferrous oxide
or
Iron oxide

→ when soil become dry → Yellow soil.
→ Less fertile soil.
↓
After using of fertilizers → we can produce Rice, Tobacco, Vegetables, Peanuts.

→ Found → M.P + U.P
MH, Andhra, kt, BH, JH

(G) **Peat Soil** ⇒ Found in Wet Area.
→ water stay - long time
→ humus (+), fertility Normal

→ Most fertile soil → Alluvial soil.
→ Found in Coastal Areas.
→ Coastal area of Kerala, kt, Tamilnadu, Andhra.
→ Crops → Rice, Sugarcane.

CAREERWILL

Scanned by CamScanner

(H) **Saline Soil** ⇒ having saline nature due to **Magnesium + Sodium**

Crops → All grains can be produced.

In dry Areas, this soil is known as Reh, khallar.

Found in area → Guj., BH
MP, Chattisgarh
U.P, MH

Note :- (A) **Soil health card scheme**

↓

Started in 2015 in Sri Ganga Nagar, Rajasthan

under this → checkup of soil i.e → Required Substance

(B) CAZARI → Central Arid Zone Research Institute. (in Rajasthan)

↓ work

Deserted soil's checkup.

(C) CSSR → Central soil Salinity Research (in Karnal of HR)

↓ Report

UP has → Basic soil

Guj. has → Saline soil.

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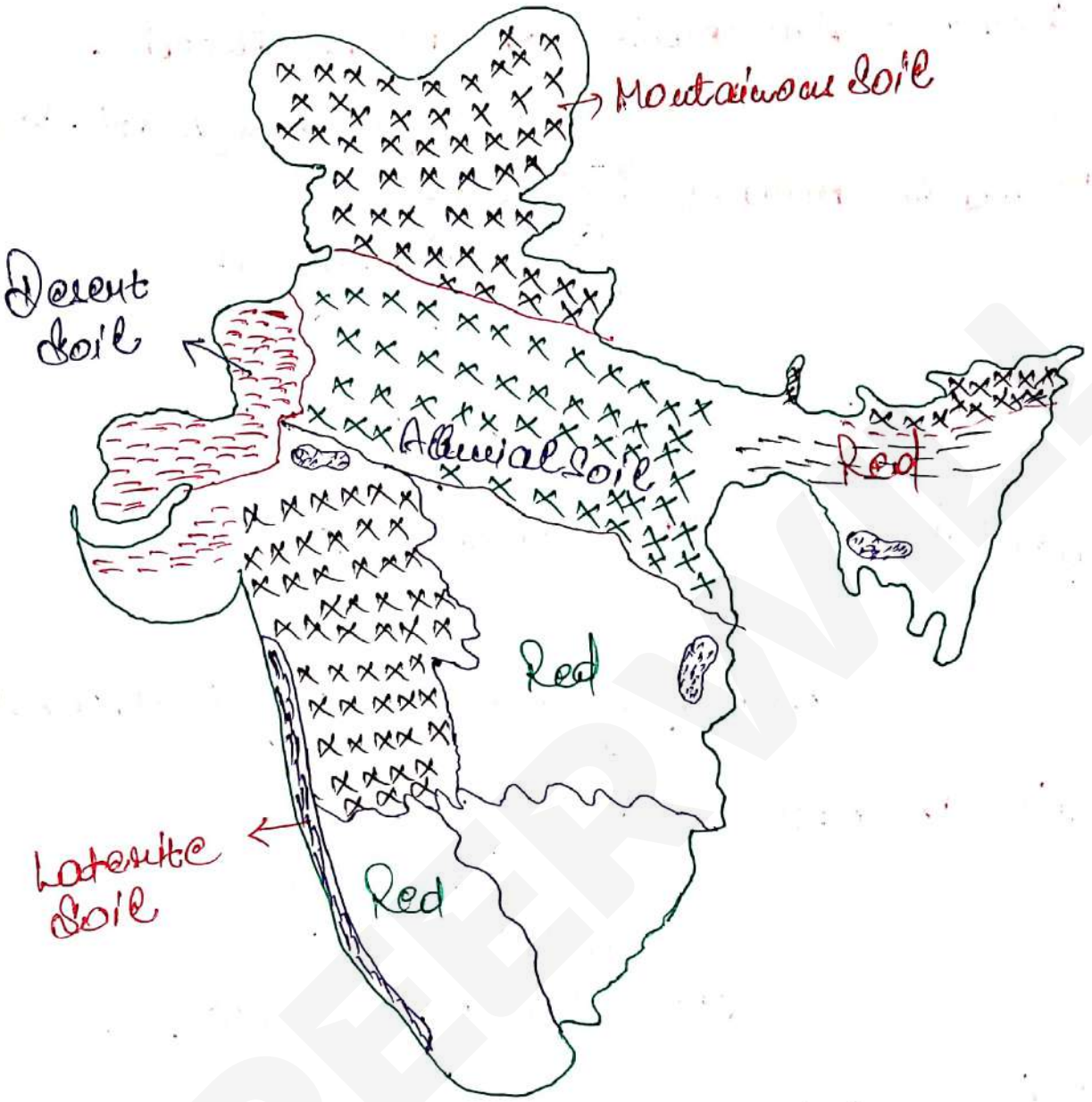

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Class 18

Agriculture of India

→ India is an Agricultural Country,

→ 60-65% ~~do~~ population depend upon agriculture.

→ Production in agriculture field ↓ continuously.

Problems → (A) Dependency on Monsoon.

Agriculture

- 56% — depend on Monsoon ↓ which ~~with~~ remains discontinuous.
- 44% — Irrigation

(B) Crop cycle disturbance. (Only wheat Rice crops)

(C) Population increases.

(D) Lowest Price of MSP → (Rate announcement by Govt before selling) (Minimum Supported Price) ↓ Demotivates farmer

(E) Chemical fertilizers use

(F) Shifting Cultivation (Cut for crops)

Scanned by CamScanner

Crops pattern of India

(A) Rabi Crops :-

Sown → Oct-Nov. Temp → 12-15°C

Harvested → Mar-Apr. Temp → 30-35°C

E.g wheat, Mustard, gram, Pea, Potato, Pulses.

(B) Kharif Crops :-

Sown → June-July

Harvested → Oct-Nov.

E.g Rice, मूंग, उड़द Jawar, Bajra, Maize, Cotton, Jute

(C) Zaid Crops :-

Sown → March

Harvested → June

E.g Green leaf vegetables, Cucumber, तरबूज, खरबूज etc.

Wheat **Rice** → It is a tropical plant.

→ depend on monsoon totally.

→ It is India's major food crop.

→ Production (1st) → world → China (1st)

→ India (2nd) → WB, UP, PB, Andra

→ 3 crops of Rice are produced in WB, under one year.

(1) Amaan

(2) Aus

(3) Boro

Scanned by CamScanner

Wheat ⇒ It is an irrigation crop.

→ Sown in → Oct - Nov.
Harvested → March - April.

→ Production → China (1st)
→ India (UP, PB, MP, HR) (2nd)

Per hectare production of wheat & Rice is most in Punjab.

→ 1964-65 → high drought condition occur.
1965 → Indo - Pak war
↓ so
Production of grains was needed so Green Revolution was implemented in India. → word given by William Gaud.

World Green Revolution → Started in 1965 in (Mexico + USA)
↓
Father → Norman E. Borlaug (USA) (died in 2009)
↓ (By USA)
(1) Nobel prize → (शांति के क्षेत्र में)
(2) Bharat Bhushan Award
(3) Medal of freedom

After his death USA started to give Borlaug Prize from 2009 in field on Agriculture.

Indian Green Revolution → Started in (1966-67)
Father → M.S Swaminathan
How started ??

Scanned by CamScanner

Mexico से Mexican wheat लाया गया
↓ Two varities तैयार की गई
↓ ↓
Kalyansona Sonalika
↓
applied only in UP, PB, HB
↓
on 40% of land.
→ It remain successful.

Drawback → Firstly the fertility in all the states ↑ due to first time use of Chemical fertilizers but now ↓.

Maize → It is type of kharif crops.
(Corn) → Production → world → USA
→ India → (kt)

→ Methanol is made from Corn.
↓
Biofuel
→ To apply it India started a Program
Methanol Economy
↓
Methanol will be used as Biofuel.

Coffee → It is a plantation crop.
Production → world → Brazil
→ India → (kt)

** In Brazil plantation of coffee is called Fajenda.

Scanned by CamScanner

Variety of coffee in India

Robusta Arabica

19

Cotton → Birth place - **India**

↳ used in formation of clothes.

Production
- 1st → China
- 2nd → India
  - ‡ Maharashtra (max^m production)
  - ‡ Gujarat

↓

Here cotton is called White Gold

Rubber → found as milk in plant.

Production
- Thailand (in world)
- In India
  - Kerala
  - Tamil Nadu

Sugarcane → One year crop

↓

Sugar is made from it.

Temp. → 21°-27°C (for production)

Production
- **Brazil**
- **In India** (UP, MH)

Scanned by CamScanner

Bajra → Come in Food crops

→ Grown in Sandy Soil

Production < Nigeria (in Africa)
< In India → Rajasthan-UP-Guj-HR.

Pulses → come in food crops

Producer + consumer → India (M.P)

Demand of Pulses in India more so they are imported

Tea crops → water loving plant.

↳ उगती in Slope areas.

Production < China
< (In India) → Assam, Kerala, Kt., WB (55%)

Major Crops

(A) **Food Crops** → Produce only for food.

E.g wheat, Rice, corn, Bajra.

(B) **Cash Crops** → Produce for money.

E.g cotton, Peanuts, Jute, Tobacco, Potato.

(C) **Plantation crops** → Flowers, Tea, coffee, Fruits.

Scanned by CamScanner

(D) Stimulated Crops → All smoking crops Eg.

Opium, Tobacco, भांग, चरस, Bhang.

(E) Oilseeds Crops → give us oil.

Ex → Mustard, Sunflower, Peanuts

→ सरसों, मूंगफली।

(F) Legimous Crops → All pulses come in it.

Note → ** 1. 1st Indian Agriculture university

Opened in 17 Nov. 1960 in U.P but at present located in Pant Nagar of U.K.

Name → ** Govind ballabh Pant Agriculture university

or

Pant Nagar University

1st Five year Plan → Objective

↓

Increase Production in Agriculture

Shifting Cultivation → as a contract based type

Low

Plain Areas

Mountains also called Ponda

झूमिंग Cultivation → Assam

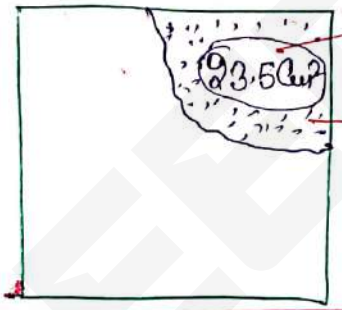
Jhalriya called in M.P

Vegetation of India

Vegetation/Forest → Group of plants, which is not effected by human directly or indirectly. Divided in subtypes

- **Actual Area** → 21.54% ** (Area which covered by canopy of plants)
- **Forest Area** → 23.54% ** (Total Register area in forest department)

Indian Forest Research centre → Head Office in Dehradun



Advantages of Vegetation

(A) Source of → Ayurvedic Medicines (e.g. → Haundard Company, → Jhandu Company)
→ Wooden fuel
→ Income

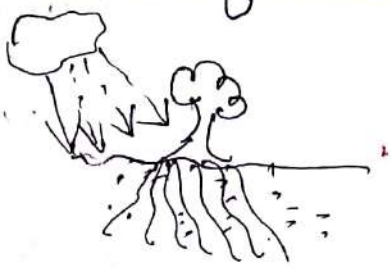
(B) Helpful in Rainfall

vapourisation
Water $\xrightarrow{T(+)}$ Vapour
Temp (−) condensation
↓
cloud forms → Rain occurs

Scanned by CamScanner

Helpful in Rainfall → Plants do transpiration
↓
increase amount of water vapours.

(c) **Control of Soil Erosion**



Roots bound the soil due to which soil erosion not occurs.

(d) Furniture wood

(e) Plants → absorb CO_2

Types of Forest

(A) **Tropical Evergreen Forest** →
Within area temp. (+), Rainfall high
Plant density ⇒ very high

Evergreen

Surface → Wet area
↓ so
Bacteria, virus (+)
↓ so
Grasslands are very less or not

Example ⇒ Rubber, Rosewood, Ebony, Mahogy, Cinchona.

Area where these are found → Western Ghat, East part of Himalyan Region, Meghalaya, Andaman & Nicobar, Lakshadweep.

Scanned by CamScanner

Animals found → Elephant, Monkey, Deer, One horn Rhino.

(B) **Deciduous Forest** → Loose its leaves in Spring Season. Also called Monsoon Forest (widely spread in India)

Deciduous wet Forest

→ Rainfall → 150-180 cm
→ temprature high
→ Plant density low
→ Bacteria (x), Grassland
→ found in Assam, Eastern Ghat, JK, MP, CH, West slope of western Ghat.
→ E.g. Sal, Shagun, Sandlewood, Sheshan, Ary'um.

Deciduous Dry forest

→ Rainfall ⇒ 70-100 cm
→ temp ⇒ normal
→ found on peninsula Plateau Region.
→ E.g Sal, Shisham, Neem, पीपल, Mango.

20

(C) **Arid Forest** → found in low Rainfall areas
→ Rainfall → 50 cm से कम
→ Leafs of plants will be pointed
→ E.g Babool, Pastures, Cactus
Area → Raj - Guj. → Sw < HR, PB

Scanned by CamScanner

(D) **Tidal Forest** → Found in Coastal and wet areas.

→ Always stay in water.
→ Water can't spoiled wood of these plant.
→ used in formation of Boat.
→ Helpful in control of soil erosion.
→ They are also called Mangroove Forest.

Plant ⇒ Come here Sundar Plant, Kajuren

Found in west Bengal, Meghalea, Kerala

Odisha
Tamilnadu
KT
} → Coastal Area

(E) **Mountainous Forest** → Found on high elevation areas.

→ temp ⊖ ⇒ wood soft.

upto 0-1500 mt → Evergreen forests are found there.

1500-3500 mt. → Coniferous forest → Shape → Conic

→ E.g Deodar, Pine, Silver Pine

3500-4800 mt → Alpine grass

4800 mt → No Vegetation found.

Area → J&K, UK, HP, Sikkim, AP, KT, TL, Kerala.

Scanned by CamScanner

Animals found → Red Panda, Snow Leopard, Spoted deer.

Some Main Points →

* In MP vegetation widely spread. [M.P > A.P > CH]
* On base of Percentage of area → Mizoram (88-90)%. M.Z > Lakshadweep > Andaman Nicobar
* Vanmahotsava started by K.M Munshi (1950-51) → Celebrated in First week of July
  objective (Vegetation का बढ़ावा देना)
* Indian Forest Research centre is situated in Dehradun.
* 1st Indian Forest Policy come in 1894 for the conservation of Vegetation & wild animal.
* 1952 → It was Revised
* 1988 → Again Revised (Applicable Presently)
* 10th Five Year Plan → target 33% area will be covered by vegetation.
* Forest Productivity centre is at Ranchi
* Wood Science & Technology centre at Bangalore.
* In world Vegetation more at Brazil.
* Least Vegetation at (PB) 3%, (HR) 3%

297 → HR [3.59%], PB [2.85%]

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21 Lakes of India

↓

Source of water.

Advantages

(1) Some lakes water used in drinking.

water → Freshwater, Saline water.

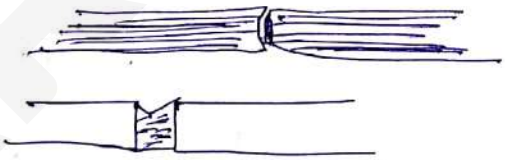
(2) Saline water source of → Production of Salt.

(3) Tourism

(4) Some lakes are ~~source of water~~ origin of Rivers.

Types of Lakes

(1) Tectonic Lake → formation occurs by Plate Tectonic event



E.g Gangabal, Mamabal.

(2) Lagoon Lake →

Backward Motion of oceanic water ↓ water entered in land area

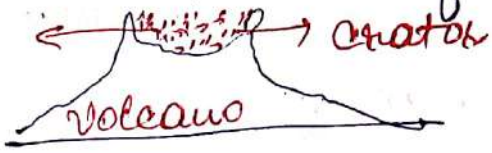
E.g Chilika (Odisha)
Vembanad (Kerala)
Pulicat (Andra Pradesh)

Scanned by CamScanner

(C) Crater Lake →

Mouth of Volcano

→ First of all Volcanism occurs → Crater formed

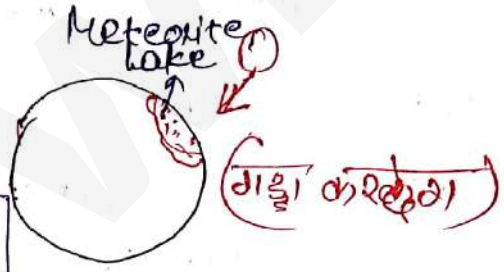


→ Rarely present in India.

(D) Meteorites Lake →

Meteorites are → Asteroid Particles
↓
That fall down on earth

E.g Lunar lake - MH



In India → Artificial lakes are there.

(1) Chilika Lake → Largest lake of India acc. to Area.

→ Located in Odisha.

→ Type of Lagoon Lake → Saline water or Brakish water

→ 1st → Ramsar wetland of India 1981
↓
City of Iran

(2) Sambhar Lake → Located in Rajsthan.

→ High saline water lake of India.

[94% salt of India
90% salt of Rajasthan] → Produced from this lake

Nearest Distt. → Jaipur, Nagaur.

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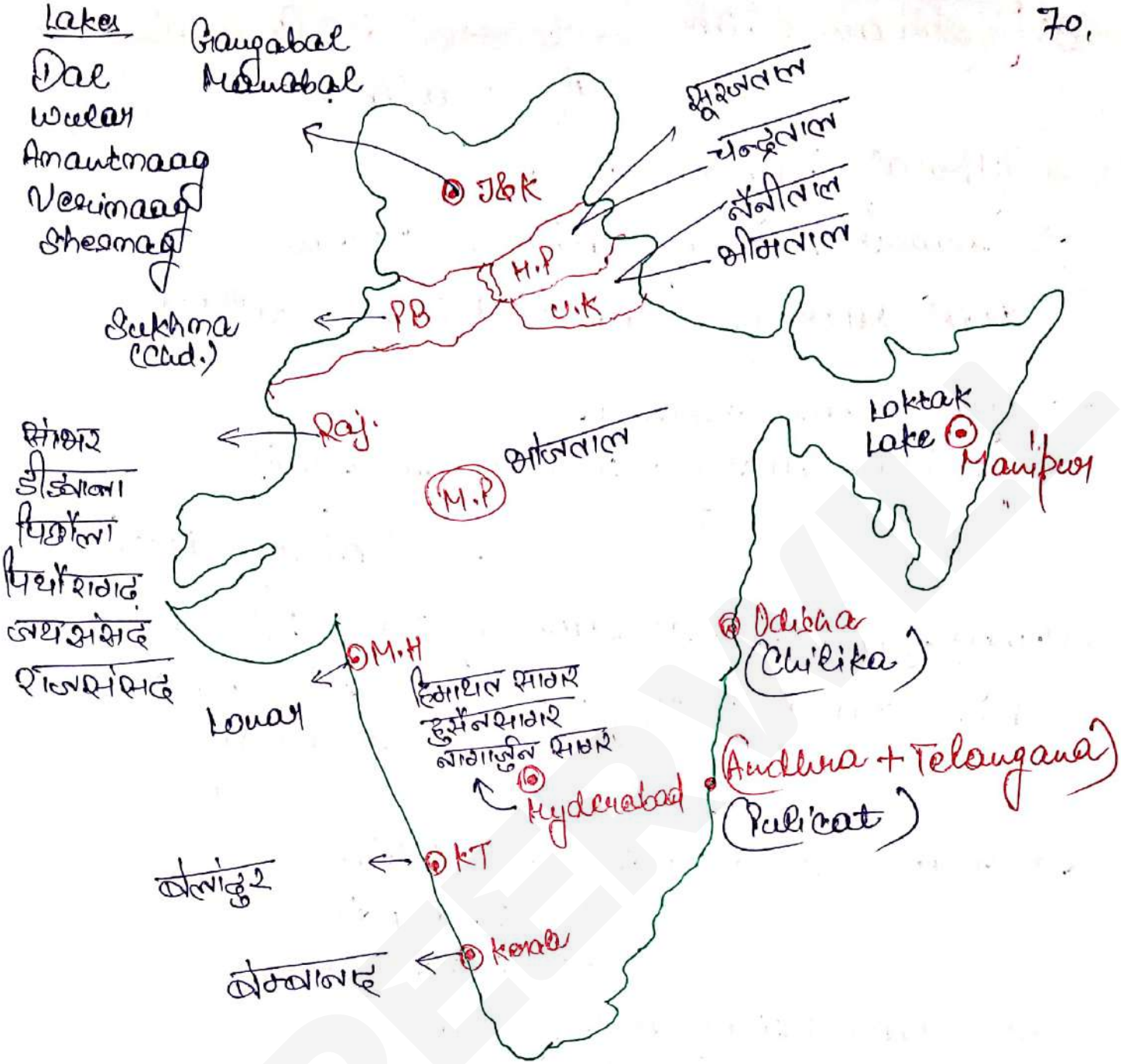

(3) **Wular Lake** → Located in Jammu & Kashmir.
→ fresh water lake of India.
→ Jehlum river passes through Wular lake.

(4) **Pulicat** → At border of Andhra + Tamil Nadu.
2nd high saline water lake.

Scanned by CamScanner

(5) **Vembanad Lake** → Located in Coastal area of Kerala.

→ Type of Lagoon Lake

→ Longest Lake of India → 96 km

→ Boat Race is conducted in it called Nehru Trophy

→ Wallingdon Island.

(6) **Loktak Lake** → Located in Manipur (in Moirang Distt.)

→ Only fresh water lake of NE India.

→ Here there is a floating National Park called Keibul Lamjao.

→ water utilised in → drinking
→ Irrigation
→ मछली पालन

→ Pummidices are found
low it
vegetation is found

(7) Lake of Uttarakhand are famous for tourism. → Naini, Bheemtal

Artificial Lakes are → Raj Samand, Jay Samand] Rajasthan
Himayat Sagar, Hussain Sagar] Hyderabad

Scanned by CamScanner

Largest Artificial Lake in U.P's Sambhadra Distt.
↓
Govind Ballabh Pant

World's Note → world's largest lake → Caspean Sea (in Russia) located (in Asia)
→ Fresh water lake → Superior lake (in USA + Canada)
→ Saline water lake → Wann lake of turkey.
→ World's highest navigated lake → Titicaca lake (in South America)
↓
(जहां नाव आसानी चलती है)
→ World's deepest lake → ~~Mott~~ Baikal (in Russia)
→ India's highest lake → Cho lehamu (in Sikkim)
→ India's deepest lake → Manabal (in J&K)
→ World's longest lake → Tangynika Lake (East Africa)

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Minerals of India

→ India is rich country in minerals.

→ Cuddapah Rock
Dharwar Rock
Gondwana Rock
} → Due to which almost all type of minerals found in India.

Copper → 1st Metal of human civilization.

→ Extraction from → crack of Igneous & Metamorphic Rock.

→ Used in formation of wire. (∵ good conductor of electricity).

→ Production → In India → Total → M.P
Best Quality → Rajasthan
→ In world → Chili

called copper capital of world ← Chuquicamata Plateau in Chili

Diamond → Purest form of Carbon.

→ Hardest non-metal

→ Used in Jewellary & cutting of glass

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Production → In India → Panna Mine (M.P)
→ In World. → Russia

Kohinoor Diamond Extracted from Golkonda Mine (in Hyderabad).

Most Reserve of Diamond in → Kimberley (South Africa)
called Diamond City.

Biggest Market of Diamond is Antwarp (In Belgium)
called Diamond Capital of the world.

Gold → Extract from Igneous Rock.
↳ Precious metal
→ Conductor of Electricity.

Production in India → Kolar, Hatti mines (in Kt)
↓
M.P → Rajsthan.
→ In world → China

More Reserve in → Johansberg, South Africa
↓
called Golden city of the world.

Scanned by CamScanner

Silver → Extracted with lead.

→ Used in Jewellery.

→ Production → In India → Rajasthan
→ In world → Mexico

Gypsum → Obtained from Sedimentary Rocks.

→ Used in formation of POP

→ Neutralize – Basic soil.

→ Production → In India → Raj. → J&K → Guj.
→ In world → China

Mica → Obtained from Sedimentary Rocks.

→ used in formation of insulator.

→ used in making Mica sheets.

→ Production → In world → China
India's Rank is 7th
Andhra → Raj. → Odisha

Tin → Used in formation of Metalic sheet.

→ In formation of Boxes

→ Production → In India → Only Chattisgarh (Bastar)
→ China → 1st

India import

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** # Coal → Made up of Fossils (remnants of living) + Vegetation → Organic Substance

↓ formation takes Million Billion years.

⇓ Solidification occurs with time ⇓ Coal forms.

↓ Decay parts. ⇒ form organic substance.

→ Age of Coal (+) → Carbon amount (+) ⇓ Energy (+)

On the basis of Carbon amount Coal is of 4 types →

(A) Peat (45-55%) Coal Front (C) Bituminous (65-75)%

(B) Lignite (55-65%) (D) Anthracite (85-90%) Cold from all

→ Most Energetic coal → Anthracite

→ Peat called Primary coal/Brown Coal

Production → In India → ① JH → ② Odisha → ③ CH

→ In world → China

Scanned by CamScanner

→ Bituminous coal largely found in India.

→ Lignite → in Tamilnadu Neyveli

→ Anthracite → India has limited reserve
↳ (found in Chenab River Valley) (in J&K)

→ India Import Coal.

→ Burning of coal produces Nitrogen & Sulphur gas.

→ **Mining of Coal**

(A) In Jharkhand → Jharia Mine
In Chattisgarh → Corba Mine
⇓
from protecting poisonous gases Govt. formed a fund → District Mining fund (DMF)
↓
If any private company takes its tender then it has to deposit 10% of it in DMF which will be used in the treatment of effected community.

(B) Rat Hole Mining → Ignited in 2019.
In Meghalaya in Jayantia Hill's East Rat hole mining situated.

Scanned by CamScanner

in which Silica amount is more due to which Polluted Coal is found here.

→ Due to Silica Blast treatening always possible.

→ So banned by Govt. Here illegally production occurs.

(famous for it)

→ flying coal occur which is called flying ash.

Use of carbon → for making bullet proof Jacket.

→ for making water proof clothes.

→ for making paint

→ as a fuel also used.

Petroleum → Petroleum are Hydrocarbon.

20% Natural gas 70% Oil

Petrol, Diesel → obtained after Purification

co-products (as wastage former)

↓

LPG Gas

Pate Cock

wax

* Major component of Natural gas → Methane gas (CH_4)

Scanned by CamScanner

CH_4 also called Marsh Gas because found on dirty areas.

Clathrates → CH_4 which found in depth of 2km in ocean.

Petroleum Extraction →

In Gujarat from → Ankleshwar
Kalol
Khambat

In Assam → Digboi
Suruma valley
& Nahorkatia

In Maharastra → Main area here is Mumbai High
↓
176km away from Mumbai in Arabian Sea.
↓
Largest part, from 1976 Extraction started here.

D-6 Block → Located in Bay of Block.
↓
RIL (Reliance industry Limited) doing Extraction here.

→ 1st Effort in → 1867 → in Maparn of Assam.

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Proper Extraction occurs in 1889 from Digboi of Assam.

↓

oldest Place of India

Pet Coak → co-product formed by Purification of petroleum.

- → used as a substituent of coal.
- → Efficiency → high.
- → Cost → low.
- → Pollution → (+)
- → Itsreplaced by 'Methanol' Biofuel.

↓

Produced by Sugar cane then used as fuel, as a petrol

i.e Methanol Economy is preferable.

Oil Refinary of India

→ 1st Refinary was established in Digboi of Assam in 1893

↓

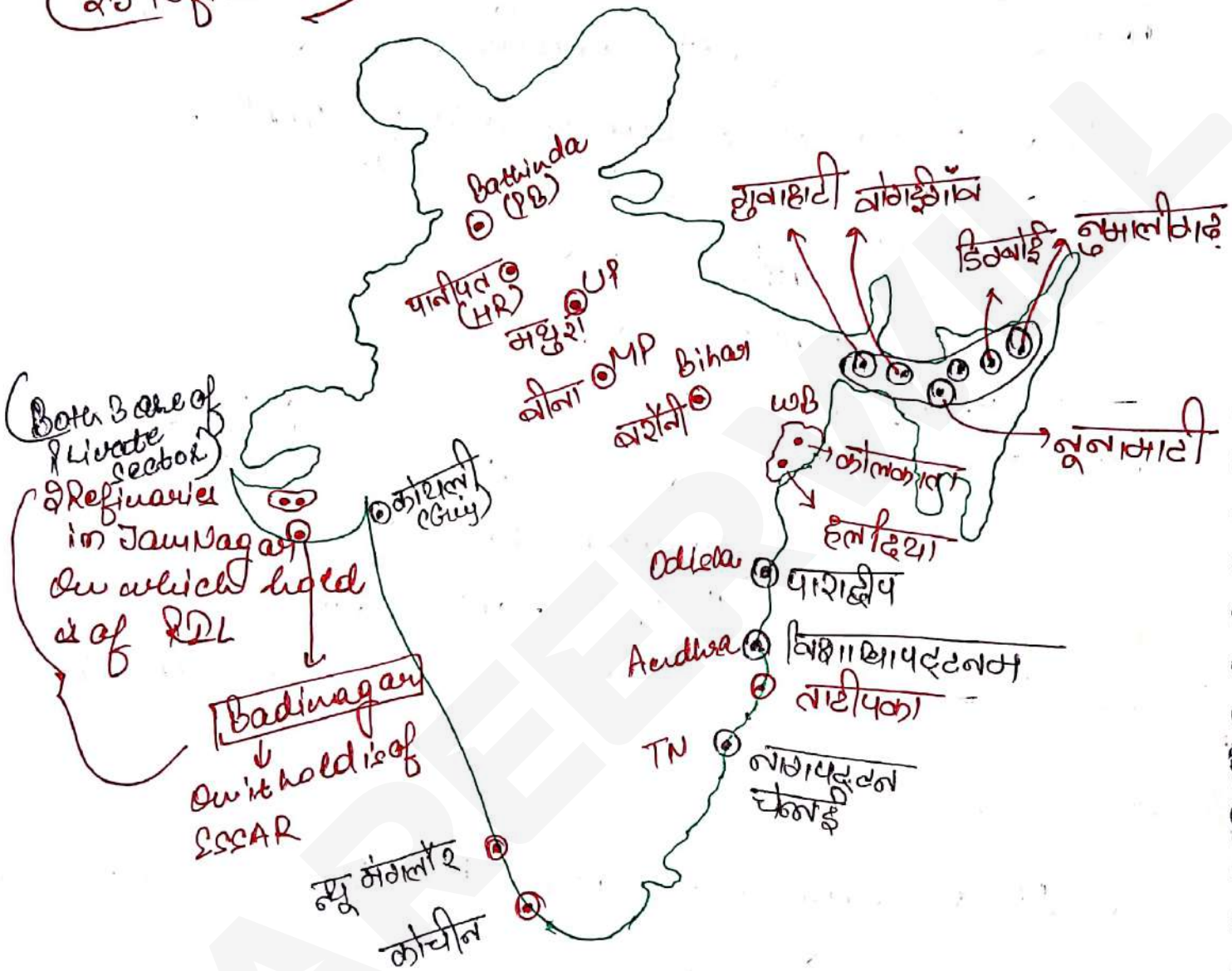
came in making in 1901.

→ Total Refinaries in India → 23

- 18 Refinary of Public sector
- 3 of Private sector
- 2 are coperative (Public Private Both work)

→ Largest → Jamnagar, Gujarat.
→ Last → Paradeep, 2012 (in Odisha)

(23 Refinaries)



ONGC → Oil & Natural gas corporation
↓ work
discovering new places of Petroleum
↓
Pawanhansheli copter limited
↓
Provide helicopter to ONGC

Scanned by CamScanner

→ More Petroleum found in → ~~[illegible]~~
(High Reserves) → वेनेजुएला
(Benizula)

→ Head office of ONGC in → New Delhi
(in Vasant Kunj)

→ Biggest Refinary → Jamnagar (Gujarat)

23

Transport of India

Transport → is a process in which any object change its position.

↓

Transport → developed by Britishers :

Railway → 1st Railway line was started in 1853 from Mumbai to Thane → 34km

→ It runs by coal.

→ In Feb 1925, 1st electric Railway line was started from Mumbai to Harbour → 16km

→ In our India till now Electrilization occured is 49%.

Scanned by CamScanner

Railway Line

On the basis of width

(A) Narrow Gauge → Small line
→ 0.762 mt
→ found in Hilly Area

(B) Meter Gauge → 1 Meter
→ In whole India Run

(C) Broad Gauge → 1.676 mt
→ Large line.

In 2012 → Uni-Gauge programme was started
↓ Objective
Meter Gauge converted into Broad Gauge.

→ India's longest line → Dibrugarh to Kanyakumari 4234 km

→ World's longest line → Trans Sibberian line
↓
Bladivostak to Petersberg 9289 km

Railway Junction

↓
A point at which no. of lines are joint

India's Largest → Mathura Junction
World's Largest → Chicago Junction

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→ India's largest Railway station → हावड़ा Howda

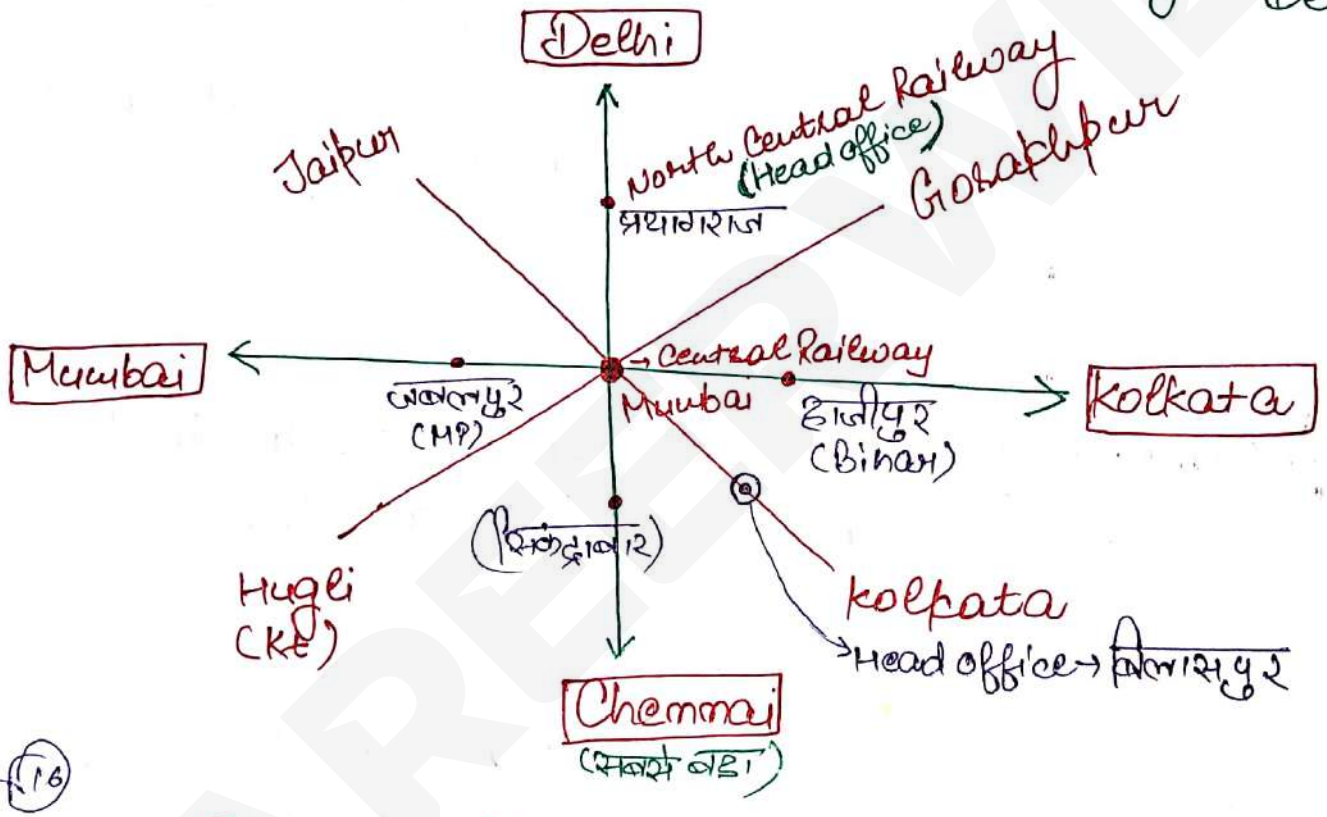
→ World's largest Railway station → Grand Terminal (Newyork)

Railway Zone

1st Railway zone formed in 1950-51

Total Railway zones → 18

North Railway → Head office Delhi



(16)

N.E → Frontier Railway → Head office

↓

One at Gowahati

One at Kolkata Metro

(17) East Coastal Railway → Bhubneshwar (Head office)

(18) Southern Coast (New Railway zone) → Vishakhapatnam

Scanned by CamScanner

→ Largest Railway zone → ~~Chennai~~ North Railway

→ Oldest → Chennai

→ Longest distance travelled train of India

→ Vivek Express (Dibrugarh - Kanyakumari)

→ High Speed Train → Vande Bharat

↳ Delhi → Varanasi

It replaced train-18

↓

old name

Speed → 180 km/hr.

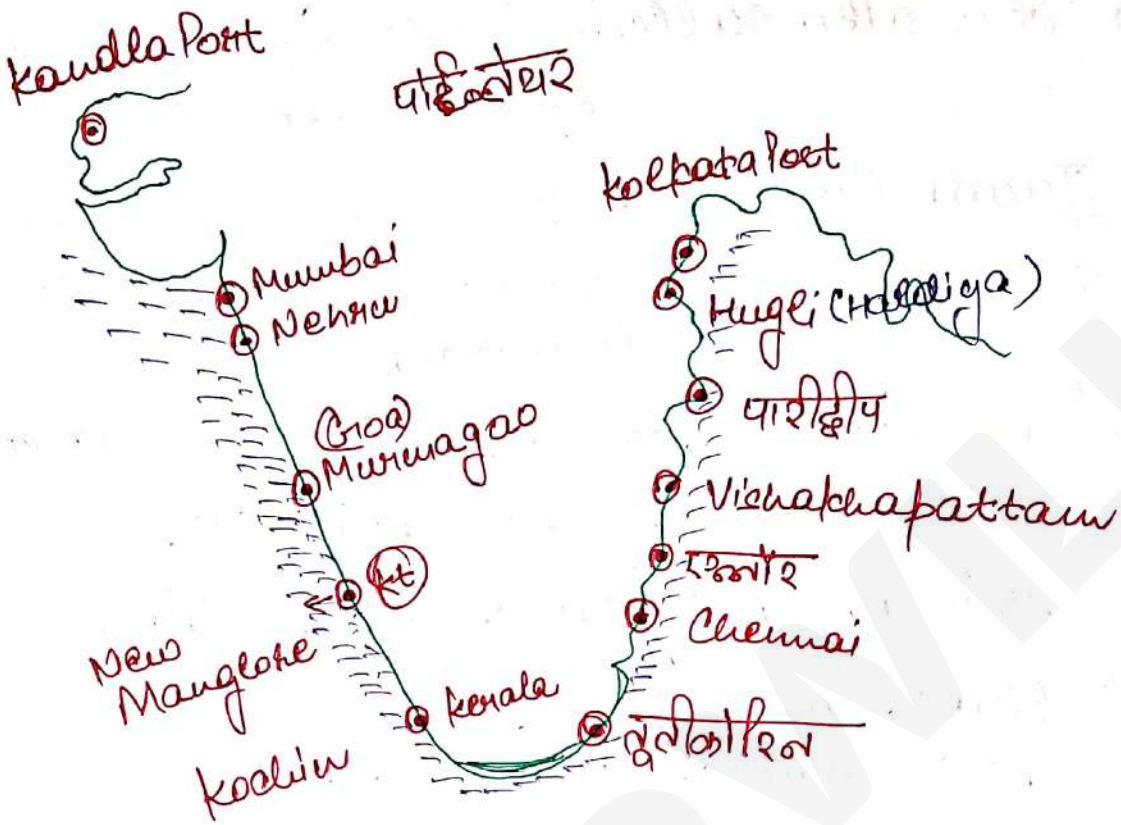
Sea Port of India

Sea Port → Coastal Area which conduct water trade and travels.

- Artificial seaport
- Natural seaport

Zone (18) divided into Division (68)

Scanned by CamScanner



(A) **Kandla Port** → It is located in Gujarat

→ It was developed after partition of India.

→ West countries trade was done from Karachi Port

↳ (but gone to Pakistan)

↓ So इसका Substituent तैयार करना था।

So Kandla Port formed.

New Name → Deendayal Port

Trade done of Petroleum, Electronics, Crude oil, cotton.

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(B) **Mumbai Port** → It is largest port of India

→ It is also called Gateway of Indian Agriculture Market.

→ Trade occurs of → Cotton, Automobiles, Petroleum, Electronics, Fertilizers.

→ Nehru Port was established to decrease work load of Mumbai port.

→ It is an artificial port of India.

→ Other name → Nehavasheva Port

→ It is computerised port.

(C) **Murmagao Port** → Located on the bank of Mandovi River.

→ Only Major Port of ~~In~~ Goa.

→ Trade → Fish, Fertilizer, Iron Ore, पान के पत्ते।

(D) **New Mangalore Port** → Located in Karnataka

→ Trade → Kudremukh hill
↓ from
Iron Ore Extracted
↓ ~~Transport~~ to Export
Japan.

(E) **Kochin Port** → Located on Wallingdon Island in Kerala.

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Trade → Fish, coconut, leather product, spices.

Dahej Port in → Gujarat

(F) Kolkata Port → 2nd largest Natural Port of India.

→ Located on the bank of Hooghley River in West Bengal. (Here problem of silt)

→ Trade → Cotton, Jute, Cement, Fertilizers, Chemicals.

(G) Hugli Port (Haldiya Port) → Established to reduce the work load of Kolkata Port.

24

(H) Paradeep Port → Located in Odisha (Biggest Exporter of Iron ore.)

→ Natural Port, at harbour – artificial

(I) Vishakapatnam → Located in Andhra.

→ Deepest port of India.

Trade → Fertilizers, Tobacco, Rice, leather.

(J) Chennai Port → located in Tamil Nadu.

→ It conduct trade with Sri-Lanka.

→ Ennore port conducted by Private company. (used as substituent of Chennai Port)

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Trade → Cement, fisher, Engineering product.

(k) Tuticorin Port → Located in Tamilnadu.

→ Conduct trade with Sri Lanka.

→ It's name has been changed
↓
Chidambarnar Port

→ It provide weekly container service to U.S.

National Highways

→ N.H - conducted by NHAI under central Govt.
↓
National Highway Authority of India
↓ Head office
New Delhi.

→ Border line N.H are formed by
↓
Border Road Organisation.

→ Longest N.H → NH44 Srinagar to Kanyakumari (3745 km)

→ Shortest N.H →

From Notes

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Census

↓

Counting of people in a certain area is called Census.

→ 1st ~~Sen~~ Census conducted in → 1872 ↓ by Lord Mayo

→ Decadal Census conducted in → 1881 ↓ by Lord Rippon.

→ Census is conducted by → Home ministry ↓ appoints Census commissioner

1st Census commissioner → Loudin
Last " " (2011) → Chandramoli (चन्द्रमौली)

Census of 2011 → Acc. to total → 15th Census. of Independ India → 7th Census.

Slogan → Our Census our future.
Logo → A lady teacher with laptop.

Total Population → 121 Cr.
सबसे ज्यादा Population → U.P
" " कम → Sikkim

Population Density → No. of people live in 1 km² area.

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Density → No. of Person/km²

Max^m → Bihar → (1106)

Min^m → Arunachal Pradesh → (17)

Population Density of India → 382

Literacy of India → 74% (Avg.)

→ Max^m Literacy Rate → Kerala.

→ Min^m " " → Bihar

→ Male Literacy Rate → 82%

→ Female " " → 64%

Difference is due to Rajasthan

In U.Ts → Max^m → Lakshadweep
→ Min^m → Dadra Nagar Haveli

Sex Ratio → 943/1000 (of India)

Counted as → (Female / 1000 male)

→ Max^m → Kerala (1084)

→ Min^m → Haryana (878) (Currently 900+)
(Acc. to 2011)

⇒ Max^m Population growth but literacy rate down is of Muslim religion

→ Max^m literacy is of Islam Religion
(ईसाई धर्म)

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Tribes of India

** 8.6 % of the population acc. to census of 2011.

→ **Gond tribes** → widely spread in India (सबसे बड़ी)

* found near Satpura and Vindhya Range.
* ** M.P > CH > MH Gond tribes are found.
* Main work of this tribe is → Agriculture + Fishing + Animal Husbandry
* Men wear → Dhoti
  Women wear → Saree.
* They eat meat
* Height → Short, Hair → Straight,
* Snub nose (चपटी नाक)
* ** Colour → dark skin
* Rice lovers.

→ **Bhil tribes** → Tamil word → 'Villu' ↓ means 'Bow' / (धनुष)

→ They are also known as 'Bowman'
→ used bamboo for bow
→ 39% population of Rajasthan is under Bhil
→ Brave fighter.
→ Eklavya → Bhil.

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* Shabri → Bhil
  ↳ offered Ber to lord Ram during search of sita.
* They also speak Truth.
* Dance → Ghoomar.
→ Famous for Sculpture (मूर्तिकार)
* Wine consumers
* Low Economic Conditions.
* 2nd largest tribe in India.

→ **Santhal** → 3rd largest tribe of India.
→ Found near Rajmahal hill & Chota nagpur plateau.
→ area → where they are found Jharkhand, west Bengal, Odisha, Bihar.
→ Protest against Permanent fighters.
→ Brave fighters.
→ needs fulfill by Plant / Forest.
→ Form Basket + Mat to sell.
→ Main work → Agriculture.
→ Dance lover.
→ Celebrate karam festival → to increase wealth.

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→ **Khasi** → Came from Mayanmar and stay in plains of Meghalya & Assam & Arunachal.

→ Northeast tribe of India

→ Female is preferred firstly
↓
i.e Property transfer from mother to youngest daughter.

→ They use bamboo instead of Dairy Milk or Sweet for gifting.

→ Agriculture → Shifting Cultivation.

→ **Tharu Tribe** → found in Tarai Region of U.K & U.P
→ (अल्कोहलसारी tribe found here)

* Main work Agriculture → Permanent.
* Max^m Rice production they do.
* They celebrate Diwali as a sorrow.
* Worship of Ravan they do.

→ **Naga Tribes** → found in Nagaland, Manipur, Arunach Pradesh.

→ Came from Mayanmar.

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→ **Toda Tribes** → Lives on Nilgiri Mountain.

* They consider themselve as the ~~वंशज~~ of Arya.
* Do shifting cultivation.
* Throgh stones from upward to downward (for rainfall).

→ **Bhutia Tribe** → Came from Bhutan and lives in Sikkim.

→ **Munda Tribes** → found near Chhota Nagpur plateau.

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