

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

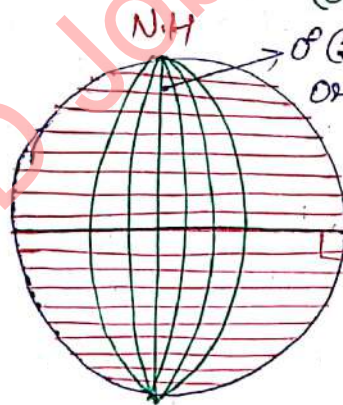
Bharat → Bharata (Our Raja Bharat's Name)

Jambudiipa → Puranas

Location →

Globe → model of the earth
(Divide the globe in W.H & E.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)

S.H

Parallel horizontal 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

Location of India → North-East Hemisphere.

In b/w two lines of latitude line India is situated at
- $8^{\circ}4' \text{ NL}$ to $37^{\circ}6' \text{ NL}$ (NL → North Latitude)

Main land of India → $8^{\circ}4' \text{ NL}$ to $37^{\circ}6' \text{ NL}$

In b/w two longitude line India is situated at
- $68^{\circ}7' \text{ EL}$ to $97^{\circ}25' \text{ EL}$ (EL - East Longitude)

North Point of India → (name given in 1977)
→ Indira Col (Situated at J&K
(Disputed). Pakistan occupied
(Kashmir))

→ Undisputed north point of India → Siachin Glacier

Siachin Glacier



Length → 72 km

Width → 2-3 km

Height → 5700 mt.

(15% O_2 deficiency)

Indus $\xrightarrow{\text{सहायक River}}$ Sheek → Nubra

(India's)

(Pakistan) Saltoho Range → (India's)

(India's)

→ Situated at J&K (In Karakoram Range) (Its sub range Saltoho 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. (India Govt.)

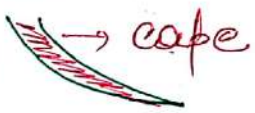
South Point of India → Indira Point (Situated at

(In 1977) Great Nicobar)

(Largest Island of South) → Its nearby island is Sumatra (Indonesia)

** Other names of Andhra Point → Pigmelian Point
→ Pansen Point
→ Lake Ching 2.

South Point of India (Maimland) → Kanyakumari (situated at Tamilnadu)
OR
Cape Comorin

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

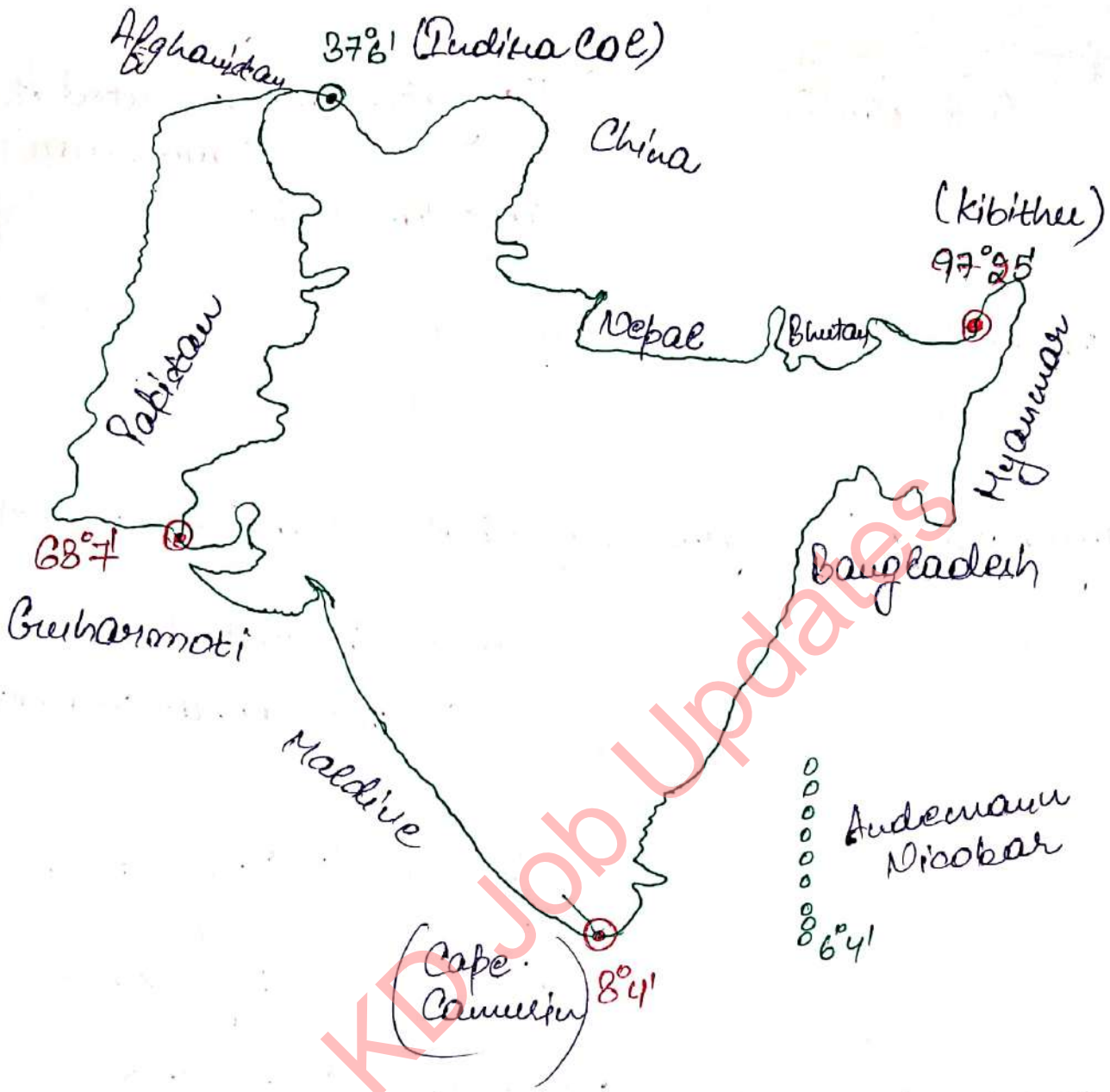
Kanyakumari is famous for both Sunrise & Sunset.

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

West Point of India → Rajher Creek (situated at Bihar moti Gujrat)

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

Shape of India → Quadrilateral



Boundary of India → Artificial Boundary

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

→ France Jura Mountain → Switzerland

→ France Vogel Mountain → Germany

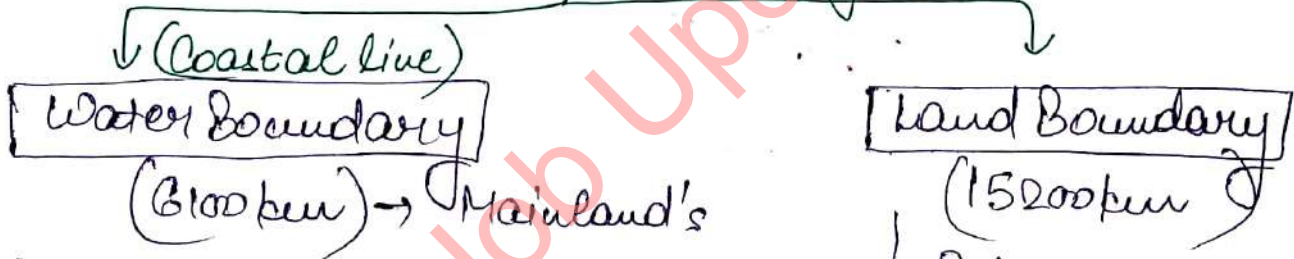
Geometrical Boundary → decided on the basis of ^{3.} latitude & longitude

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

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

- Eg Pak - India
- India - China
- India - Afghanistan

India's Boundary



Total → **7516.6 km**

(including Islands)

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

- + Pak
- + China
- + Afghanistan
- + Nepal
- + Bhutan
- + Myanmar

Defⁿ of State → Given by Grauer (Britisher)

- Defined area
- Population
- Government
- Sovereignty

Land frontier →

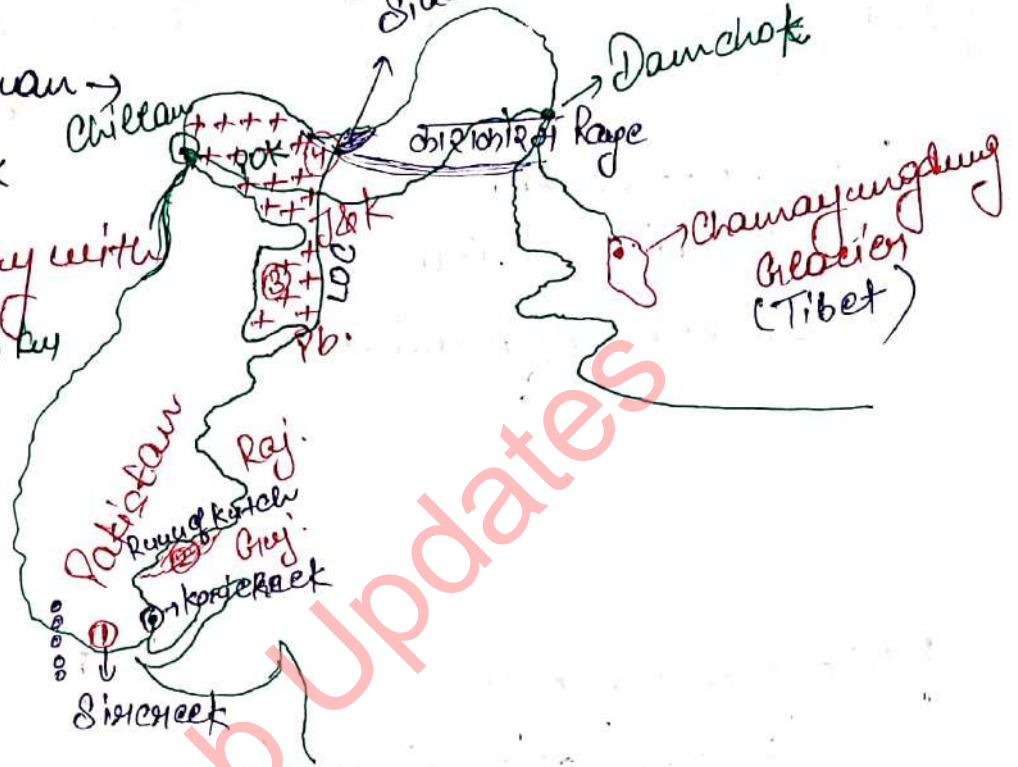
1. **Pakistan** → ESTABLISHED in 1947 (14th August)

Separation → Redcliff line.

States touch with ~~India~~ ^{Pakistan} → Siachin Glacier

Gujarat → Rajasthan
Punjab → J&K

Total boundary with India → 3323 km



Disputes

(1) **Sinoreek** → Wet area

↳ formed by backward motion of ocean water.

↳ 96 km length

here fish, ~~pet~~ petroleum salt found in great extent.

Location

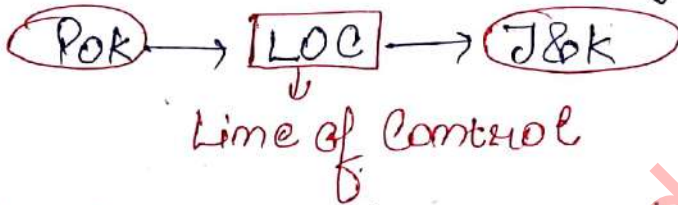


(Redlinedrawn by India) Greenline (drawn by Pakistan)

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.



→ Kargil/Godwin ~~is~~ is situated in Pok.
 Auction

→ Andhra Col is also situated in Pok.

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

⑤ **Indus River** →

Origin → Chhotaungdung Glacier

In India, Entry pt → Darchauk

Exit point → Chilas

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

During that time in 1948 America started
Tempi Project (By Linthlithigo).

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
(utilize 80% water of)
→ Indus
→ Jhelum
→ Chernaab

↓
India
(utilize 80% water of)
→ Rabi
→ Beas
→ Satluj

KD Job Updates

CLASS → 9

2. Afghanistan → Touch with J&k

Boundary → 106 km or 80 km (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. → Sikkim → A.P.

Length of Boundary → 3488 km

In actual India's Boundary is with Tibet.

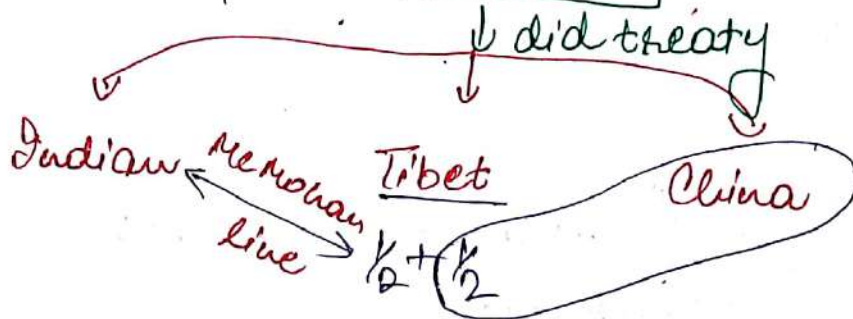
Tibet's Enemy Nepal
Tibet get help from China → attack Nepal.

China annexed ~~by~~ Tibet in 1906-1912.

China's Ruler died

Tibet announced independent to itself.

In 1914, One person McMahon



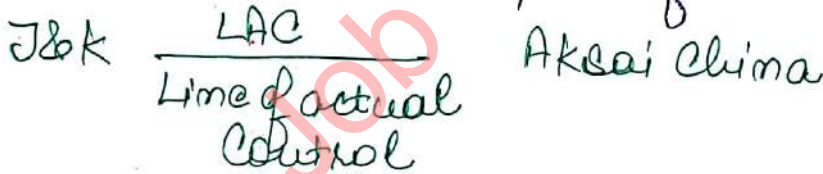
In 1959 China again annexed Tibet so,

India McMahon Line → China

Disputes

→ Indo China war occurred in 1962

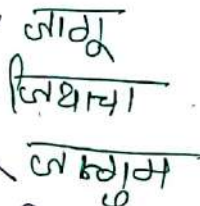
#1 Aksai China → Invaded part of J&K by China



#2 Brahmaputra River → In China this river is known as Tsangpo

Through China enters to Arunachal Pradesh.

In 2017 form 3 dams



Due to Dam water by River reduced in India
Due to which, affected part of India were

- Majuli Island (Assam)
- Irrigation
- Hydroelectricity

(3) # Dokalam Plateau → located in Chumbi Valley. 6.

Chumbi Valley is at
 Tripoint → China
 → Bhutan
 → India



China (Yardung city) $\xrightarrow{12 \text{ km}}$ Dokalam $\xrightarrow{15 \text{ km}}$ Nathula Pass (India)

It is of Bhutan

**

Dokalam Plateau is dispute b/w China & Bhutan

India involved due to seven sisters.

Kalapani Dispute → $\frac{\text{अग्नी नदी}}{\text{come from}} / \frac{\text{शारदा नदी}}{\text{Nepal}}$
 ↓
 Ganga

China said either India, Bhutan को साथ ला दू
 otherwise with Nepal they will interfere in
 blackwater dispute

Nathula Pass → located in Sikkim.

↳ Natural road b/w 2 mountains

↳ utilized in trade & travel

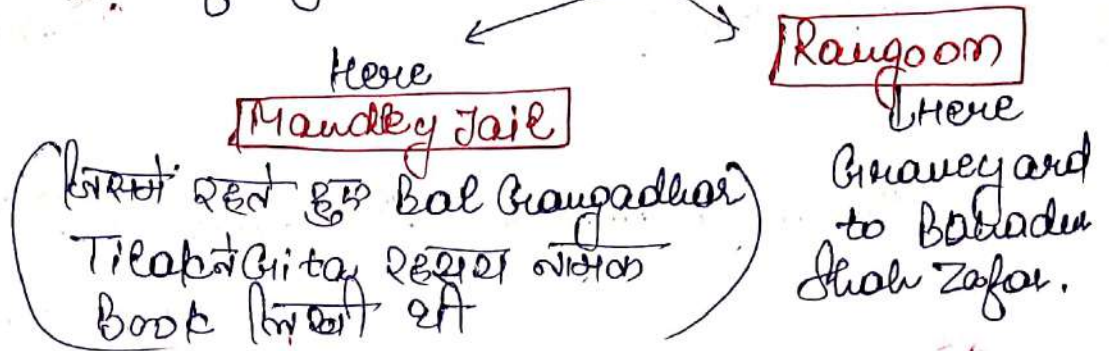
importance → Trade with China.

Silk Route's part is Nathula Pass.

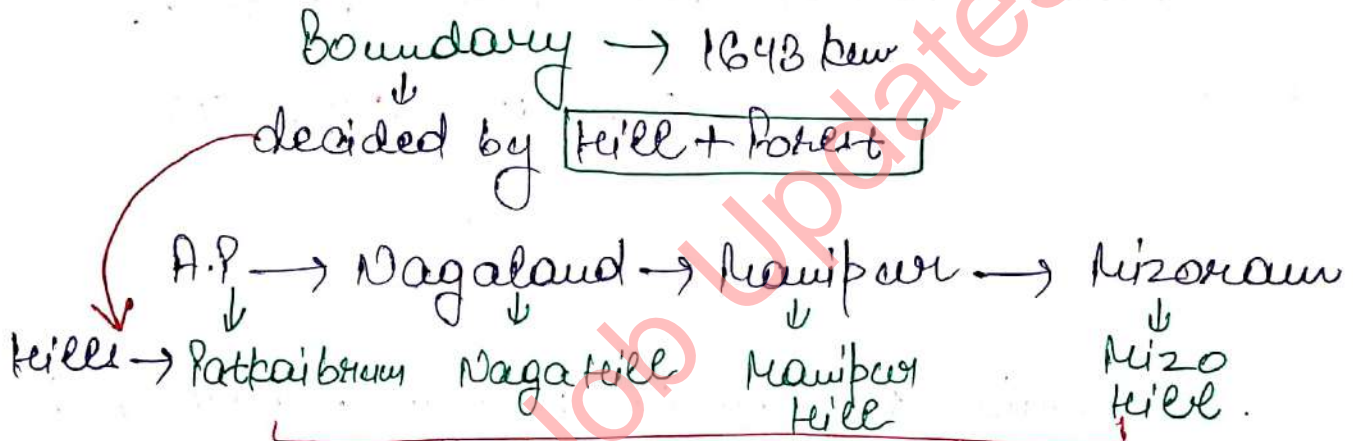
During war In 1989 it was closed
 In 2008 it is reopened

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

By Act. of 1937 → It is separated from India.
Old name of Myanmar → **Burma**



State Touch & Witherit → A.P. → Nagaland, Manipur, Mizoram.



Part of NE Himalya

On border line → Hill + high dense forest
↓ Problem here

- **अधिकांश**
- **Drug supply**

Diphu Pass → Disputed part b/w Myanmar & India

↓
Located in Arunachal Pradesh

↓
at China

India ← **tripoint** → Myanmar

Irrawadi River → called lifeline of Myanmar.

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 22 Oct, 1905 (By Lord Curzon)

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

Hindu Area will be under India (1947) Muslim Area will be under Pakistan.
During partition (E.B became Pakistan)

So, In 1971 → war occur and East Pakistan named Bangladesh. (but it was far way from Pak.)

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)

Tributary of Brahmaputra River is Tista River

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

but Bangladesh want 48% but India denied
So, Tista River is dispute b/w India & Bangladesh

(2) Newmoon Island → in Sunderban Area.

↓ also disputed
Presently part of India

(3) Tim Bigha Corridor

Enclave

↓
any portion of state that is surrounded by another country

To resolve this problem agreement b/w India & Bangladesh signed called Land Boundary Agreement in 1974

↓
To vanish Enclave word

Enclaves

India

Bangladesh

↓
Dahgram Angarpota → In India but right is of Bangladesh
Bembasi → In 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

Sunderban Delta → In Bangladesh

Any river ^{flow} with us. 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 Brahmaputra)
- Joint stream of both is called Meghna

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

- Mangroov forests ^(सहस्रों की तरह) are found here
- India's Sunderban Delta → South part of Major Delta.
- In India

In 2019, Sunderban Delta announced as 9th Ramsar Wetland of India
↓
City of Dhaw

Here in 1971, Convention occurs, in which demand was that, it is necessary to conserve wetland.

1st wetland of India → Chilika Lake in 1981

B. Sri Lanka → Old name → Ceylon
 → Coconut shape country

India Palk Strait → Sri Lanka
Gulf of Mannar (Gulf of Mannar का क्षेत्र है यहाँ से)

Dhanushkoti → Talaimannar
 (India) (Sri Lanka)

Rameshwaram → Pamban Island
 (India) (Sri Lanka)

Ramesw
 09
 Adam's Bridge
 (48 km)

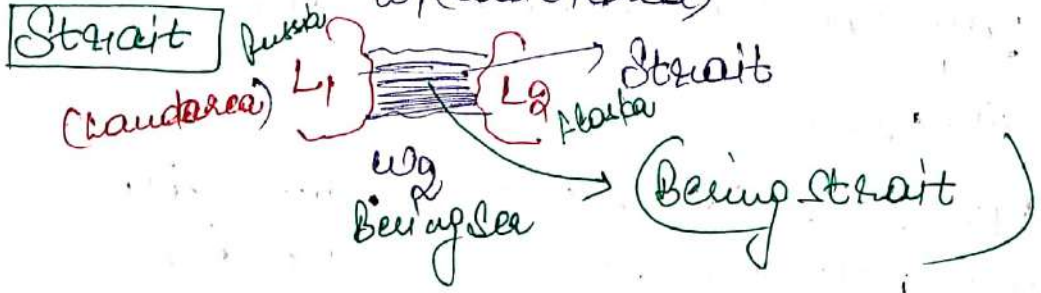


Boundary line is not decided till.

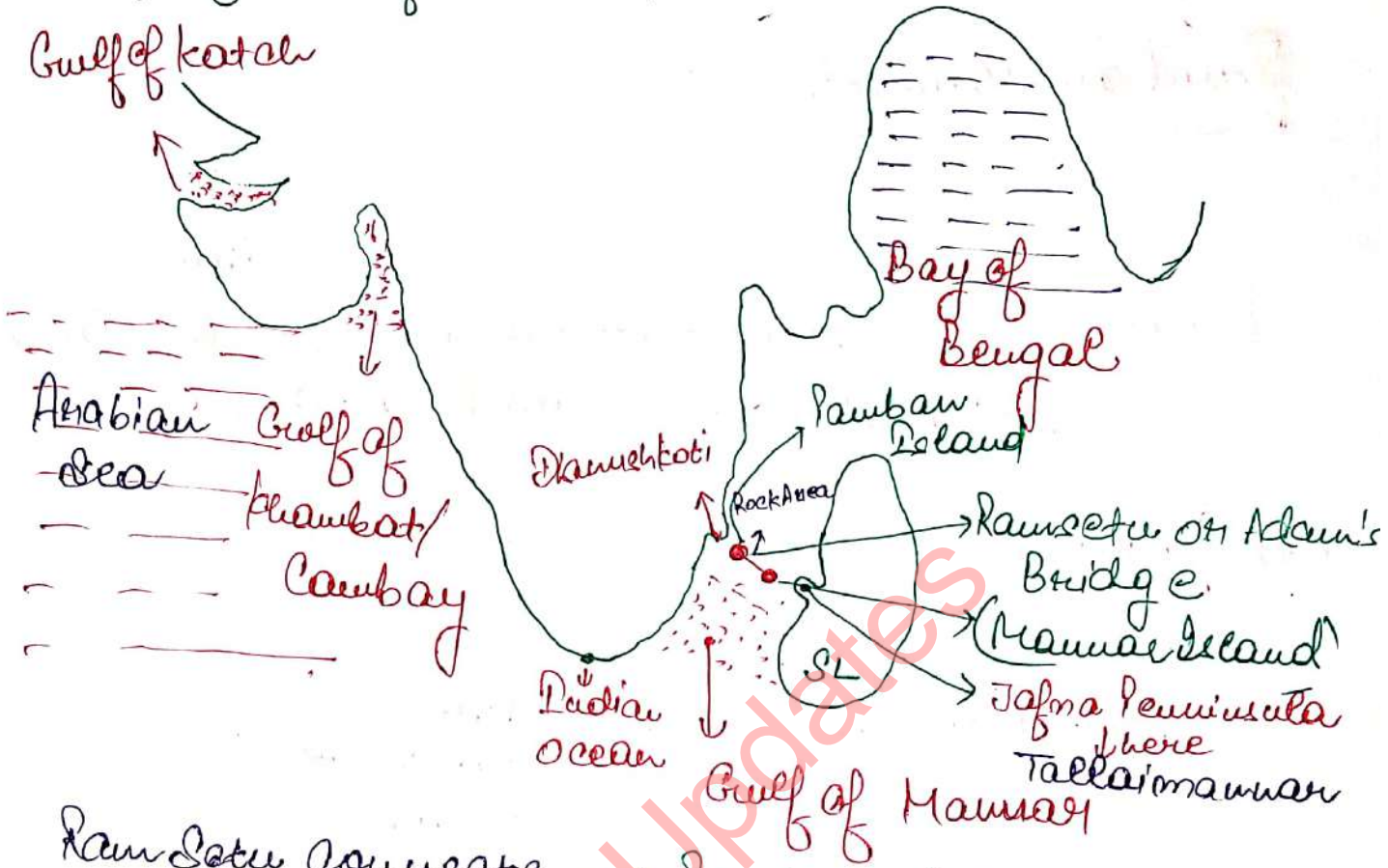
* SL claims to India that they come beyond 200 NM and 6.5 cr. kg fish of India has been taken by India per year.

Liberation of Tamil Tiger Eelam
 ↓
 Murdered Rajiv Gandhi.
 (in 2009 Vanished)

* SL also called Island of Gems
 chukti'sea W, (water area)



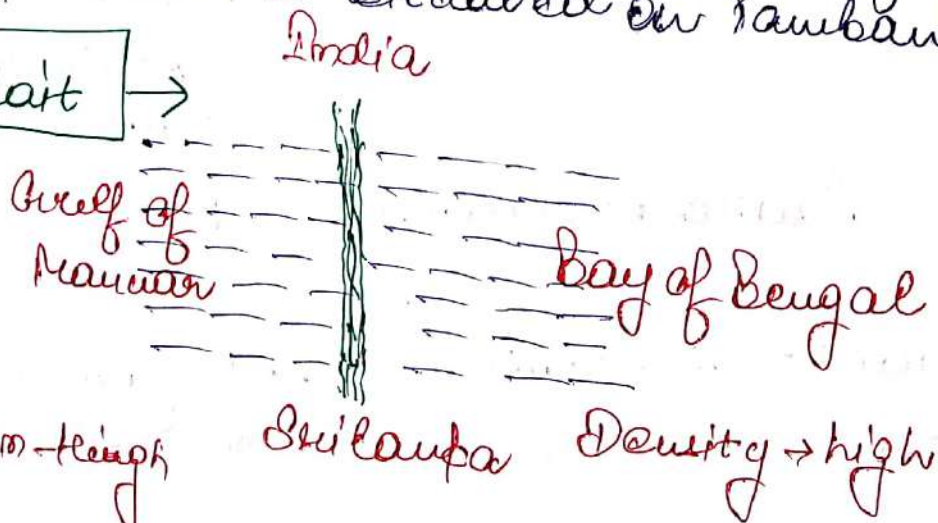
Gulf → narrow part of bay is Gulf. Bay → That water body which is covered by land from 3 sides.



Ramsetu connects → Pamban Island with Manna Island OR → Daman/Diu with Tallaimannar

- Pamban Island is situated in Gulf of Manna.
- Ramsetu is situated on Pamban Island.

Falk Strait →



Temp high
Precipitation high
Rain ↑
Salinity → Low
Density → Low

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

Pamban Channel → Separate India to Sri Lanka.

India
Sri Lanka

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
→ Assom (maxm)
→ A.P

Share boundary → 699 km

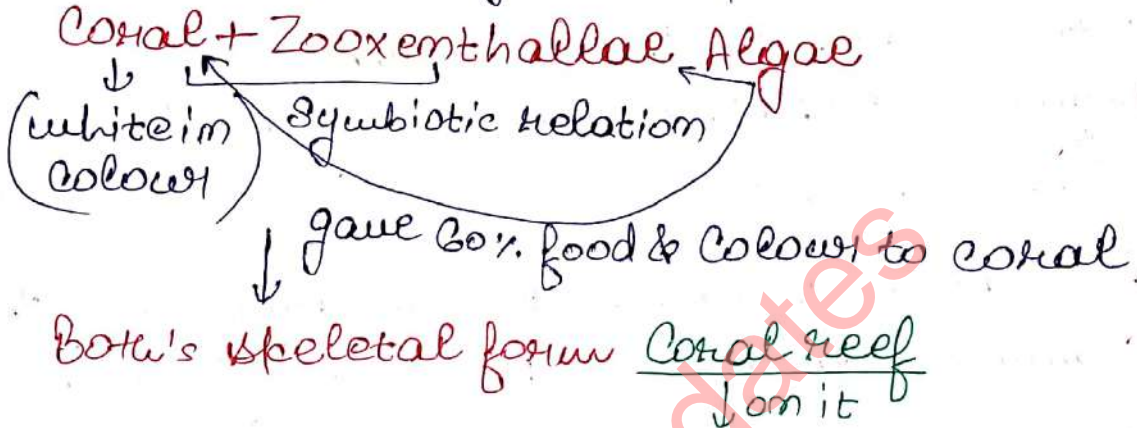
Bangladesh > China > Pakistan > Nepal > Myanmar > Bhutan > Afghanistan
4096 km 3488 km 3323 km 1753 km 1643 km 699 km 106 km

(9) Maldives → Located in Arabian Sea.

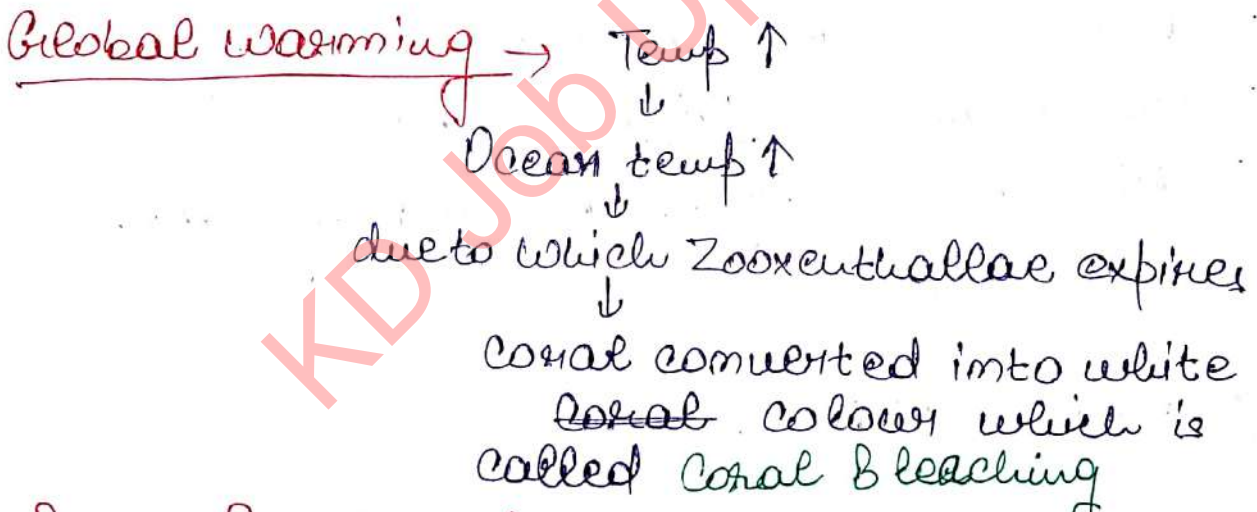
Made up of Coral Island.

Coral → an aquatic organism

Survive its life on Symbiotic process



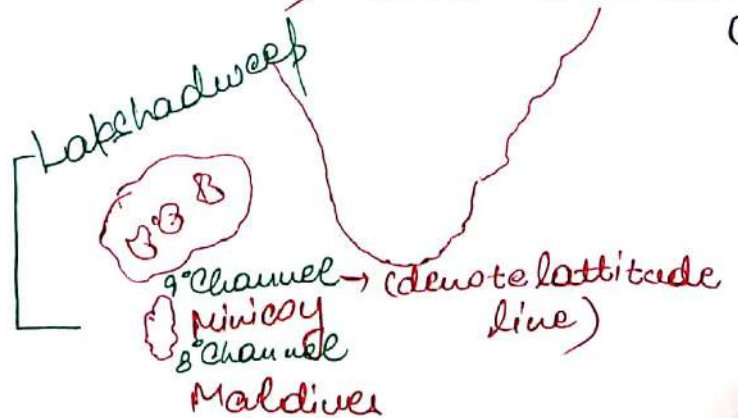
Maldives is located.



Biggest Problem of Maldives → Coral Bleaching

India and Maldives are connected by 8° channel

Islands of India



Importance of Corals → Cor. medicine of cancer made up of corals.

- good for tourism (Japan get good income from it)
- when coral island forms full then it is inhabitable.

→ **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 Cooperation))
- (3) Arunachal Pradesh → Bhutan, Myanmar, China
- (4) Jammu & Kashmir → Pakistan, Afghanistan, China

→ **States having Boundary with 2 Countries**

- (1) Assam → Bhutan & Bangladesh
- (2) Uttarakhand → China & Nepal
(Tibet)
- (3) Mizoram → Myanmar and Bangladesh

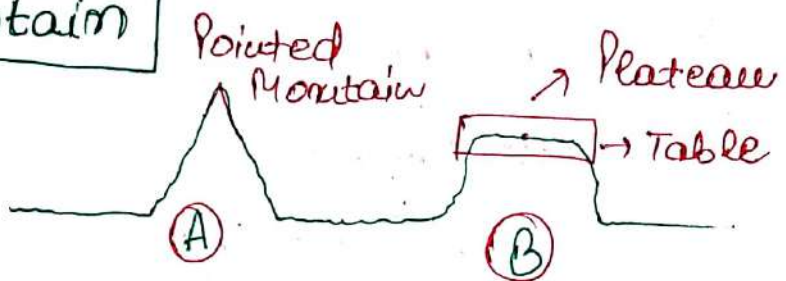
→ **States having Boundary with 1 Country**

- (1) Bihar → Nepal.

Physiographic Region of India

- + Mountain
- + Plateau
- + Island
- + Plains

Mountain



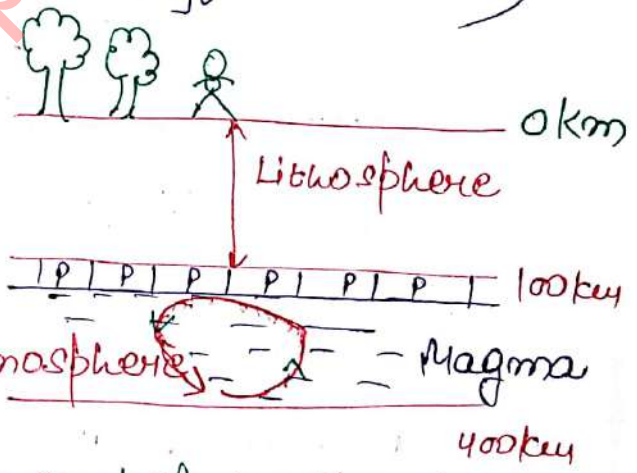
Those high elevation areas which have sharp upper part.

Type 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.

Formation of convection current occurs

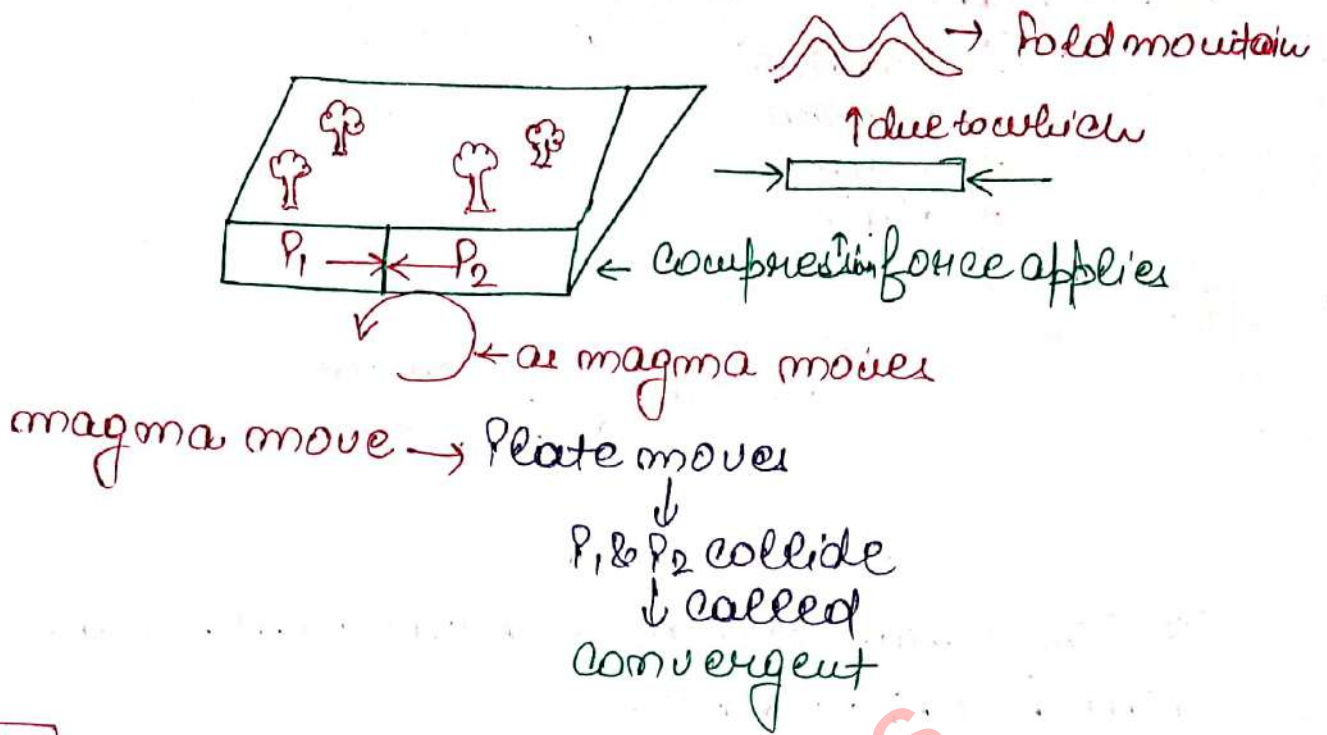
Hot magma due to low density go upward & cold magma due to high density go downward

Here amount of radioactive substance ↑

Release of Energy (+)
Temp ↑ (1900°C)
Pressure (↑)

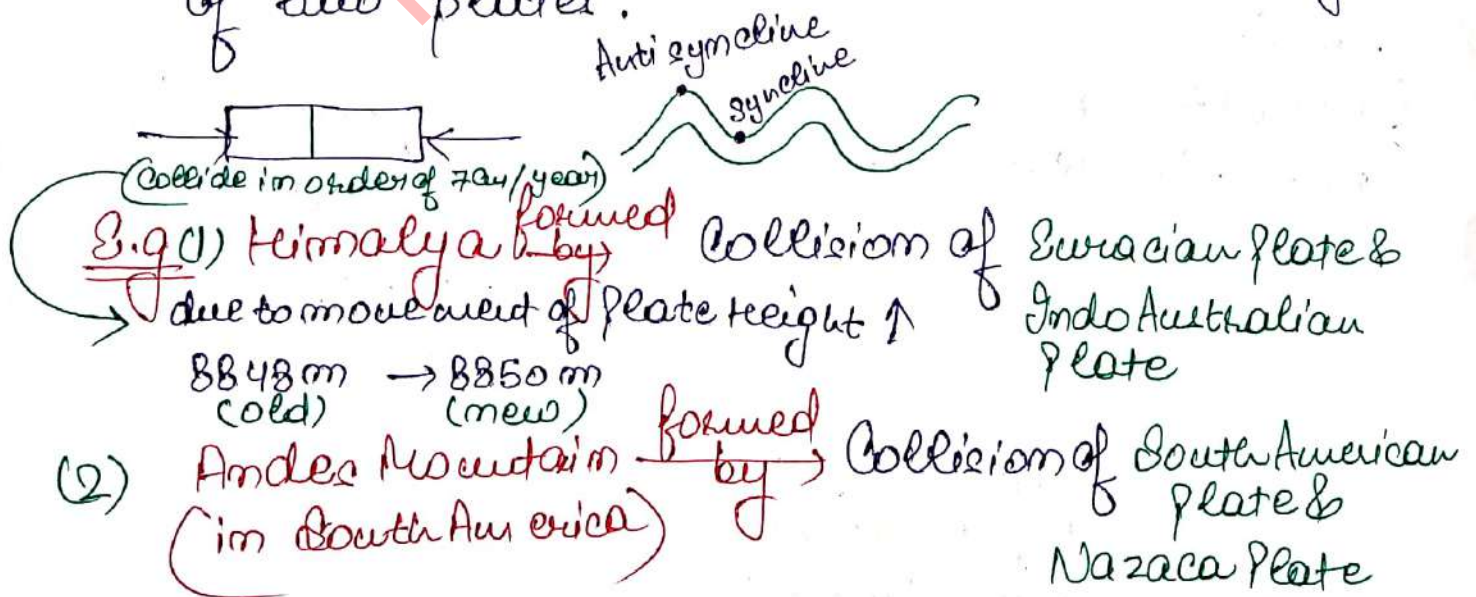
Uranium
Thorium

↓ so
magma (moves)
↓
plate (moves)
↓
Lithosphere (moves) which is called earthquake.



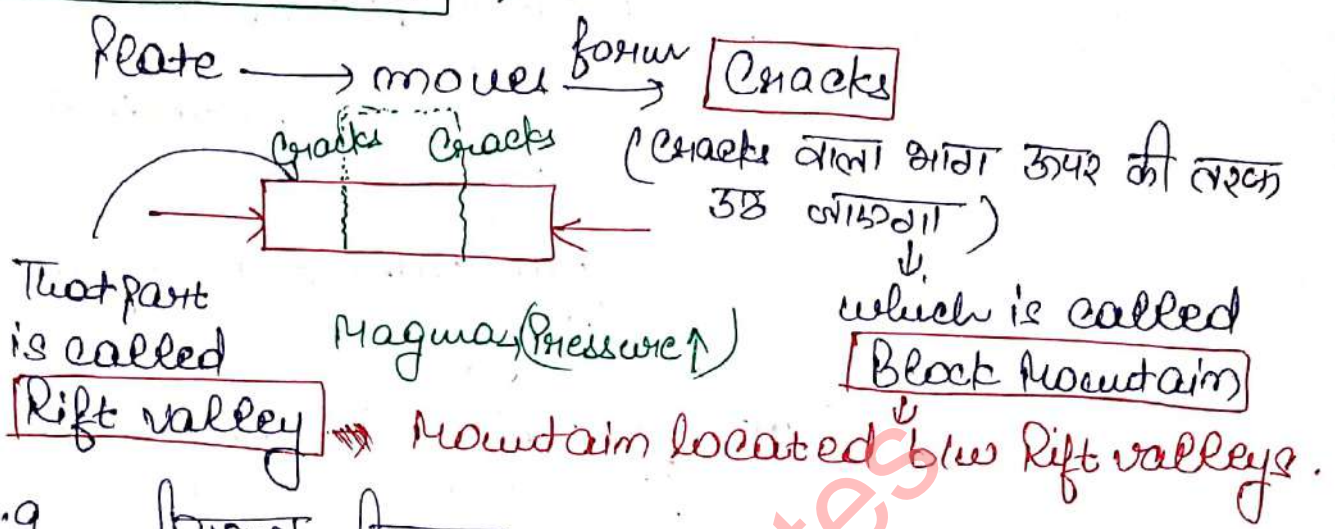
Note → Lithosphere → 0-100 km
 Asthenosphere → 100-400 km
 ↓
 Radioactive substance
 Temp 1900°C, Magma
 Plate → b/w lithosphere & Asthenosphere
 ↓
 move ∴ magma → convection current flow.

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



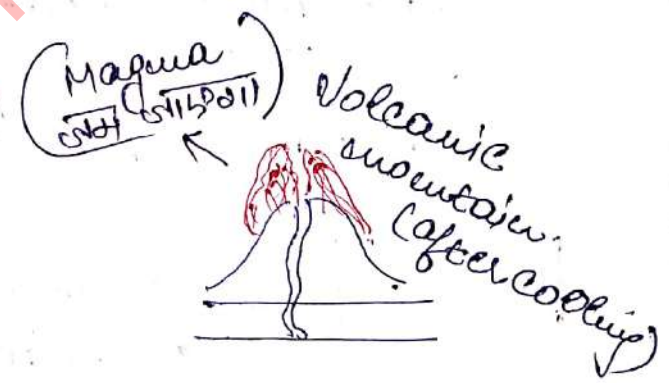
(3) Rocky Mountain → formed by collision of North American plate & ~~Cocos~~ Cocos Plate . . .

2. Block Mountain →



- E.g.
 सिंधु नदी in USA
 Salt Range in Pakistan
 Satpura in India

3. Volcanic Mountain →



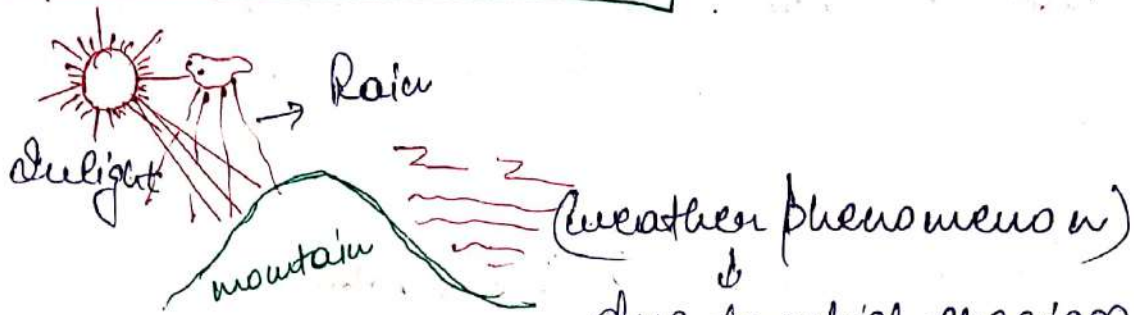
So, magma try to come out

Temp (+) ⇒ Pressure (+)

formed by Volcanism.

- E.g. In, Indonesia, Africa, Jap
 Knapatao
 Acomagua (in South America)
 Kilimanjaro (Africa)

4. Residual Mountain



↓
due to which erosion
occurs
↓
and shape & size of mountain
changes
↓

That mountain will be 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. Matauri, Govardhan Mountain.

Height → Folding (+)
Residual (-)

Himalaya → Young Folding mountain

Youngest + Highest → ∴ Its highest
Peak is

Mount Everest

↓
Located in Nepal
↓ (8850m)

Here called,

Sagarmatha

Length → 2400-2500 km

width → West

↳ J&P

500km

East

↳ A.P.

300km

Shape → Bow shape
(or Arc shape)



Formed in → Tertiary Era

Origin →
of Himalaya

Two Theories

Plate word given by → J.T Wilson

Geosyncline

Plate tectonic Theory

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

Explained by → Morgan
given by → **Herry Heiss**
↓ said formed by
due to convergence of
two plates

There is a **Tethys sea**



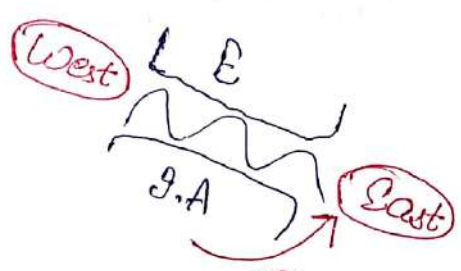
Sediments deposit

On the application of compression force, sediments \uparrow or \downarrow rise
3B 315 | i.e Rise \downarrow

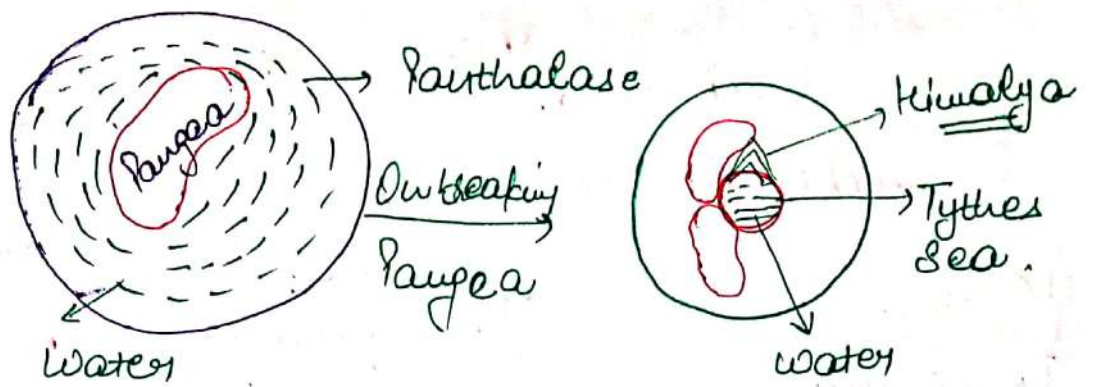
So Himalaya formed.

**
So, Himalaya is formed on Tethys sea.

Swian Indo Australian
Collision occurred → Anticlock wise



Height \uparrow → East → Rainfall \uparrow
Forest Area \uparrow
Biodiversity \uparrow
(in East Area)



Division of Pangea → (in Carboniferous era)

Angara land or Laurentia

- (1) Eurasian plate
- (2) North America plate

Gondwana land

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

All over the world, Total seven larger plates.

⑦ → Pacific ocean (largest plate on earth)

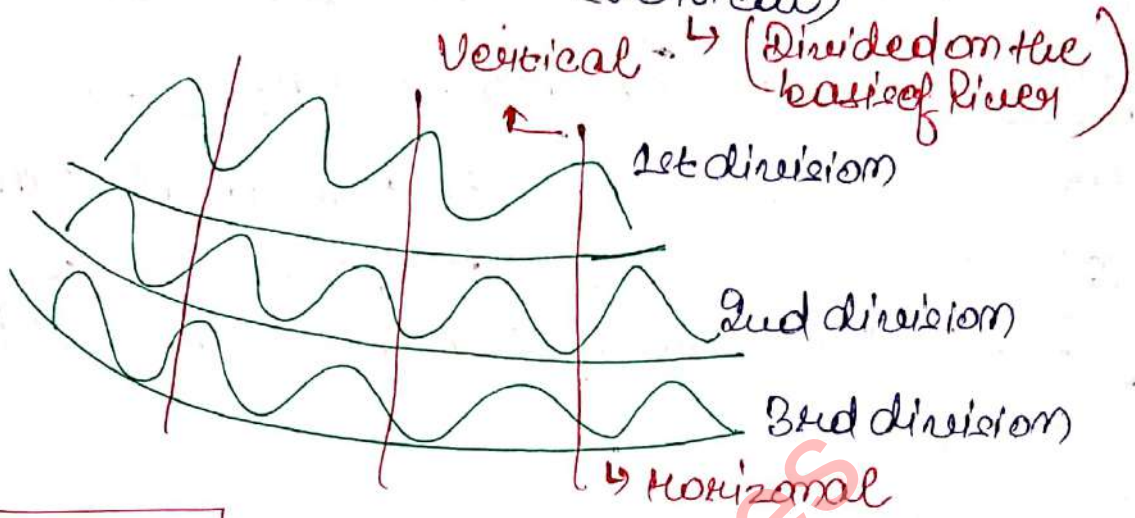
formed by residual or Relict part of Panthalasa.

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

CLASS 4

Division of Himalaya

- Latitudinal (Horizontal)
- Longitudinal (Vertical)



Horizontal

- (1) Greater Himalaya (Inner Himalaya)
- (2) Lesser Himalaya (Middle Himalaya)
- (3) Shivalik (Outer Himalaya)

Vertical

→ On the basis of River/Regional Division

- (1) Kashmir Himalaya
- (2) Punjab Himalaya
- (3) Nepal Himalaya
- (4) Assam Himalaya

1. Greater Himalaya

→ Formed in Eocene & Oligocene era.

- (1) Major part of Himalaya.
- (2) Range is from → Nanga Parbat (in J&K) to → Nanchabariwa (in Arunachal Pradesh)
- (3) Highest part of Himalaya is Mount Everest. It is covered by snow → so called Himadri

→ Due to high, vegetation will be less

→ Average Height → 6000m.

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

Mountain Peaks on Great Himalaya →

(1) Namchabarwa (in Arunachal Pradesh)

(2) Kanchenjunga (in Sikkim) → (Some part is disputed with Tibet China)
(8598m) → Highest peak of Himalaya in India

(1) Makalu

(2) Everest

(3) Mansalu

(4) Annapurna

(5) Dhaulagiri

} in (Nepal)

(1) Nandadevi → Undisputed highest Peak of India
(7816m)

(2) Badrinath } in (Uttarakhand)

(3) Kedarnath

(4) Trisul

(5) Neelkanth

Glaciers of Great Himalaya →

→ गोमुख Glacier → (Origin of Ganga River)

→ ^(in Ladakh) Siachen Glacier → (Origin of Sharda River)

→ यमुनोत्री or अरुण Glacier → (Origin of Yamuna River)
→ (in Uttarakhand)

Rocks on Great Himalaya

+ Granite

+ Shist

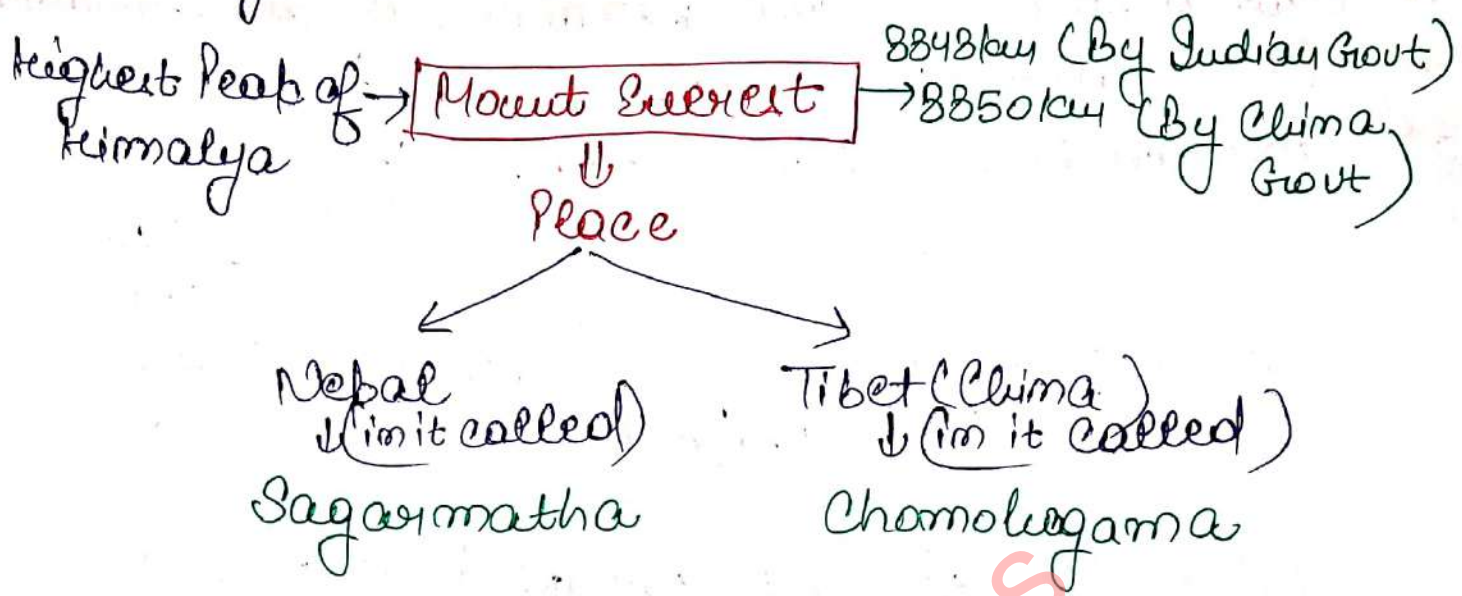
+ Gneiss

} → (Age According) Anarchean Rocks

Zemu → Glacier
(in Sikkim)

↓
(Origin of Teesta River)

* Metamorphic Rocks are found in Great Himalaya.



Highest Peaks of Himalaya

- Decreasing ↓
1. Mount Everest
 2. K2
 3. Kanchenjunga
 4. Lhotse
 5. Makalu

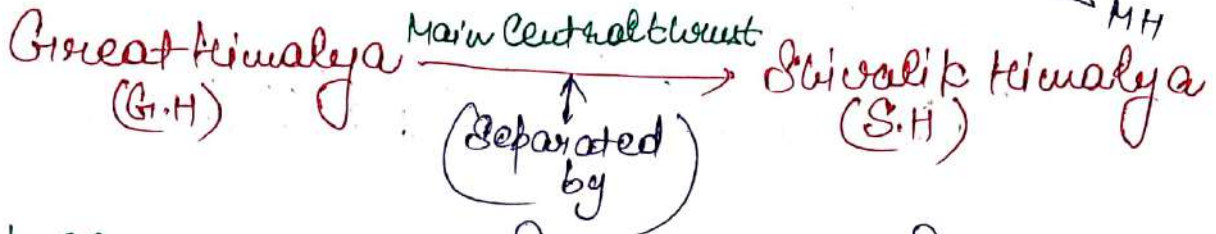
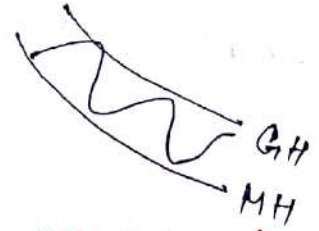
Highest Peaks of India

1. K2 (on the Himalaya) (in POF)
2. Kanchenjunga
3. Nandadevi

KD Updates

2. Lesser Himalaya (Middle Himalaya)

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



Valley → दो पर्वती श्रृंखला के बीच वाला मैदानी भाग।

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

Ranges of Middle Himalaya

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

Grp. of same age hills is called Range

Problem → Deforestation

Rocks → found (Sedimentary rocks)

- + Limestone
- + Sandstone
- + Quartz

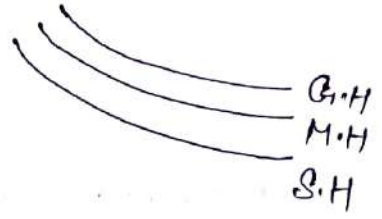
Note → Vaishno Devi Mandir is on Trikuta Choti in Peer Panjal

Shivalik Himalaya

Moss → It is a small grassland which found on the slope of lesser Himalaya in J&K. It is called wugyal in Uttarakhand.

Average height → (4000 to 4500 m)

3. Shivalik Himalaya



- Southern Himalaya
- Located South & parallel of Middle Himalaya.

Shivalik Himalaya Main Boundary Fault → Middle Himalaya

Valleys here → ^{west} West valley's are called dwar

E.g Haridwar

→ East Valley's → Doon,

E.g Kothri Doon, Dehradun

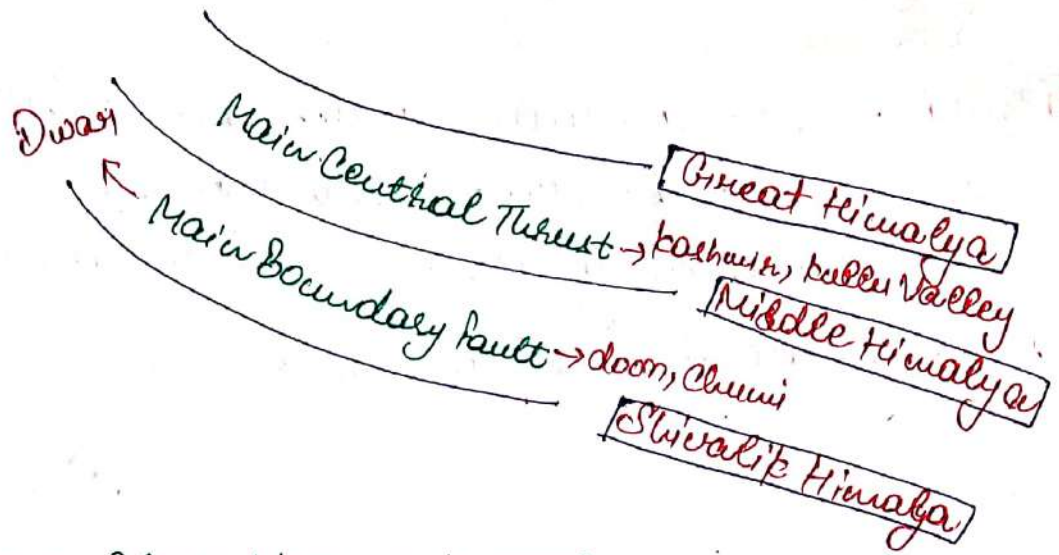
→ Chumbi Valley

- Formed in Pliocene era
- Formed by deposition of sediments by River
- Youngest part of Himalaya.
- Extension → Potwar Basin → Anumachal Pradesh
(in Pakistan)

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

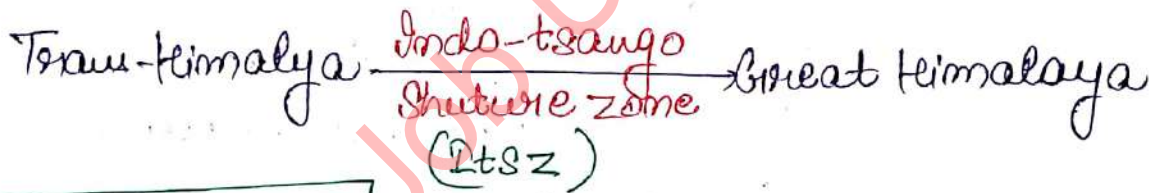
- Darga
- Mizi
- Abhor
- Mishmi

- In Nepal**
- Churia
 - Muzia



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

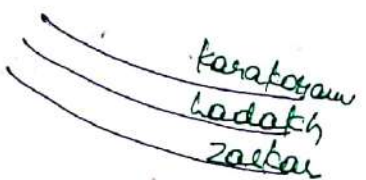
Trans-Himalaya → Formed before Himalaya
 → Located in North of Himalaya.



Ranges on it

- (1) **Karakoram** (North Extension in J&K)
 (Highest Peak)
 ↳ **Peak** → **K2 or Godwin Auston (8611m)** (in Pok)
 ↳ **Gasherbrum**
 ↳ **Masherbrum**

- ↳ **Glaciers** → Siachin Glacier
 Hisper
 Biafo
 Balbano

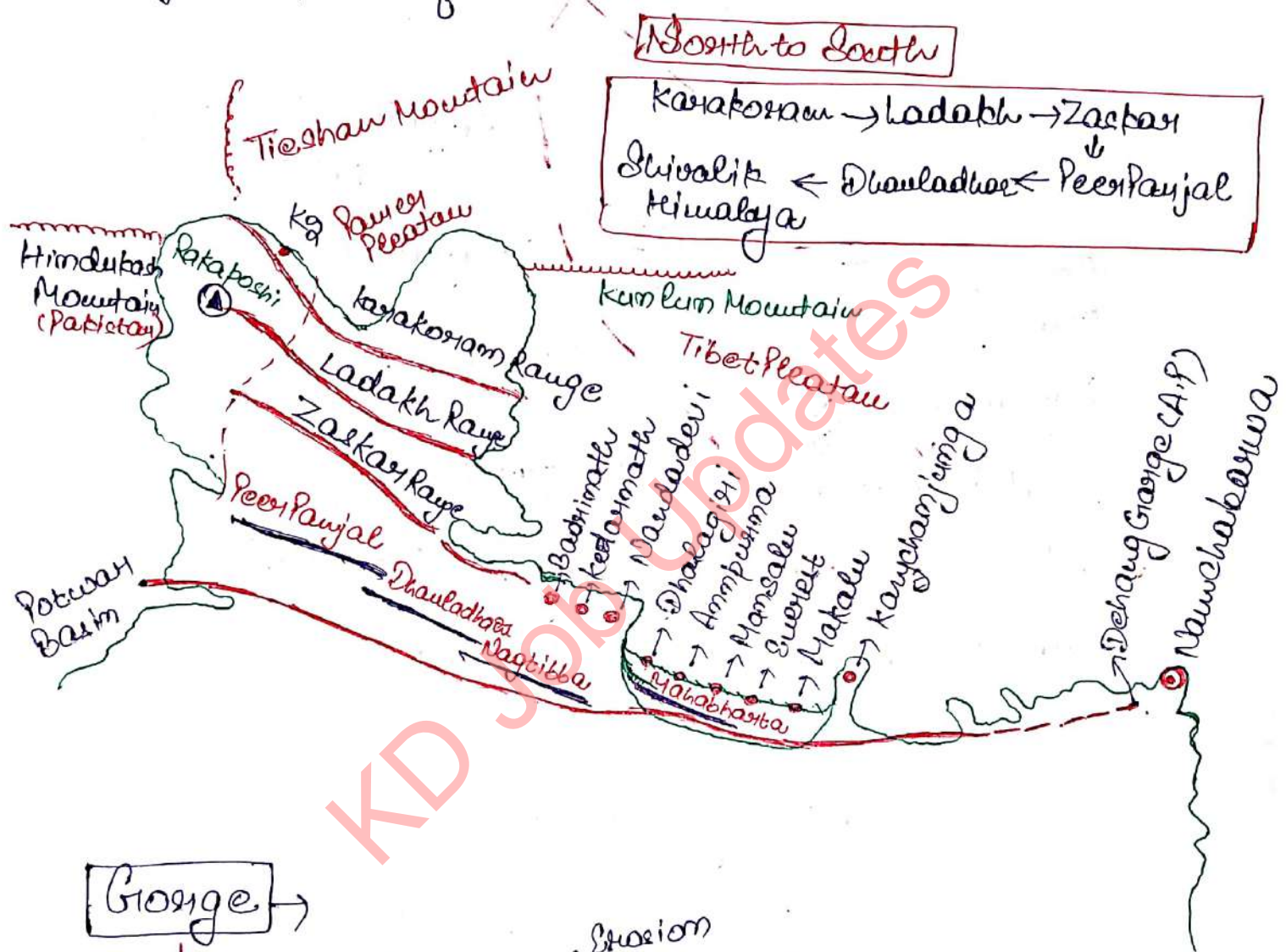


- (2) **Ladakh Range** → in **J&K + H.P.**
 on it **Peak** → **Raka Posh (in Pok)**
 Highest → **World's high slope peak**

3. **Zaskar Range** → Located in South of Ladakh Range
 ↳ Peak (mits Mount kamet (in U.K))

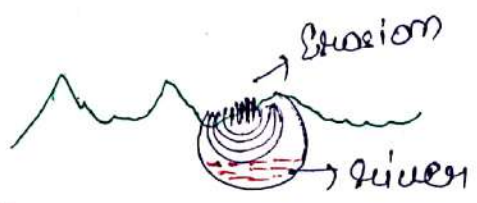
4. **Kailash Range** → Tibet (China)

* Highest point of hill is called Peak.



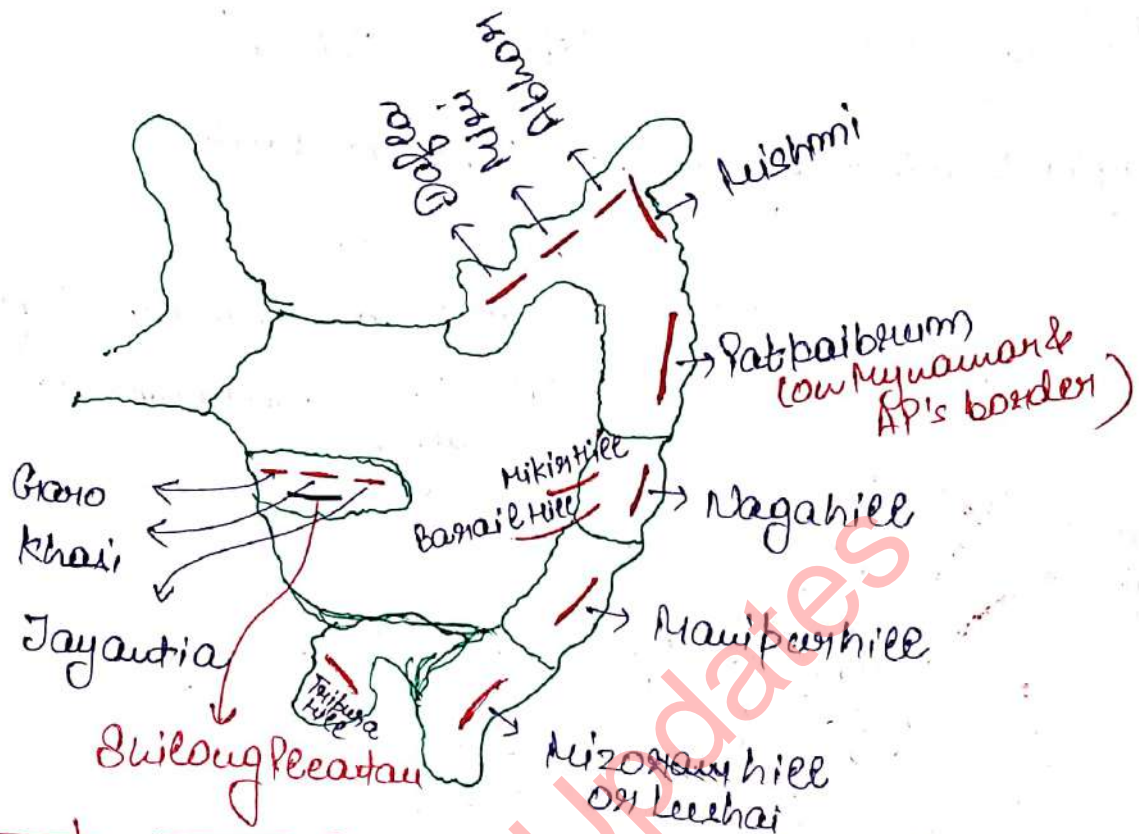
Gorge →

Part of mountain cut by water due to erosion and river flow here.



* Indus river is b/w Ladakh & Zaskar

North East Himalaya or Peninsular Himalaya



सबसे बड़ा Raim Meghalaya में होती है ।

Because, Garo + Khairi + Jayantia hills

+ Shilong Plateau

form funnel shape

↓
 due to which monsoon वापस
 नह जा पाता ।

Tea Production Most in Assam (65%)

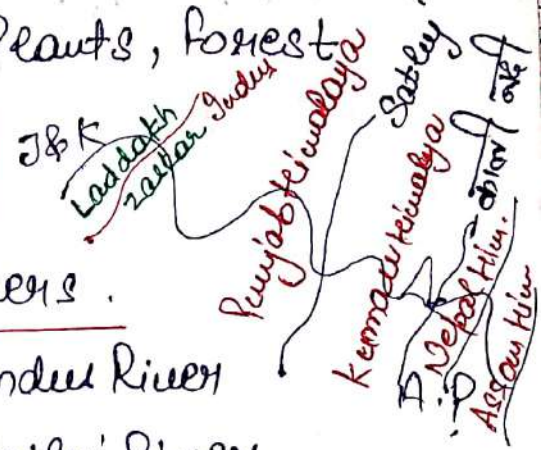
CLASS → 5

Biodiversity → includes Plants + Animals

Vegetation → includes only Plants, forest

Regional part of Himalaya

↓
divided on the basis of rivers.



(a) **Punjab Himalaya** Area b/w Indus River & Kashmir Himalaya → Satleyj River

(b) **Kumaon Himalaya** → Satleyj River & kali River

(c) **Nepal Himalaya** → kali River & Tista River

(d) **Assom Himalaya** → Tista River & Dihang / Brahmaputra River

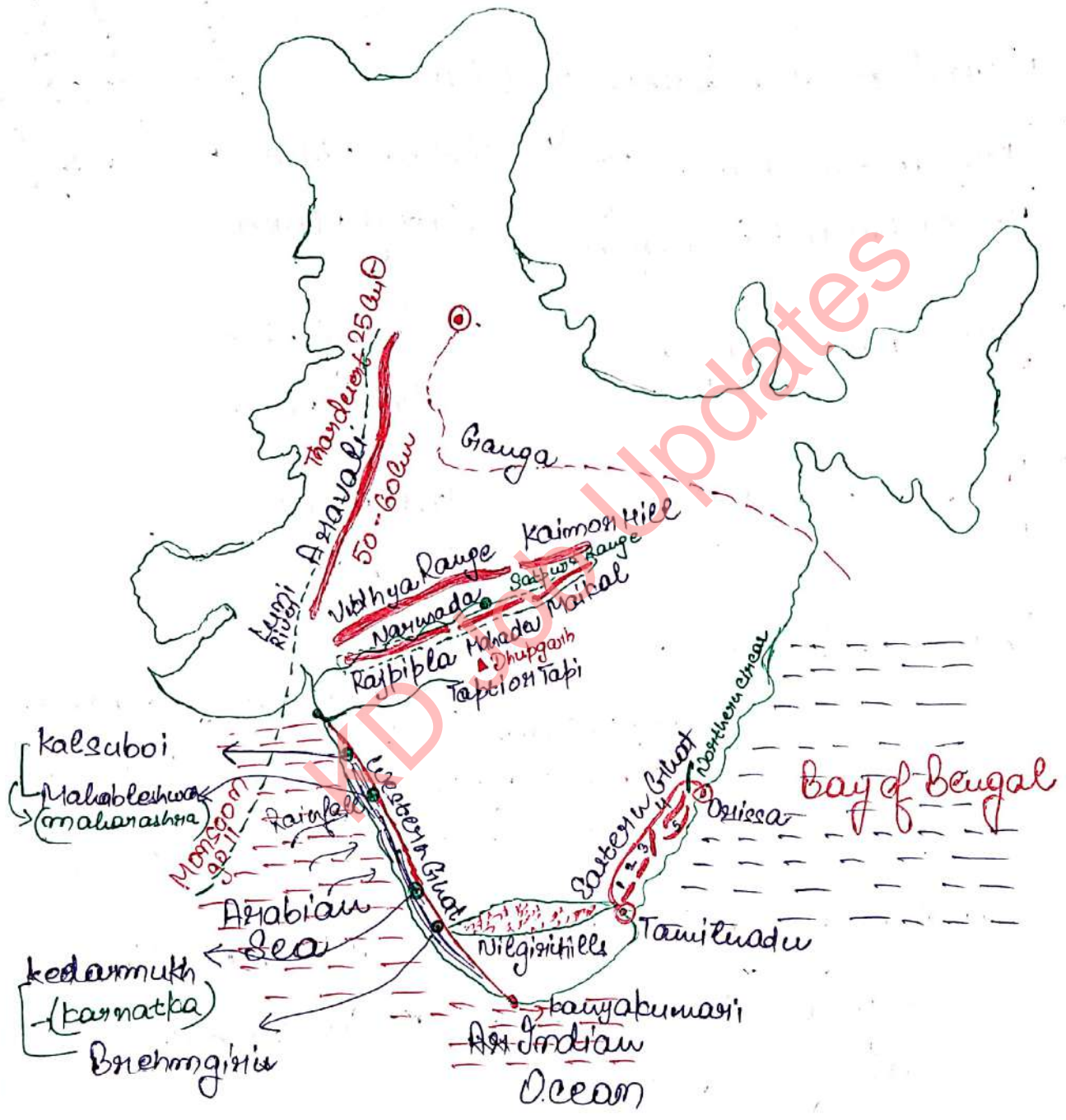
Acc. to length → (largest Himalaya) Nepal > Assam > Punjab > Kumaon (Smallest Himalaya)
(800km) (720km) (500km) (320km)

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

Peninsular India → Peninsular Mountains

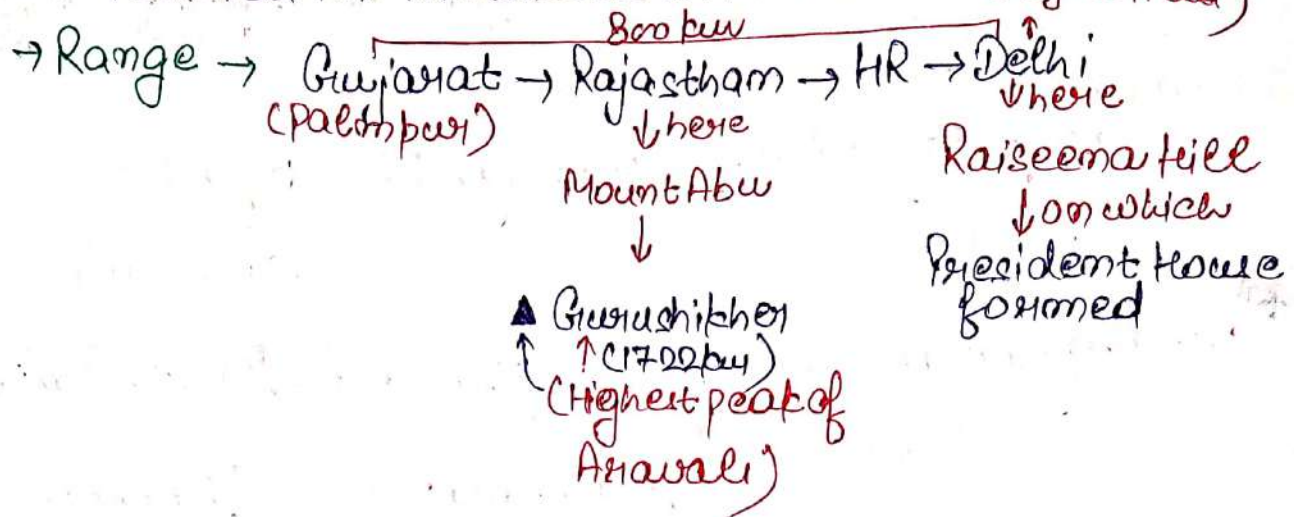
Part of Gondwana land .

In South India, there are Block mountains & Residual Mountain



1. Anavali Mountain → Oldest folded Mountain of World

→ Formed in Precambrian era. (Majnu Tilla)



In Udaipur (Rajasthan) → Anavali is called Jarga Hill

In Ajmer (Rajasthan) → Anavali is called Marshmath Hill.

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

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

So, Climate divider → Anavali's East ^{zone} → Semi arid
→ Anavali's West ^{zone} → Desert

→ (2) Water shade → It Rivers do not separate

Anavali separate → Luni River from Ganga River.

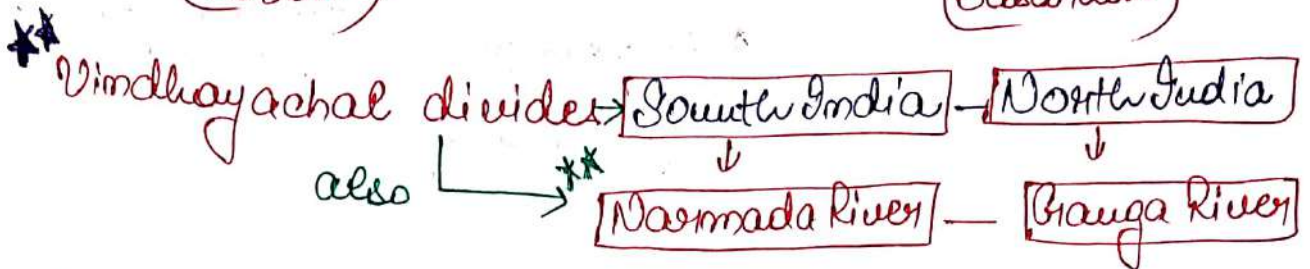
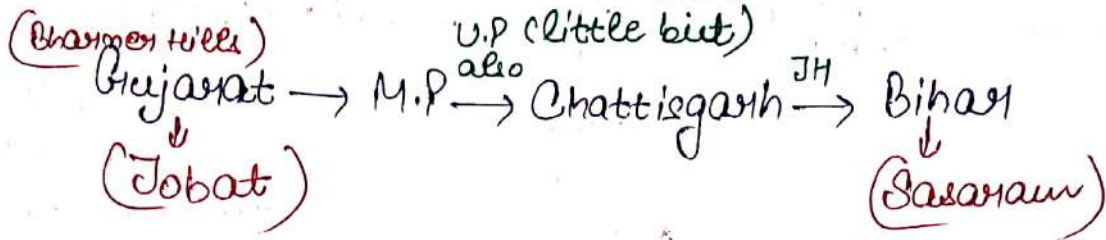
→ It is an example of Relict or Residual Mountain

→ Here Sedimentary as well as Metamorphic rocks are found.

2. Vindhya Range or Mountain

Extension →

Bharner Hills to Bundelkhand to Baghelkhand to Kaimur Hills
Gujarat U.P. & M.P. B.P. & M.P. Bihar



- River originated from Vindhya Range → Mahi River
- It is a Block Mountain / Escarpment Mountain
- Kaimur Hill → Part of this Range
- Max^m Height → 400-500m

3. Satpura Range

- It is an example of Block Mountain.
- In Gujarat it is called Rajpiper Hill.
- In M.P. " " " Mahadev Hill.
- In Chattisgarh + M.P. " " " Maikal Hill.
- ^{AGL} Highest Peak of Satpura → Dhoupgarh (1350m)
_{UPSE in Panchmadi (M.P.)}
 On Mahadev Hills

Sequence →

Ganga River

↓
Vindhya Hill

↓
 Narmada

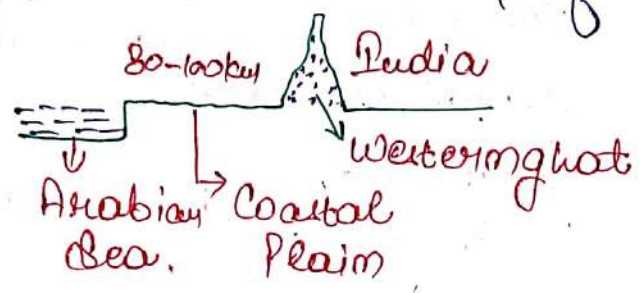
↓
Satpura

↓
 Tapi

Amaravati → Highest Peak of Malabar
Rivers originate → Son and Narmada

Western Ghats ⇒ It is an example of Escarpment Mountain or Block Mountain.

Ghat → A narrow strip of mountain.



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

→ Started from Mouth of Tapti to Kanyakumari
Extension in States

Gujarat → Maharashtra → Kerala → Karnataka - Tamil Nadu
Goa

→ Formation → When India split from Africa.

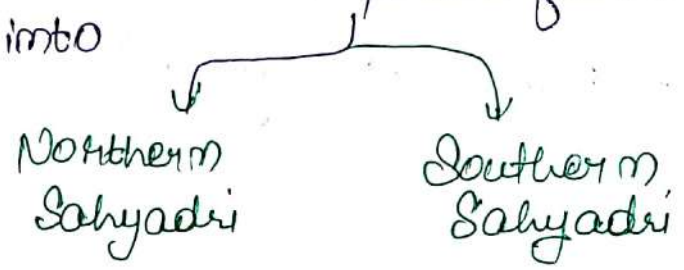
→ On western Ghats Rainfall occurs from

* arrival monsoon of Arabian Sea.

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

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

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



Highest Peak of Western Ghats → Anaimedi (In Kerala)
 (Also known as Elephant mountain) (2695m)

Also highest Peak of South India and Annamalai Mountain

Peaks here →
 (increasing) ↑
 Kalubai } (in Maharashtra)
 Mahabaleshwar }
 Kedarnukh } (in Karnataka)
 Bheemgiri }

Eastern Ghats → formed by deposition of sediments.

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

- Hills →
- (1) ^{Also Ananthamalai} Sheshayhill
 - (2) Javali Hill
 - (3) Palakonda Hill
 - (4) Nallamala Hill
 - (5) Nemukonda Hill
- (SSC) (GIL) } → (Tamilnadu)
 (7) ^{Also Sri Shelam (in AP)} ^(in A.P.) Thumala Hills } → (Andhra Pradesh + Telangana)

- Eastern Ghats → width ⊕
- Western Ghats → height ⊕
- In Orissa it is called Northern Circars.

CLASS → 6

Highest Peak of Eastern Hills → Mahendragiri
 (SSC CGL)
 ↓ (1501m)
 (In Odisha)

Highest Peak of Eastern Ghats → Vishakapatnam
 (UPSC)
 Peak (1680m)
 (in Andhra Pradesh)

Nilgiri Hills → Form Block (GIL)

Location → in Tamil Nadu

(GIL 2017)
 **

It is a connecting place of Western Ghats and Eastern Ghats.

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

→ It is called as Blue mountain.

→ It is an example of Block mountain

→ Toda tribes is found on the Nilgiri Hills

→ ^{UPSC} Sholas forest is found on the Nilgiri Hills.

Annamalai Hills → In South of Nilgiri.

→ Situated on Tamil Nadu + Kerala

(more extension here)

→ ^{**} Highest Peak of Annamalai Hills → Anaimedu
 (2695)

→ Sholas forest is found on Annamalai Hills.

Cardamum Hills →

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

Cardamum Hill
Palani Hill
Nagarbopal

Palani Hills

→ It is situated in Tamilnadu

→ Situated in the east of Annamalai Hills.

→ ^{DAS Phe} Kadaipanal is a tourist place situated on Palani Hills.

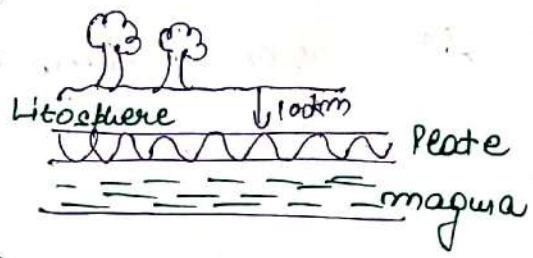
Sequence of Hills →

Nilgiri
↓
Annamalai
↓
Cardamum
↓
Nagarbopal → (last)

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.

S.g →

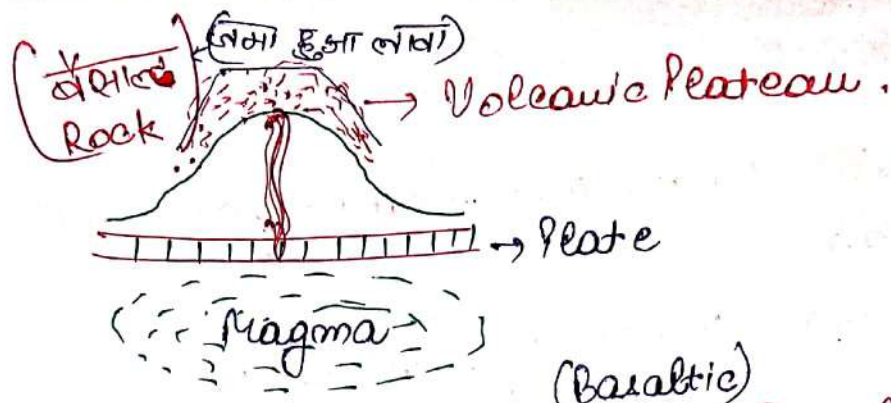
If Plate tectonic plateau is surrounded by mountains then called as

Intermost Plateau

↓ S.g
 Deccan Plateau, Pamer Plateau,
 Tibet Plateau.

(2) Volcanic Plateau → Formed by Volcanism

due to → Lava - Solidification of
 Surface.



when Volcanic occurs → (Basaltic) अशुद्ध 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.

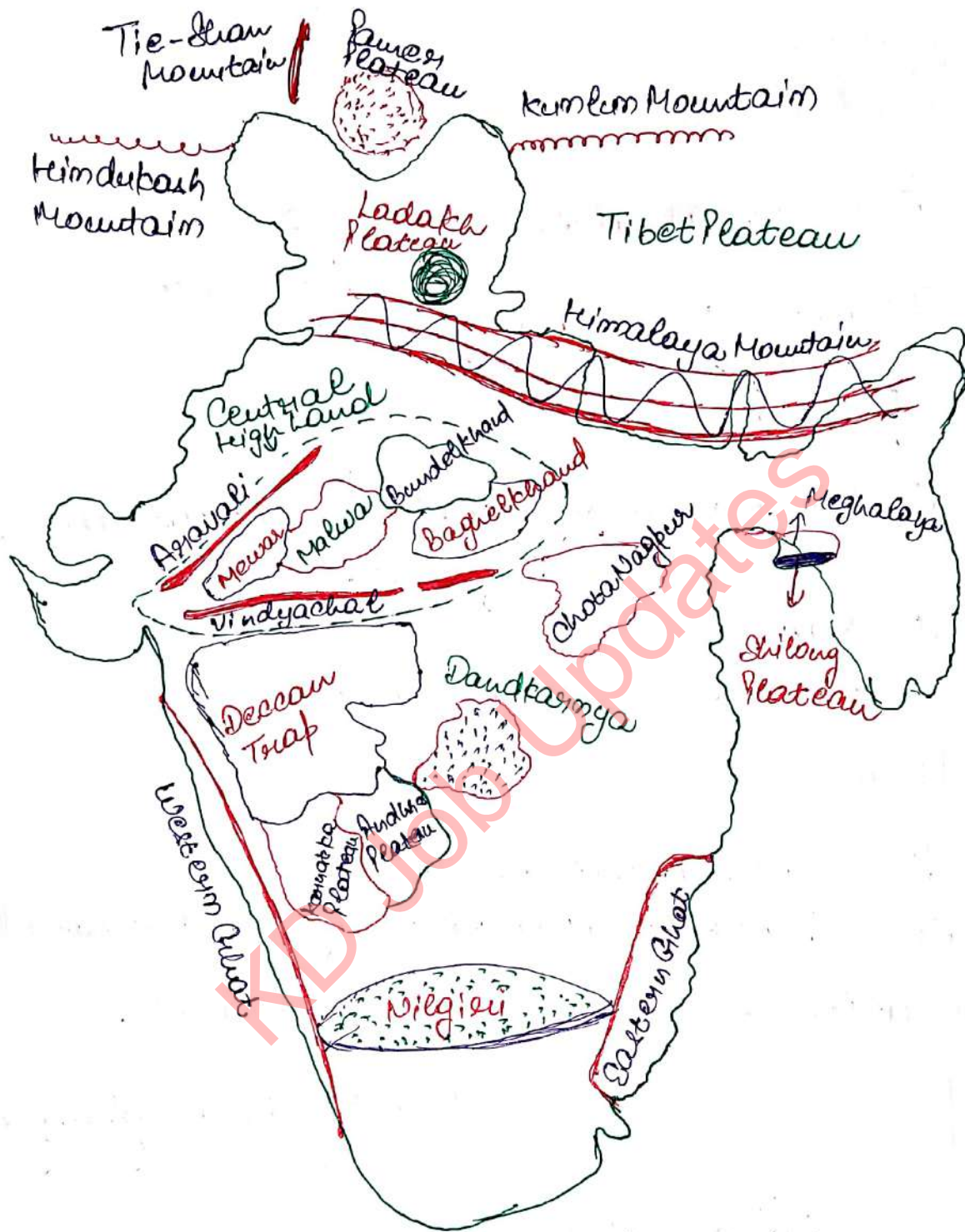
(2) Malwa Plateau →

→ Situated in M.P.

→ Rocks found here are Basaltic

↓
 So Black Soil found here.

→ Malwa Plateau come in Chambal River Basin



** Chambal river is famous for Soil erosion
↓
↓ form

** Bardland

(3) Bundelkhand Plateau →

- It is situated in M.P + U.P
- Granite Rocks are found here
↓
↓ form (more here)
- Red Soil here
- In the north of Bundelkhand 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 Meghalaya



So, world's high rainfall occurs.

- Mangrove forests are found here.
↓
↓ found in wet area

(6). Chota Nagpur Plateau

→ East Plateau of India

Extension → Bihar - Odisha - Chhattisgarh - West Bengal
Jharkhand (also)

Here **Minerals** are found in more extent



** 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 South of Jharkhand)

Ranchi Plateau

Rivers Related to this Plateau → Swarn Rekha, Damodar

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

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

↓ Parts

(a) **Deccan trap** → Basaltic
↓ Iso
Black Soil found
→ hills are → Harishchandra
→ Sasmala
→ Ajanta

Area → Gujarat
Maharashtra
M.P.
Karnataka

(b) **Karnatak Plateau** →

↓ Peak here

Kudremukh

Iron Ore are extracted from here
and export to Japan

(c) **Andhra Pradesh Plateau** →

→ Location → A.P + Telangana

→ hills come here also. (already written)

8. **Dandkaranya Plateau** → In CH + Odisha + Andhra Pradesh)

→ Mineral found here

→ But poor area so extraction not occur properly.

→ **World's Highest Plateau** → **Tibet Plateau**
↓ (4500m)

between Kailash Mt. & Himalaya Mt.

→ **World's Largest Plateau** → **Qomolangma Plateau**
↓

Also called Roof of the World.

India's highest Plateau → Ladakh Plateau.

India's largest Plateau → Deccan Plateau.

Magma contains → Gas + Melted + water vapour + fire ball.

Magma - gas = Lava
after cooling of magma converted into
Lava.

KD Job Updates

Islands of India

A large area which is surrounded by water.

Total = 247 islands | Divided into 2 parts

(43 islands)
Islands of Arabian Sea

(204 islands)
Islands of Bay of Bengal

These are Coral Islands

- * Lakshadweep
- * Minicoy

Considered as Extension of Bay of Bengal

- * Andaman & Nicobar
- * Newmoor 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)

→ It is an extended part of Arakan yoma mountain range

→ It is a U.T

→ First Census in 2011 was conducted here.

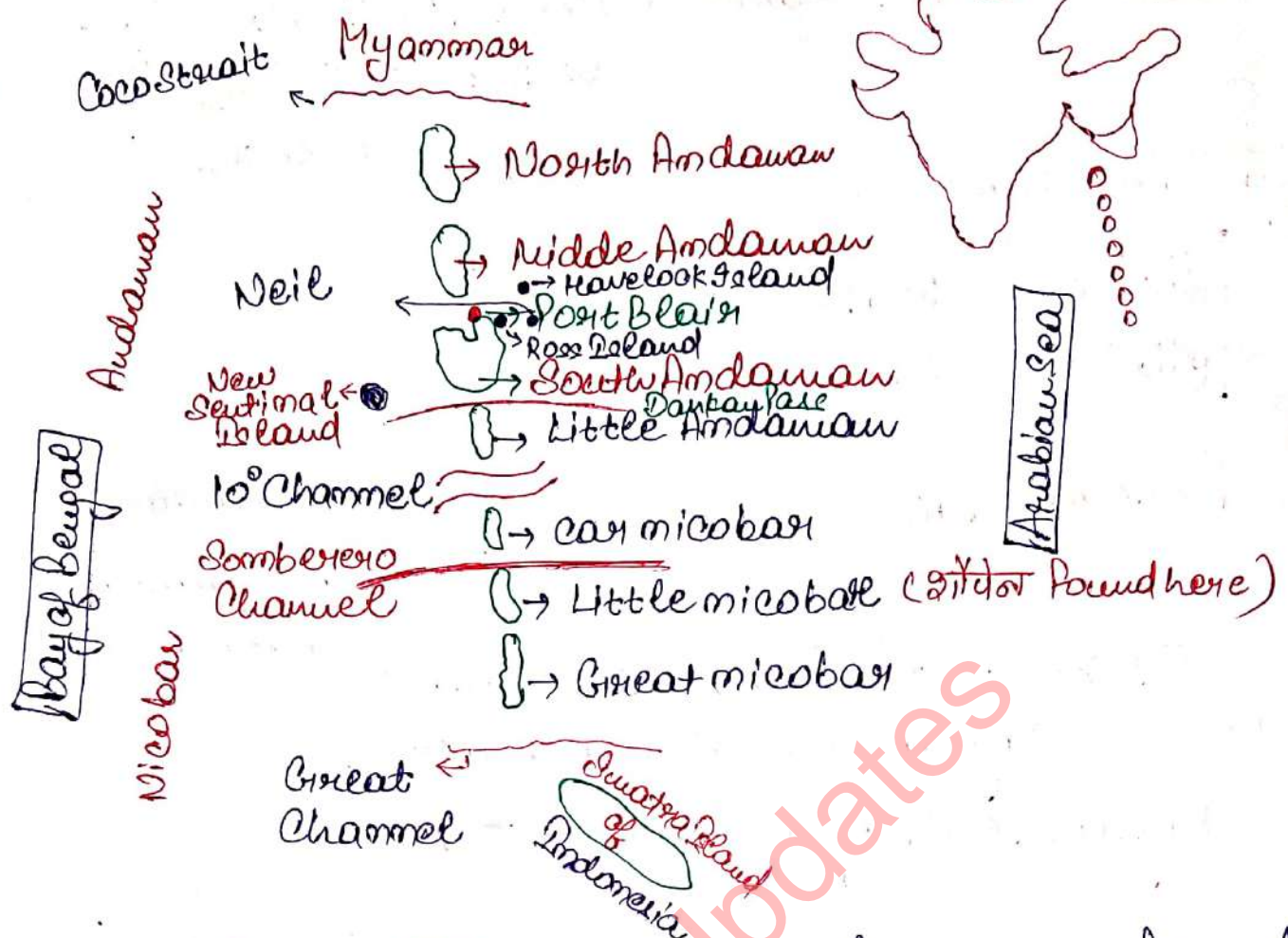
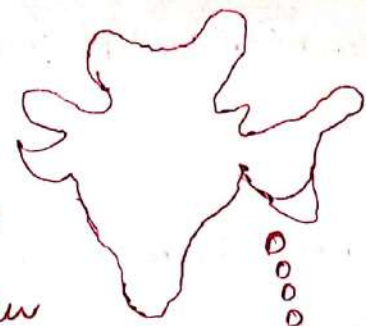
→ It is an example of Volcanic Island.

Separated by

→ Andaman — 10° Channel — Nicobar

→ Nearest Country to the Andaman Nicobar → Myanmar

→ Nearest Country to the Great Nicobar → Indonesia



North Andaman → Evergreen forest are found here.

** Highest Peak of Andaman & Nicobar → **Saddle Peak (7321m)**

→ **Narcondam Volcano** (in the East of North Andaman)

(Dormant volcano of India)

Middle Island → Only active volcano of India
Barem Island

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

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

New Sentinal Island → Here Sentinalese Tribe रहती है | Situation is like (आदिमानव)

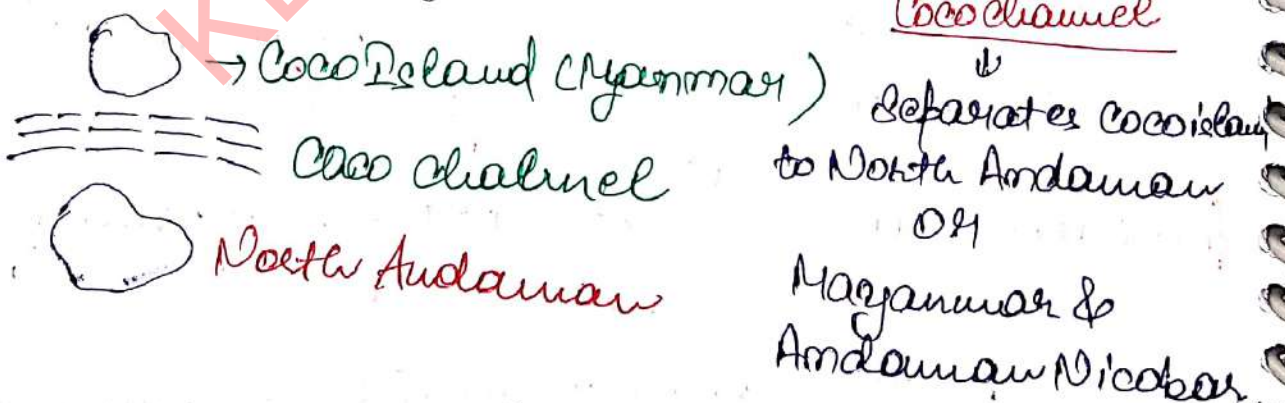
Forced in France

गिरायेन ↑ (Grapes wine)

गिरायेन → raw eaten tribes

- Duncan Pass is in b/w South Andaman & Little Andaman
- Cellular Jail is in Port Blair (in ~~Nicobar~~ ^{South} Andaman) (अंडमन कलापानी की राजधानी यहाँ है)
- Pass → way to connect two places.
- Highest peak of Nicobar → Mount Dhuliyan or Mount Thullion (500m approx) (in Great Nicobar Island)

→ Coco channel → Coco Island के दक्षिण में India के दक्षिण में और Myanmar के दक्षिण में है।



In ~~the~~ Andaman & Nicobar there are two Islands
 ↓
 Interview Island
 Round Island

Newmoore Island →

Formation → By deposition of sediments by Ganga River.

→ Disputed b/w India & Bangladesh.

Lakshadweep → located in Arabian Sea.

→ Capital → Kavaratti

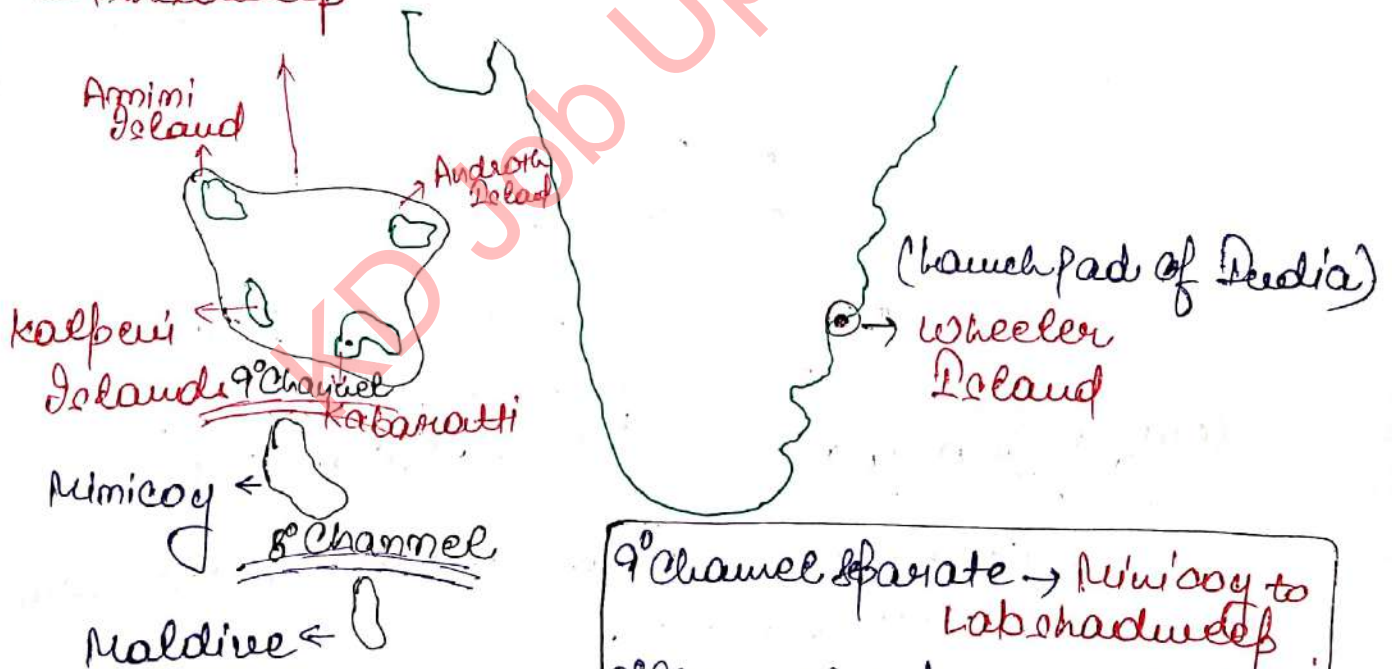
→ Total Islands → 36

→ Inhabitable Islands → 10

→ It is a U.T

→ It is an example of coral Island.

Lakshadweep



9° Channel separate → Mimicoy to Lakshadweep.
 8° Channel separate → Maldive to Mimicoy.

→ Corals are called Rain Forest of Ocean.

→ Coral is most diverse biodiversity area of Ocean which is made up of $CaCO_3$ and Polyp animal.

Food of corals is \rightarrow Blue green Algae.

Location of corals \rightarrow 5° N's' to $23\frac{1}{2}^{\circ}$ N's'

Temp required \rightarrow $25^{\circ}\text{C} - 27^{\circ}\text{C}$

Salinity required \rightarrow Avg. 35‰

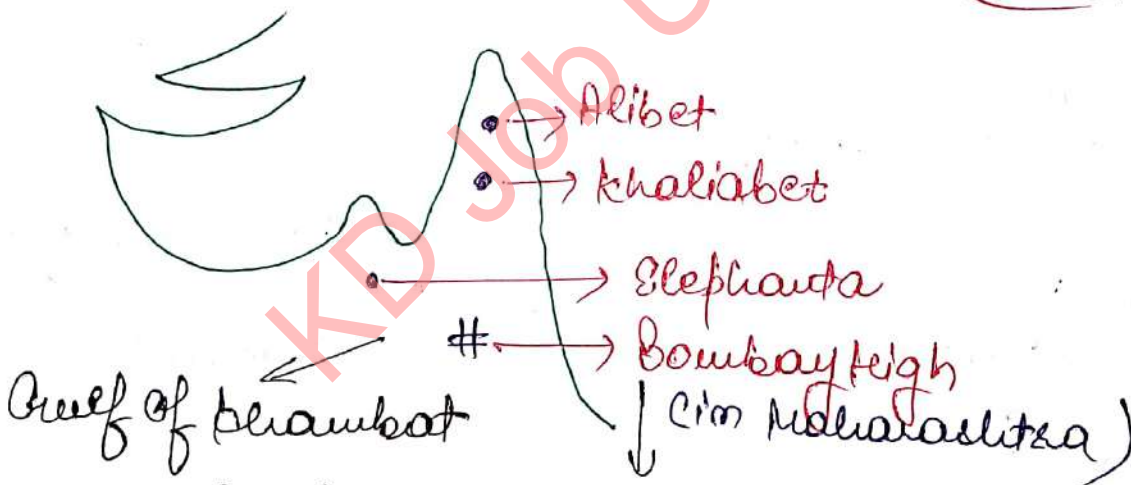
* Corals are not found where rivers merge into an ocean.

*** Size of corals \rightarrow 1-2.5 cm

* Largest Island of Lakshadweep \rightarrow Minicoy
(Acc. to Google \rightarrow Androth)

In Gulf of Khambhat \rightarrow 3 Islands

- + Alibet island (In Gujarat State)
- + Khaliabet island (In Gujarat State)
- + Elephanta (In Maharashtra States)



In India max^m production of Petroleum occurs here.

\rightarrow Where is Great Barrier Reef??

Plains of India

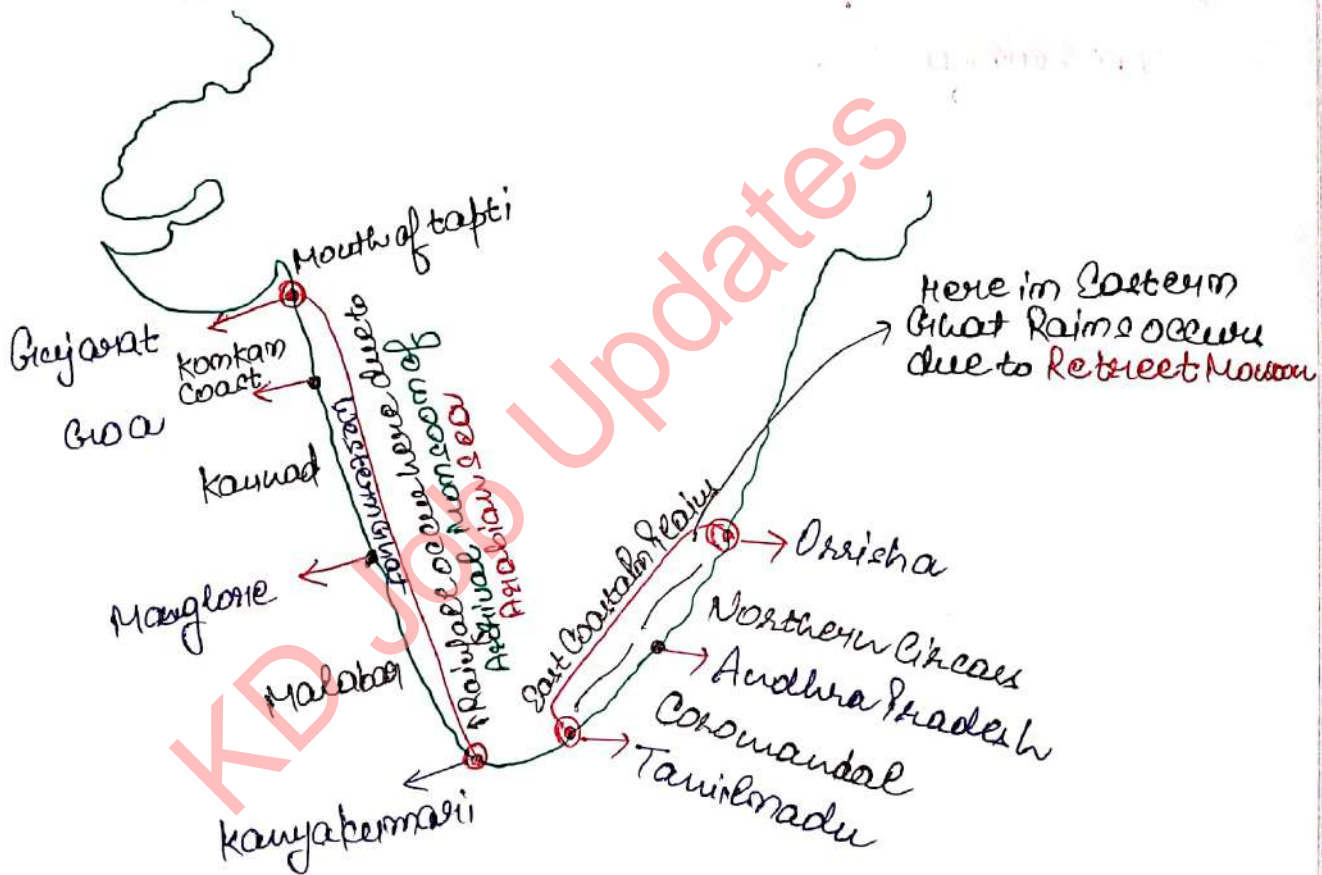
Mainland Plains

Plains of Central India

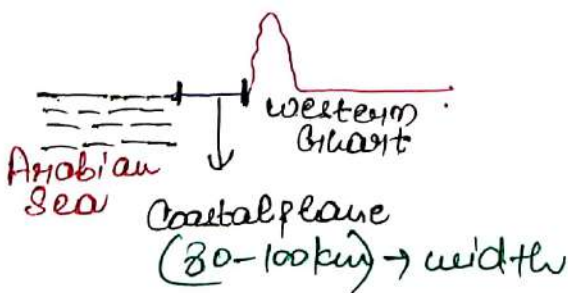
formed by Rivers.

Coastal plains

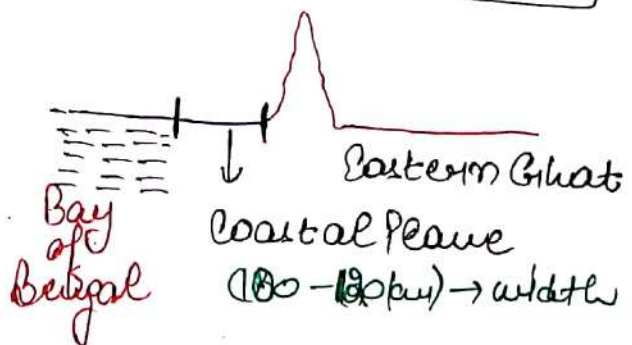
Coastal Plains of India



West Coastal plain

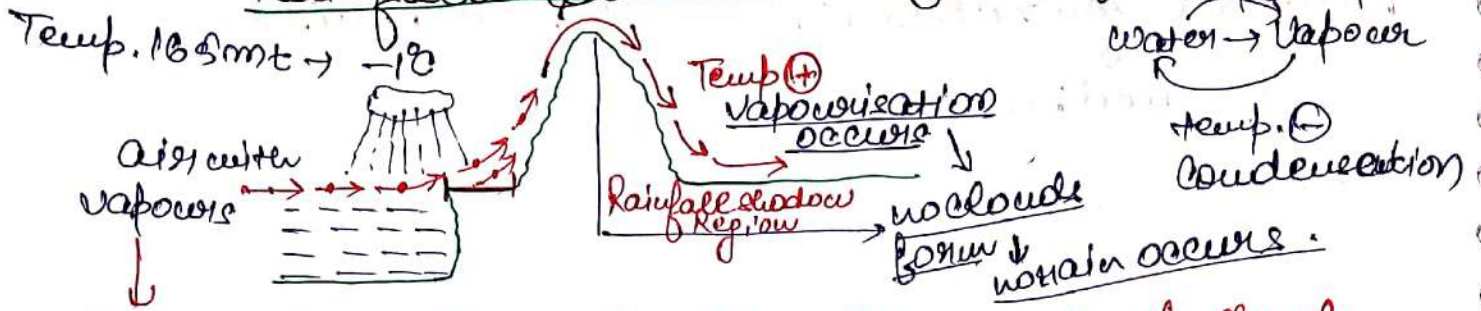


East Coastal plain



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

Ans Because Eastern Ghats is located in Rainfall shadow Region of these Monsoon



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

KD Job Updates

CLASS 8

Passes of India

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



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

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

** Head Office of BRO → New Delhi

→ work → Passes के बीच घास वनी वरक 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. Govt. Operation
51601202 (मशी 211 211 in 1947)
Operation run by India
Govt. Operation Broom

Notation of Pass → [C] in winter season covered by snow. So clean & maintain by BRO

* Zojila Pass connects → Srinagar to Leh

* Banihal Pass connects → Srinagar to Jammu

↳ Importance → Jawahar Tunnel Pass through this pass.
↳ Inaugurate by Nehru in 1956 on Banihal Tunnel



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

(4) **Khunjeraba Pass**

(5) **Aghil Pass**

(6) **Karakoram Pass**

→ Connects India to China
(J&K) to (Xinxiang)

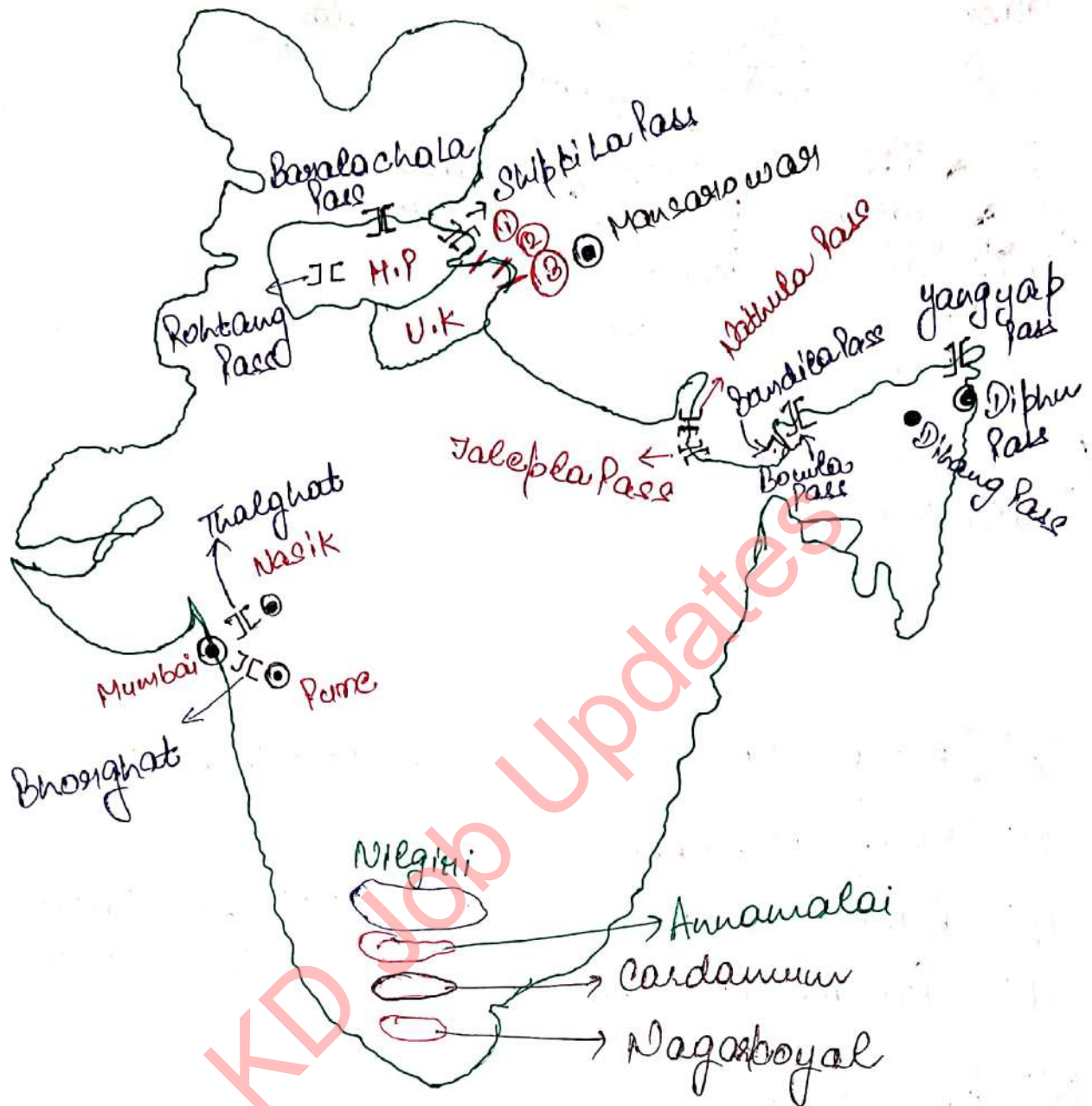
(7) **Khyber Pass** → Connects Afghanistan to Pakistan

(8) **Gomal Pass** →

(9) **Bolan Pass** →

(10) **Ladak La** → Connects J&K to Tibet

Passes of H.P



- (A) Baralachala Pass → Connects Leh to H.P
 ↓
 Origin Point of Chenab.
- (B) Rohtang Pass → Origin point of Rabi & Beas
 → Connects Kullu valley to Lahul valley
- (C) Shipki La Pass → Connects Tibet to India
 → Valley River enters in India by this pass.

Passes of U.K →

- ① Mana Pass
 - ② Niti Pass
 - ③ Lipulekh
- } → Connects Tibet to U.K

→ Travel to Manasarovar

Passes of Sikkim →

→ Road also link Manasarovar.

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

↓
Part of Silk Route.

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

→ In 2008 → Reopened on the basis of trade treaty.

(B) Jelepela Pass → Connects India to Bhutan.
↳ also in China

Passes of Arunachal Pradesh →

(A) Diphu Pass → Located at a tri-point of China, India, Myanmar.
→ Disputed b/w India & Myanmar.

(B) Yanggyap Pass → From this pass Brahmaputra River enters in India.

→ Connects China to India.

(C) → Bomla Pass → Connects India to China

(D) → Boundaria Pass → Connects India to Bhutan

(E) Dihang Pass → Local in A.P.

Passes of Maharashtra

→ Thalghat → Connects Mumbai to Nashik

→ Bhonghat → Mumbai to Pune

** Phalghat → ^{son (Cochin with Chennai)} Connects Kerala with Tamil Nadu
B/w Nilgiri & Annamalai

Sincotta → B/w Cardamum & Nagarjoyal
Connects Kerala with Tamil Nadu

Note → Highest Mountain Pass of India is
Karakoram Pass.

→ In Manipur → Tuzo Pass

→ Boran Bhat
Kaldi Bhat] → In Arunachal
Range

Rivers of India

River → A natural water flowing stream.

Himalayan River

Source → Glacier
(Area of Ice)

Peninsular River

Source → Hill/Rainfall

Rivers → Perennial River
(सदावह नदियाँ)

Rivers → Seasonal River

* Rivers form मैदानी भाग ।

(1) Ganga

(2) Indus

(3) Brahmaputra

Rivers falling in
Arabian Sea

(1) Narmada

(2) Tapi

(3) Luni

(4) Sabarmati

(5) Mahi

(6) Mandovi River

Rivers falling in
Bay of Bengal

(1) Damodar

(2) Mahanadi

(3) Krishna

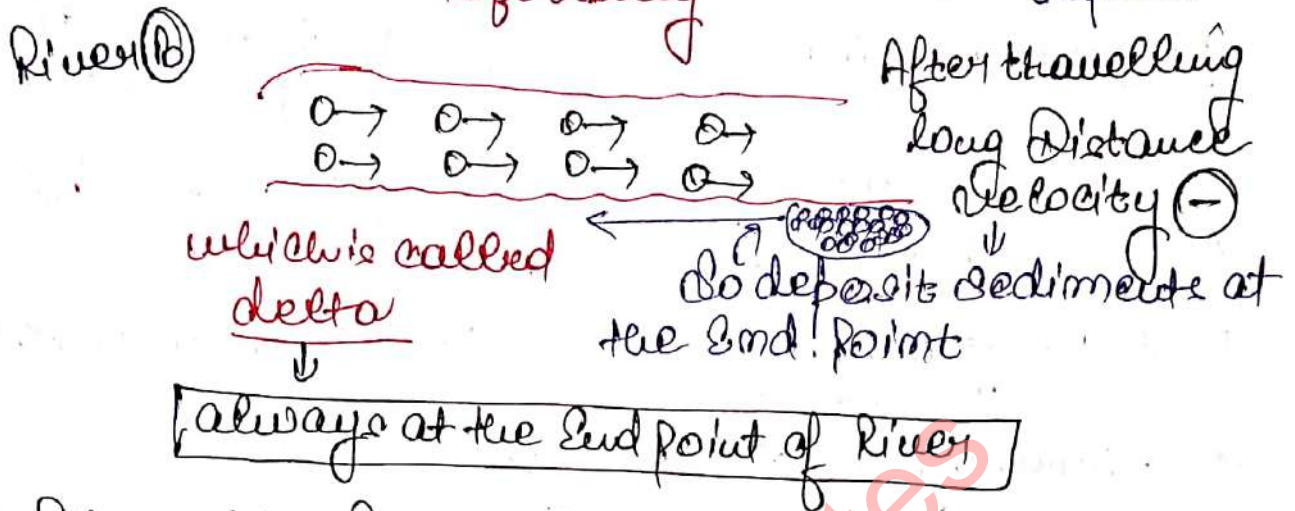
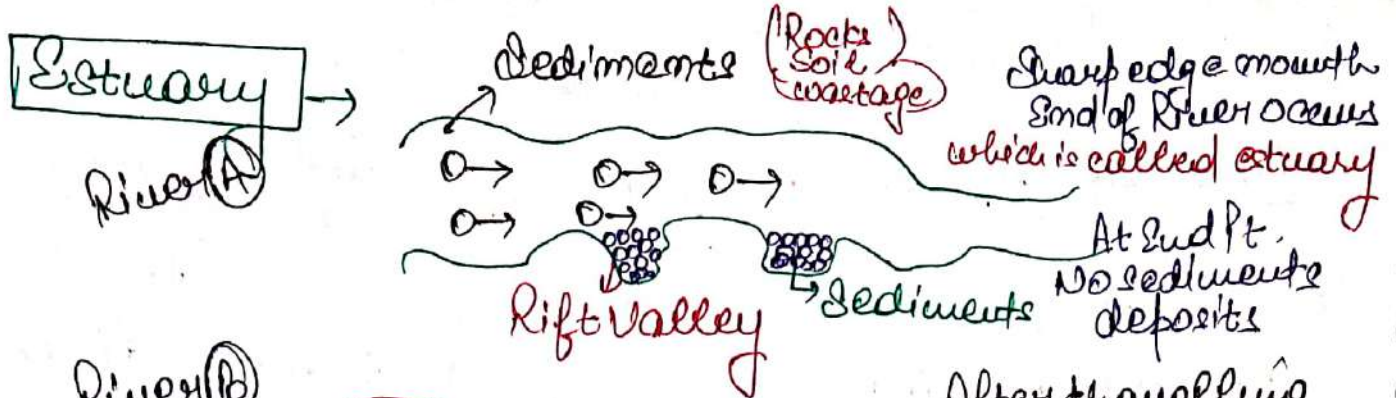
(4) Kaveri

(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

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



- Rift valley river will not deposit sediments at End points so **Delta will not form**
- E.g. Narmada, Tapi

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
 - (c) **Industrial Pollution** (U.P. Put 751 ton Per day sewage in Ganga river)
- Ganga → U.P. → Kanpur → Kanpur (more polluted here)

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

Dispute based problem → Utilizing of River water.

State to State
(Solved by Centre Govt.)

Country to Country
(Can't solved by Centre Govt.)

In 1956, Indian Govt. formed an act IRWDA
(Interstate River water Dispute Act)

Judgement formed by this panel cannot be changed by Supreme court or High Court.

Country to Country Dispute

↓ can be resolved by World Bank

↓
Indus water treaty in 1960
between India & Pakistan

Ganga River

→ longest River of India (2525km)

→ Self Purifying River.
↓ because

Virus → Bacteriophage → killing of Bacteria.

In Ganga dissolve oxygen {DO} is more which is used by aquatic animals.

→ More fish found → Dolphin

Origin → Gangotri Glacier.
Ganga River passes from **5 States** of India.

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

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

13 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 (Alpananda) and flows in South. On the other hand from Gangotri Glacier a river originates → **Bhagirathi**

In Devprayag → Both Alpananda & Bhagirathi joins.

and in Devprayag both rivers' joint stream is called **Ganga**.

(in U.K in Badwal)

* Total Prayags → 5

* when **Dauli Ganga** joins **Alpananda** → ^{called} Vishnuprayag

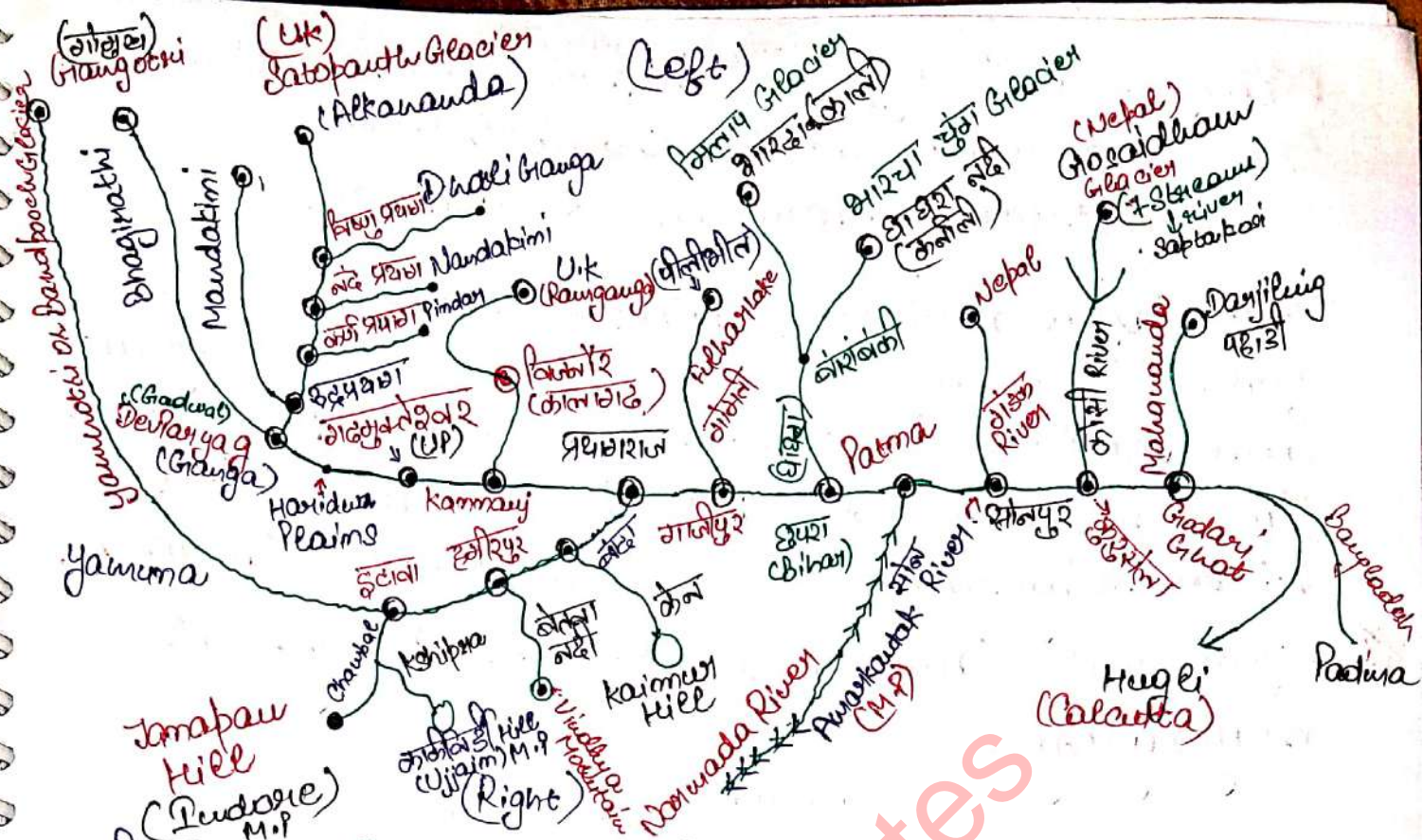
Mandakini + Alpananda → Nandprayag

Pindar + Alpananda → Karnaprayag

Mandakini + Alpananda → Rudraprayag

Bhagirathi + Alpananda → Devprayag

After that Ganga River enters in Haridwar ~~Point~~ ^{Place} then in U.P (Gadmuttwar) then go to **Kaunary** → Here pollution of Ganga starts



From U.K Ranganga Origimater, on taking U-turn enters into **Vignore (Kalgarkh)** and then in Kammauj meet with Ganga.

Que → **Left** Tributary of Ganga → Ranganga meet at → Kammauj

Then Ganga enters in **Prayagraj (Allahabad)** from, Yamunotri or Bandarpoosh glacier one river originates → **Yamuna** that flows parallel to Ganga.

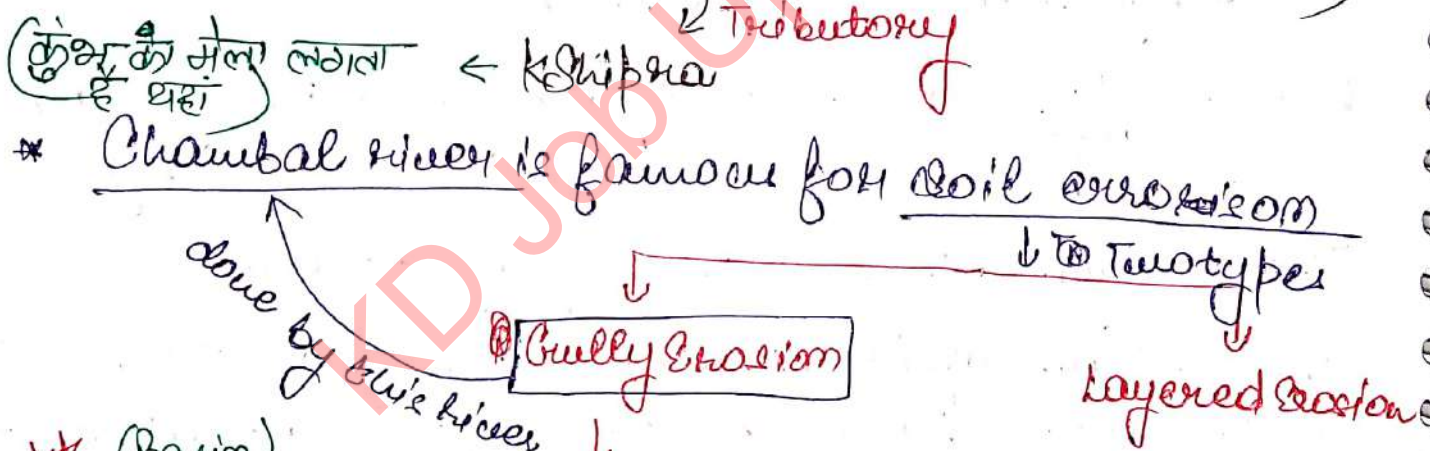
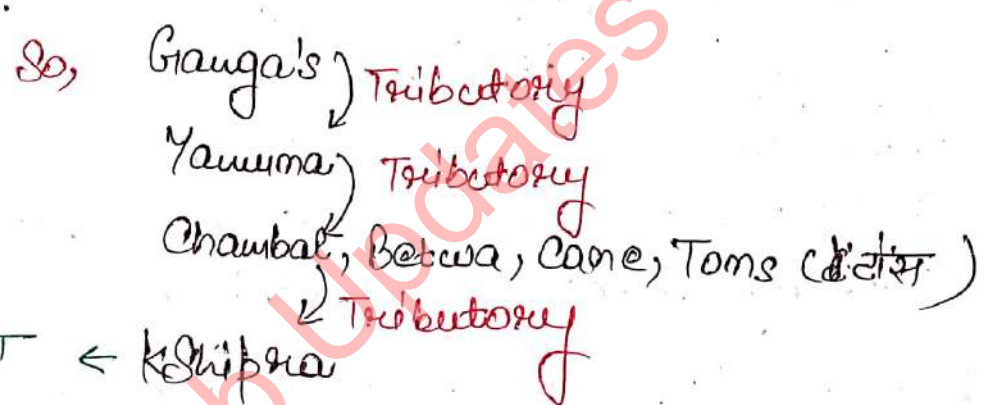
Que Longest Tributary of Ganga → Yamuna. Yamuna Reaches at **Itana**. From M.P's **Idore** there is a hill **Janapur hill** a river originates which is **Chambal** meets Yamuna river at **Itana**.

~~Tributary of~~ Tributary of Yamuna → **Chambal**

Also from M.P.'s ^{from Kaimur hills} Ujjain, one more river Kshipra originates which meets Chambal river.
 Tributary of Chambal → Kshipra.

Then Yamuna river reaches to Hamirpur then from Vindhyas Mountain, river Betwa originates and meets with Yamuna at Hamirpur. When Yamuna reaches at बिहार, from Kaimur hills river originates and meet with Yamuna.

After that Yamuna meets with Ganga at Prayagraj.



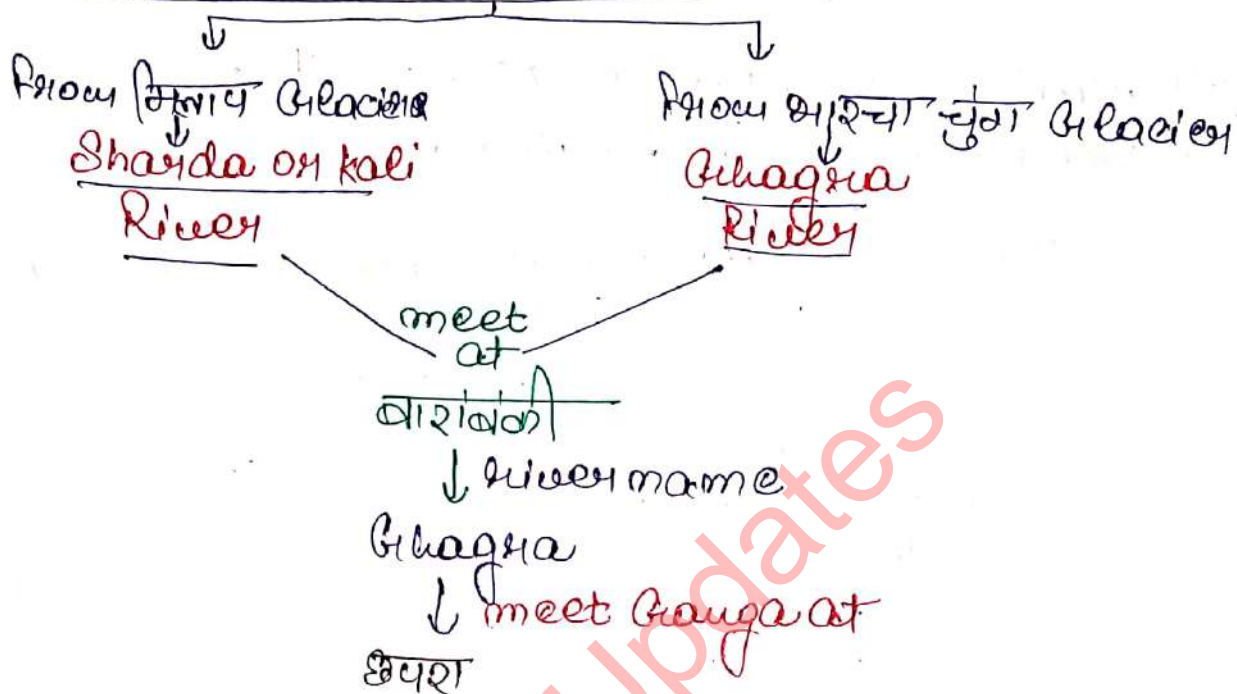
(Basin) Area Eroded by Chambal river is called Badland.

* Most of the erosion are found in Chambal river.

→ After that Ganga reaches at Bahazipur.
 In बिहार there is a lake called Fulhar Lake
 ↓ river originates
 Gomti
 ↓ at Bahazipur meet
 Ganga

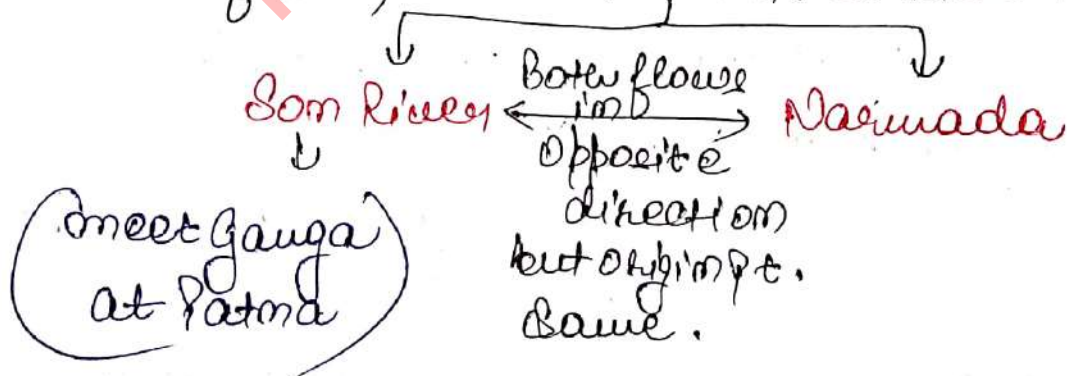
Ques A tributary of Ganga which originate by land??
Ans Gomti River

After that Ganga reaches at वाराणसी (Varanasi) (Bihar).
From U.K. border ~~at Varanasi~~



Largest tributary of Ganga → Bhagha.
(on water volume base)

After that Ganga reaches at Patna.
In M.P. from, Amarkantak to rivers originate



Ques → Tributary of Ganga which flows from South to north? → Som River

After that river reaches at Sompur.

From Nepal

↓ river originates

Grandak

↓ meets Ganga at

Sompur

After that river reaches at गोरखपुर.

In Nepal, there is a glacier → Chaidham Glacier

↓
From this glacier 7 streams are originated

↓ river
Saptakosi

But in India 3 streams
come

↑ Arun

↑ Son

↑ Tamur

→ Kosi River

4 streams went
in the Nepal

which is famous for soil erosion & changing
its route.

Sorrow of Bihar → Kosi River

Yangtze River is called Sorrow of China

→ After that river reaches at Godavari Bhat.

From Daryeling hilly Area, a river
originated → Mahananda.

↓ joins Ganga at

Godavari Bhat

→ After that

↓ Ganga

go → Bangladesh
Here (Padma)

go → Hugel
(Distributary
of Ganga)

Last Tributary of Ganga → Mahananda.

Pollution Problems of Ganga

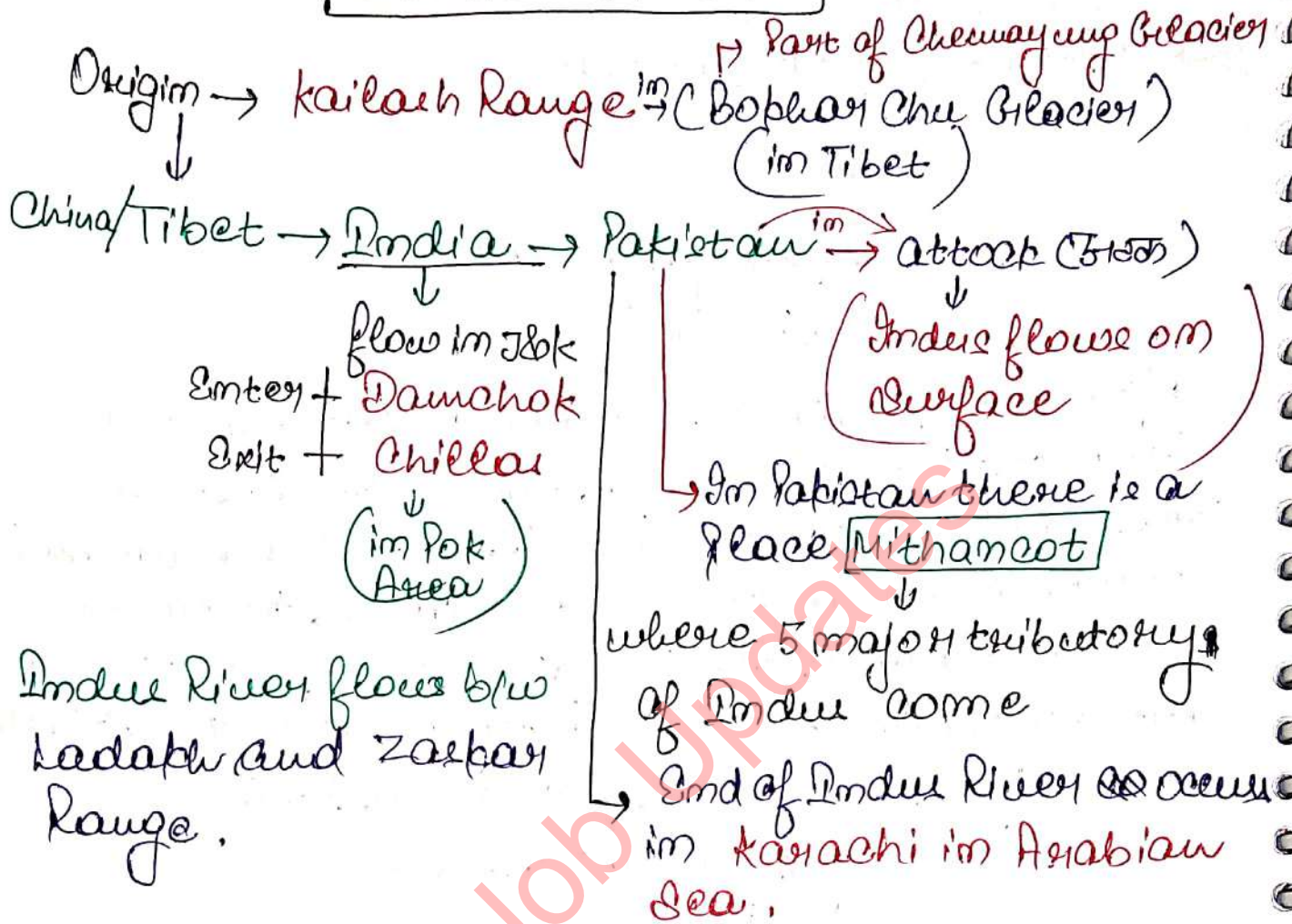
- Sewage
- Industrial
- Operation Blue Mountain
↓ due to
China

In 1982 → Indo China war
↓ (lose) (win)

After that India & America at that time |
China continuously developing its atomic power
Then, India decided to put RADAR at Mandla 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 at the
↓
at origin pt. of Ganga
↓
which can pollute Ganga
water & cause cancer.

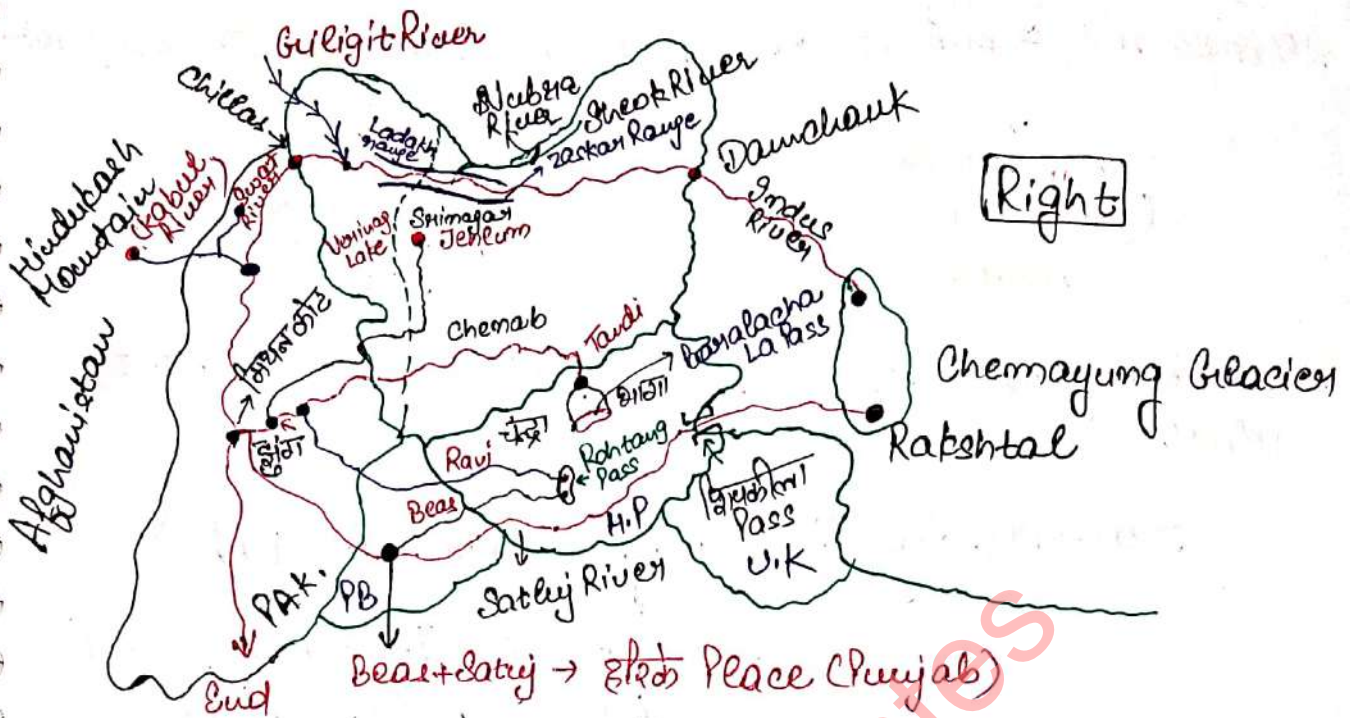
Class 9

Indus River



Length of Indus River → 2880 km

in India approx. 960 km



- # Origin of Indus River → ^(China/Tibet) Chemayung Glacier
- # Entry point in India → Damschank
- # Exit point from India → Chillas
- # Indus River flows b/w Ladakh Range & Zaskar Range!

From Shimogari's Verinaag Lake
 ↓ river originates
 Jehlum
 ↓ via Yok to India Pak border go to Pakistan

From H.P., From Banalachala Pass
 ↓ Two streams originate
 चोखी शिवा
 ↓ ↓
 meet at
 Tandi (H.P.)
 Here → called
 Chemab

Chenab and Jhelum meet at Jhung (जुंघ)

Tributary of Chenab → Jhelum

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

Rabi River
(Meet with
Chenab)

Beas River
(Meet with
Satluj River)

From Rohtang via Shipkila Pass one river pass
which is ~~Sat~~ Satluj.

Beas + Satluj meet at glac Place (Punjab)

Here Beas (Satluj) is formed
↓ from which one river
originates

Indira Gandhi Canal

Then Satluj & Chenab meet at Mithanot.

Jhelum River

Origin → Verinag Lake

It pass through Pok + Wular Lake

Tributary of Chenab

Chenab + Jhelum ⇒ Jhung

→ It flows in Pakistan & J&K.

→ It cross through the Pirpanjal Range.

Chenab River → Origin → Batalacha Pass.

Flow in → H.P → J&K → Pakistan

Tributary of Chenab → Jhelum
→ Rabi

It crosses the Punjab.

वाराणसी, रियासी में होकर बहती है।

Here world's highest Railway Flyover from रियासी का रहेगा।

Ques → world's highest Railway Flyover is formed ~~where~~
in on which river → Chenab
in ~~on~~ which state → J&K
on which place → Riasi (रियासी)
↓
will be completed in 2020.

Satlej River → Origin → Raktahal of
Chenayung glacier.

→ Enter in India by Shipkila Pass.

→ Flow in H.P. → P.B. → Pab. (take more benefit from all)

→ Tributary of Satlej. → Beas River.

Beas River → Kullu - Manali दोनो में
(City) (City)
flow करती है।

Valley's of Beas → Kulu Valley

Old name of Beas → Bahul Valley.

Beas ~~river~~ → near to Rohtang Pass.

Ravi + Chenab meet at Mujaffrabad

Bulgit River

Origin → Afghanistan

1st Tributary of Indus. (Right Tributary of Indus)

2nd Tributary of Indus is Sheek River

→ Nubra River is the Tributary of Sheek River

Kabul River

(Originates from
Babar Khan Range)

Origin → Hindukush mountain (Afghanistan)

→ Kabul River is the tributary of Indus

Flow in Afghanistan - Pakistan.

→ Tributary of Kabul River → Swat River
(Flow in Pakistan
only)

Its water is used in Irrigation.

Its valley is → Swat Valley

↓
which is called 'Heaven of
Pakistan'

Gomal River

Origin → Sulaiman Range.

→ Gomal River is the tributary of Indus River.

→ Flow in Afghanistan → Pakistan.

→ Kunday River
Zhob River } Tributary of Gomal River.

Brahmaputra River

Origin → Mansarovar Lake
(Part of Chenayungdung Glacier)

Flow → Tibet/China → India → Bangladesh

Other name in → Tsampo River → [Jamuna] (It is called)

Enter

Exit

Yangyap pass
(A.P.)
Assam

Dhubri
(Assam)

Other name in → Dihang River → Brahmaputra

Distance covered from China to Bangladesh → 2900 km.

Distance covered in India → 917 km

→ In Bangladesh Brahmaputra forms a delta called Sunderban Delta → world's largest Delta.

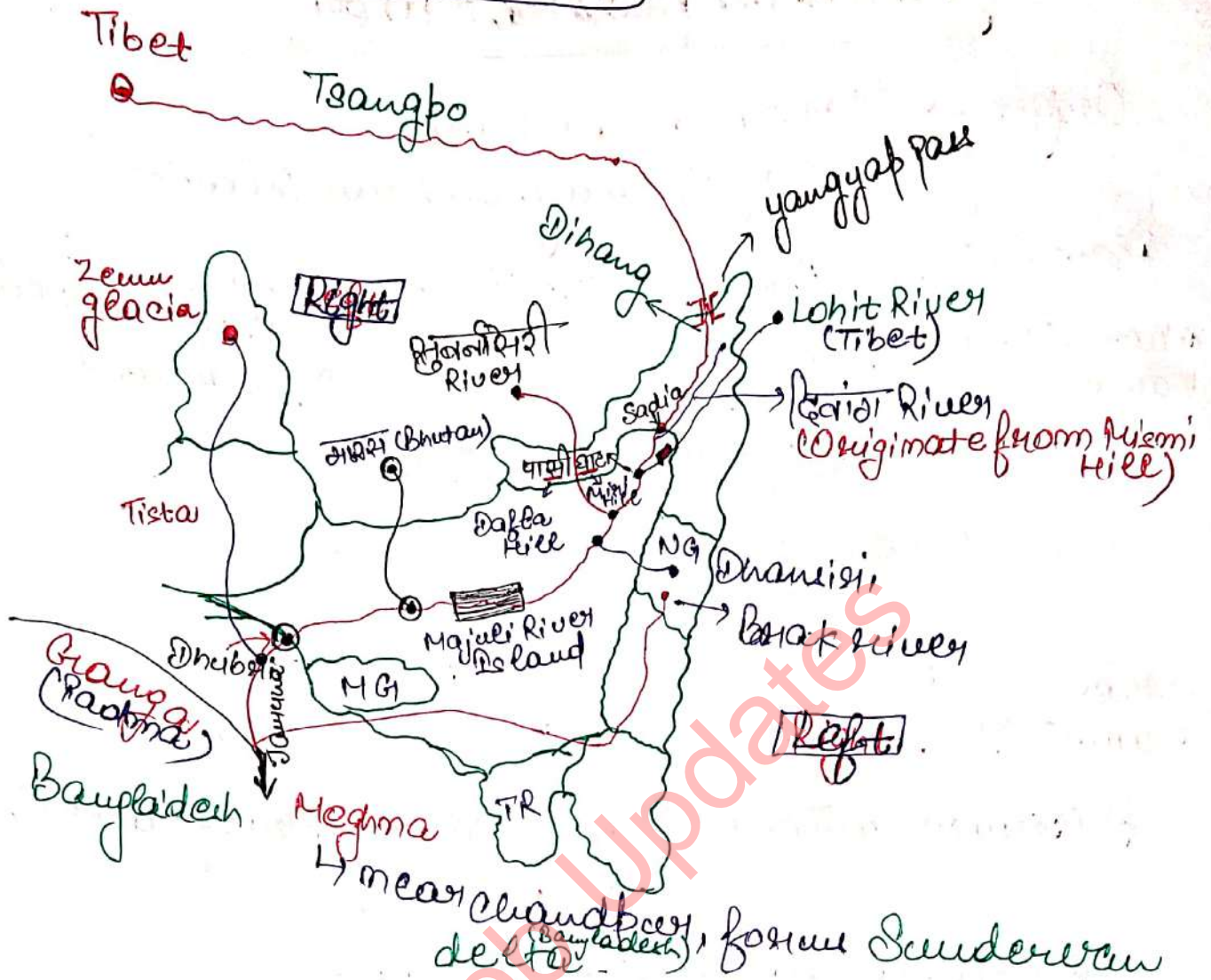
* ~~South West~~ part of Sunderban delta is located in W.B.

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

→ Mangrove forests are found here.

→ Tiger reserve is found here.

Class → 10



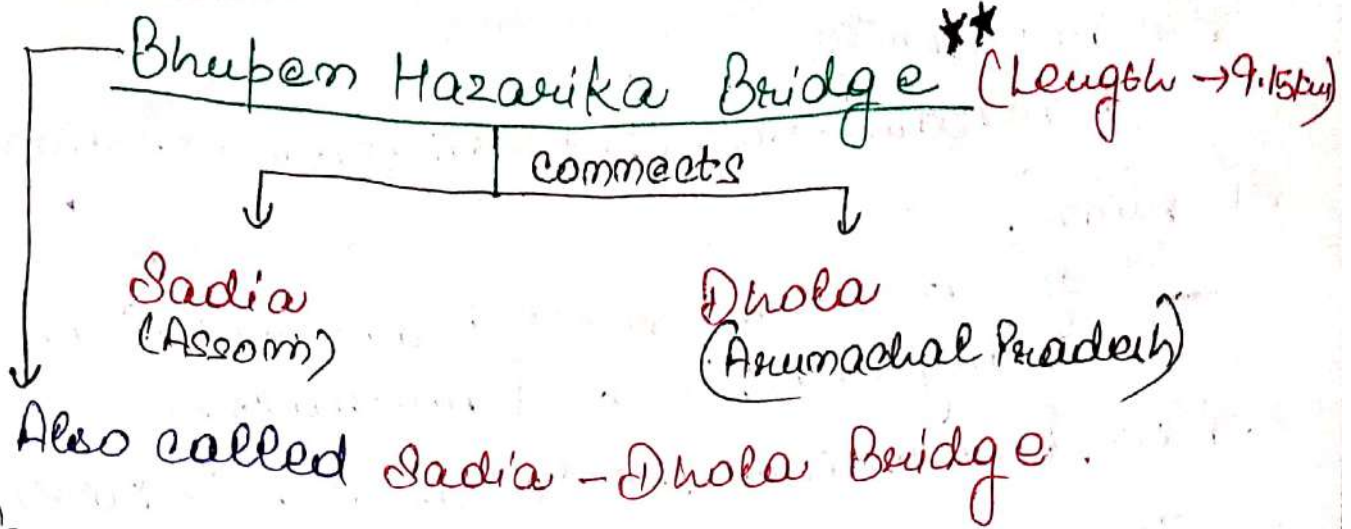
Brahmaputra river (Tsaungpo) via yangyap Pass enters in A.P (called Dihang) here then go to Assam. From Tibet a river Lohit River originates.

Lohit River → Tributary of Brahmaputra
 → Lohit River + Brahmaputra river meet at Pasi Ghat (Assam)
 → In Lohit River red sediment are found.

∴ So called as

Bloody River

→ On Lohit River is formed Shupen Hazaripa Bridge



\rightarrow From, Tibet, one river originates

Submasiri River \rightarrow Joins Brahmaputra at **Lakhipur**

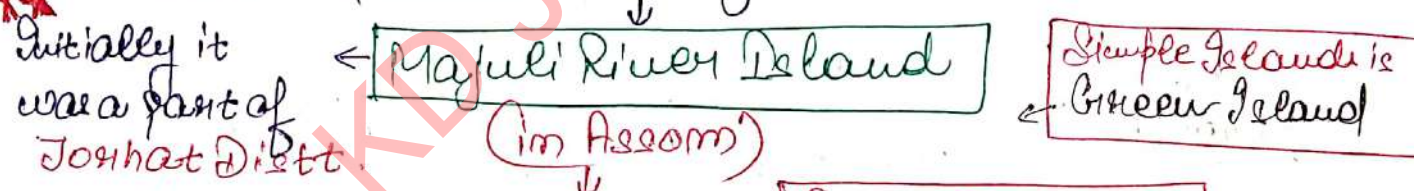
\rightarrow Origin \rightarrow Tibet.

\rightarrow Flow in \rightarrow Tibet \rightarrow A.P \rightarrow Assom

\rightarrow Submasiri River flows betw Dala ^{Dhule} ^{River} } ^{Mirani} ^{hill}

From Nagaland, river originates **Dhansiri** \rightarrow which joins **Brahmaputra** river.

^{**} **Brahmaputra** River forms an Island



It is world's largest **River Island**.

In 2016 \rightarrow It is included in **Historical Record**.

\rightarrow It is announced as Distt. (due to 1.5 lakh population approx)

From Bhutan a river originates ~~which joins~~ **Mama**

From Nagaland a river originates from **Japora hill** \rightarrow **Barak River**

Barak River flows in → Nagaland → Manipur → Mizoram → Assam

From Zaskar, a river Tista originates and meet Brahmaputra (Jamuna in Bangladesh) at Bangladesh. Also Barak River meets Jamuna in Bangladesh.

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

→ **Left Tributary of Brahmaputra**

Right Tributary of Brahmaputra

- Debang
- ~~Sabmatiri River~~
- Dhansiri
- Barak
- Lohit

→ Submatiri River

→ Mamei

(Largest & lowest tributary of Brahmaputra)

Bogibeel Bridge

→ In Assam on Brahmaputra River

(Founded in 2018) connects

Dibrugarh

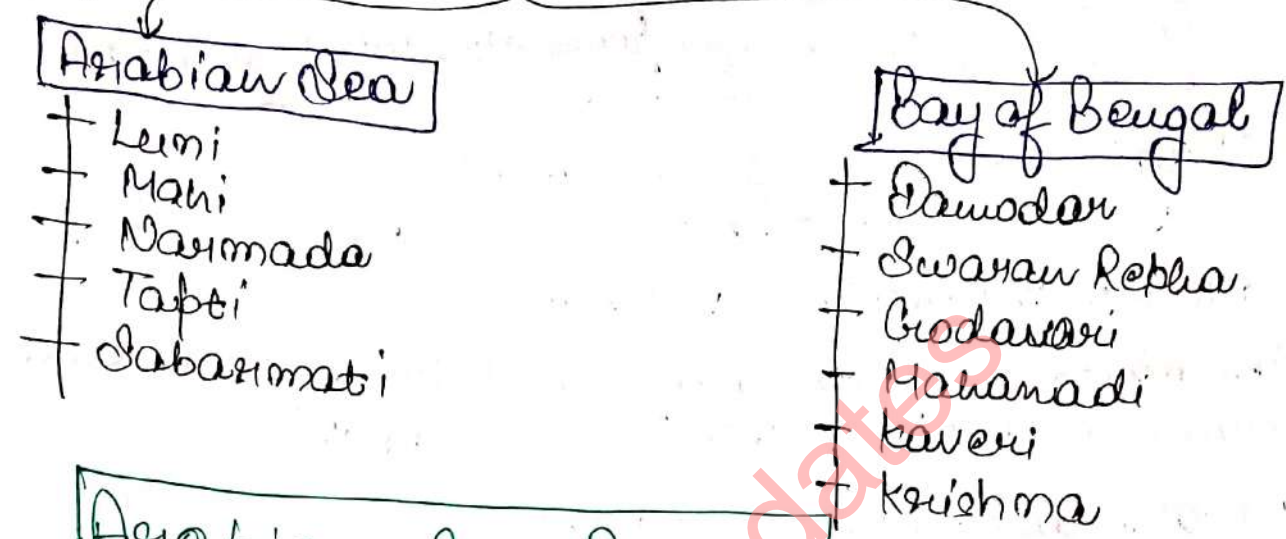
Dhemaji

Length → 4.9 km

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

Peninsula River System

- Origin → Hill / Rainfall water
- These rivers are called **Seasonal Rivers**
- These rivers form less Delta.



Arabian Sea Rivers

- ① **Luni River** → Origin → Aravali Range, Ajmer (Rajasthan)
- Flows in Rajasthan - Gujarat

(Pass through deserted area) is called

Deserted River

- At Origin pt. known as Sagarmati
- Sagarmati + Saraswati meet at **Prasiddgarh (Rajstha)**
- ↓ called **Luni River**

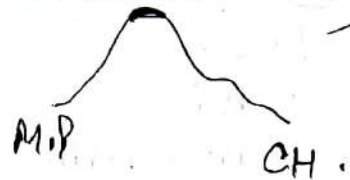
In Gujarat lack of water
 ↓ when rivers reach at
 Rann of Kutch.

**

वेद पर नदी का उद्गार, **Inland** (अन्तर्देशीय नदी)

③ **Narmada River** (length → 1312 km (Amarbantar))

Origin → Amarkantak (M.P.)
 (West part)



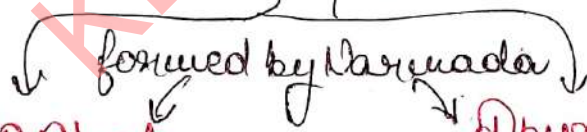
Passes through → 3 states

(Amarkantak) M.P. → Maharashtra → Gujarat
 Water used → (87%) (1.5%) (11.5%)

- * Narmada River is called **Lifetime 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



Bhedaghat

Dhurdhas Water

* **Narmada Bachao Andolan (NBA)** → 1985 में शुरुआत
 ↓ by

Medha Patkar.

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

Class → 11

Ⓐ → **Sabarmati River** → Length → 324 km

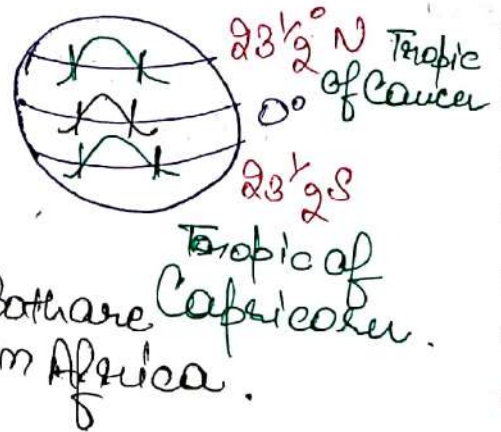
- Origin → Anavali Range (Udaipur)
- Flow in → Raj. → Guj → Bay of Cambat
- It is 3rd largest westward River.
- Ahmedabad Grandhimagar] → located on its bank.
- National Pollution Control Board measured that
It is largest polluted River of Rajasthan

Ⓑ → **Mali River** → Length → 383 km

- Origin → Vindhya Range
↓ in M.P. → Raj. → Gujarat → 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



Bay of Bengal Rivers

(A) Godavari River → Length → 1465 km

Origin → Tryambakeshwar, Nashik (MH)

Flow → MH - CH - Telangana - Andhra Pradesh
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 (Priority on Basis of flow)

→ End → in the form of two streams.

Gautami

Vasista

→ ** Ganga of M.P → Betwa River

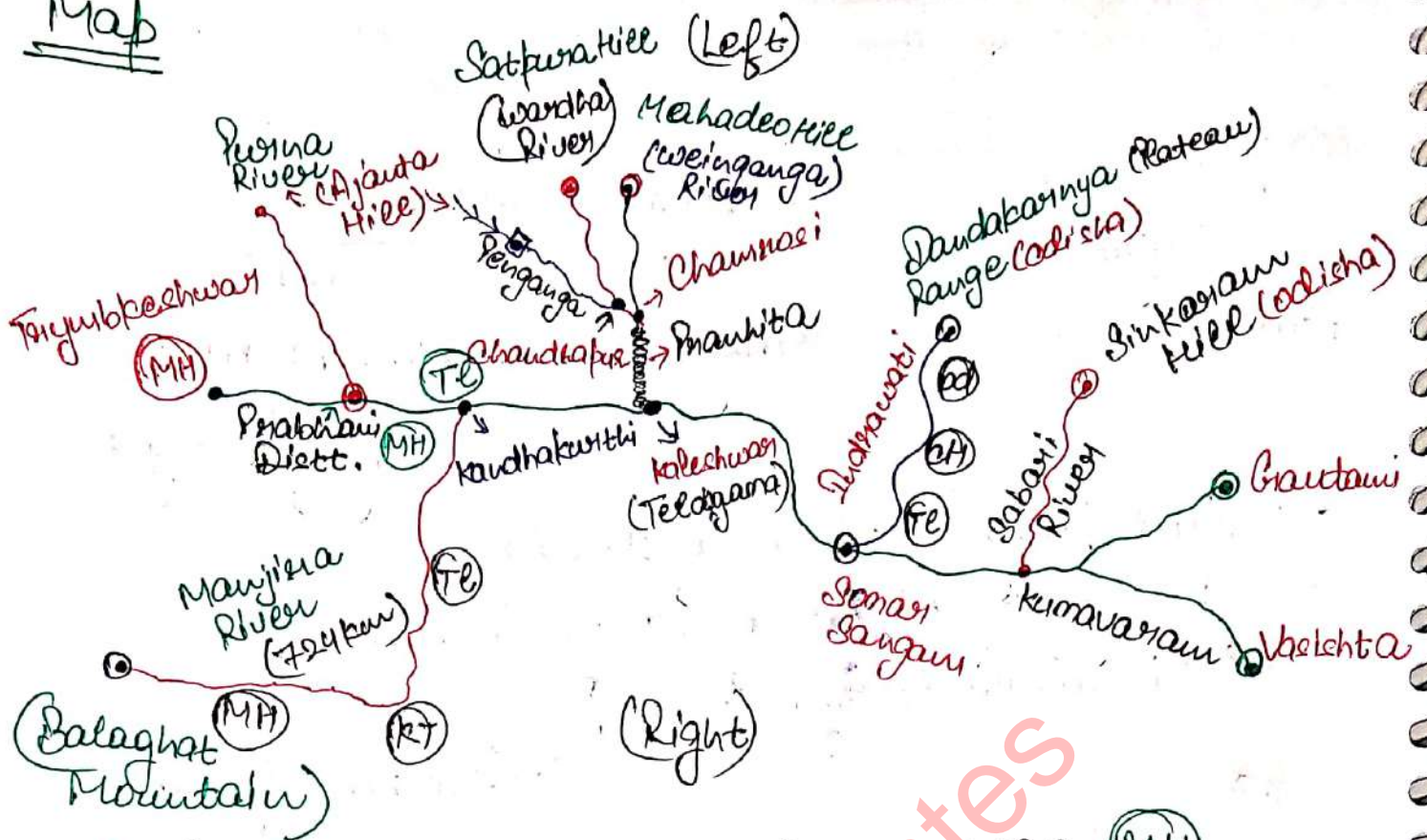
→ Largest tributary of Godavari River

Right R. Tributary → Manjira River
↓ (724 km)

Flow in → (MH) → (KT) → (TE)

→ Last tributary of Godavari River
Sabari River

Map



Purna River → Origin → Ajanta Hill → (MH)
 → It is Tributary of Godavari.
 → Purna + Godavari → Prabhani (MH)

Maujira River → Origin → Balaghat
 → Flow → MH → KT → TE
 → Length = 724 km
 → Maujira + Godavari meet at Kandhakupudi (TE)
 → Largest

Wainanga → Origin → Mahadeshil (MP)
 Wainanga + Wardha meet at Chamrosi

Wardha → Origin → Satpura
 Penganga + Wardha meet at Chandrapur

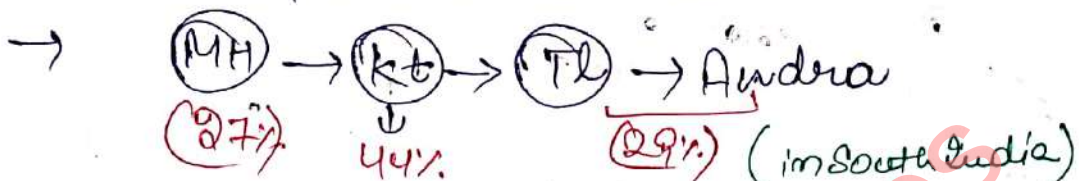
Indravati
 od.
 CH
 (MH)

Sabari
 od.
 CH
 ↓
 Andhra

- Nasik is situated on the bank of Godavari River.
- Rajahmudri city is the city of Andhra Pradesh River Bank → Godavari

(B) Krishna River → Origin → Mahabaleshwar, MH
 ↓
 Part of Western Ghats

→ Flows parallel to the Godavari River.



→ Krishna River forms K-G Basin → land form area formed by rivers

Largest Basin of South India

K → Krishna
 G → Godavari Good for rice crops.

→ Tributary of Krishna

Bhema River → Origin → Bhameshwar (MH)
 ↓ 3rd → Krishna River
 (861 km) → Largest tributary (left) → North

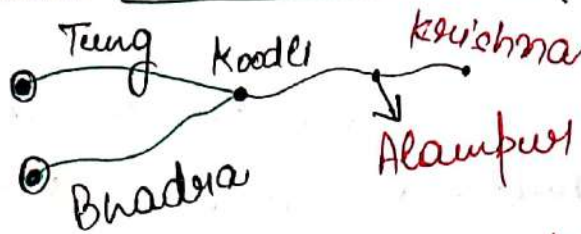
Koyna River → It also originates from Mahabaleshwar.

It is known as Lifeline of Maharashtra
 → Duly flow in Maharashtra.

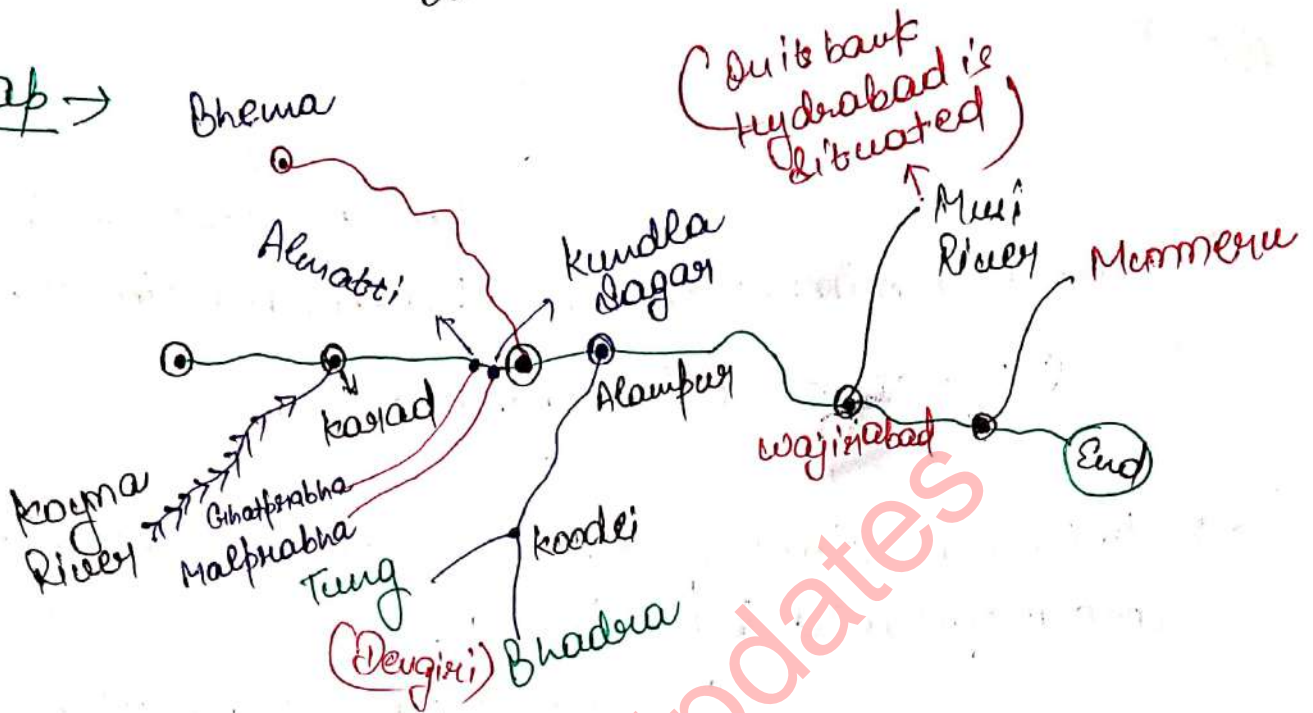
Krishna + Koyna → Karad

Tungbhadra → Major River of Krishna River.

Originate from Vardha Parbat



Map →



Ghatprabha } Originate from Western Ghats
 Malprabha } (MH)
 Distt. Studnagar.

Kaveri River → Origin → Brahmgiri, (kt)

Flow in → (kt) - Tamil Nadu

It is only Perennial River of South India
 (सदाबहार)

[kt] → 5800 क्यूसेक मानसून से वर्षा प्राप्त करता है। (9m June)

[Tamilnadu] → 1000 क्यूसेक मानसून से वर्षा प्राप्त करता है। (9m Oct-Nov-Dec)

Disputed river b/w (kt) & Tamilnadu.

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

Class 12

(C) Subarnarekha River →

Origin → Ranchi Plateau.

Flow in → (JH) - Odisha → WB → Bay of Bengal

→ It is a major river of Jharkhand.

→ Waterfall on it → Hundred Waterfall

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

End → Bay of Bengal.

→ More amount of fossils found in it.
So called fossiliferous river.

(E) Mahanadi → Origin → Singhbawa Hill

Length → 858 km

located in Chhattisgarh

Flow in → (CH) - Odisha.

in odisha two places

Sambalpur

Cuttack

↓ here dam formed

↓ ends in Bay of Bengal

(World's longest dam)

Hirakund dam

Length → 26 km

- In River valley of Mahanadi coal is found.
- Major river of Odisha.
- Major tributary of Mahanadi → Sheomath.
- 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

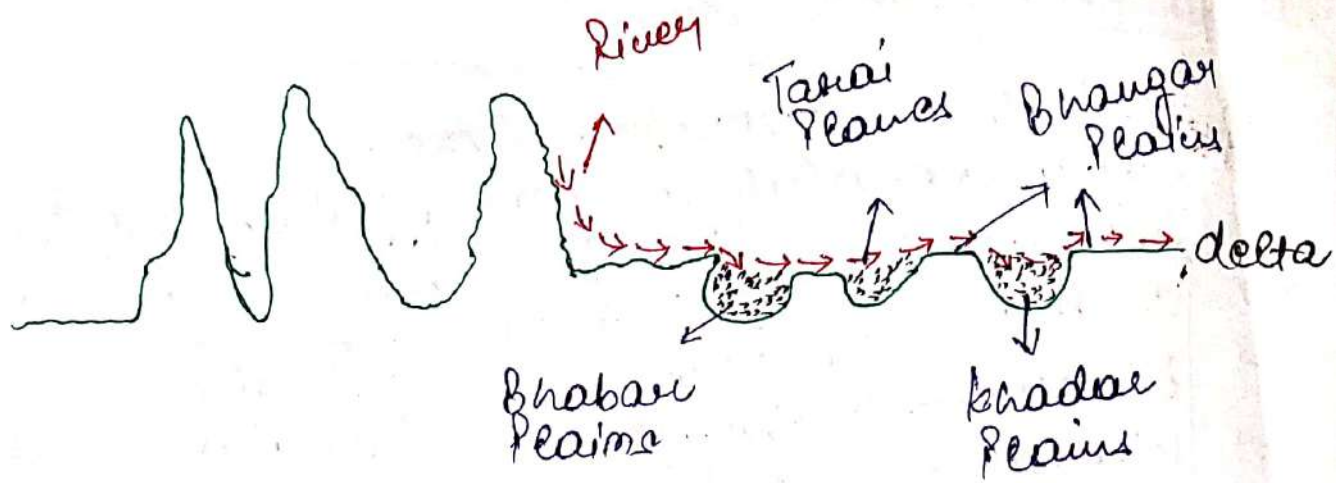
- ┆ Bhabar Plains
- ┆ Tarai Plains
- ┆ Bangar Plains
- ┆ Khadar Plains

Regional

- ┆ Coastal Plains
- ┆ Indus River Plains
- ┆ Ganga River Plains
- ┆ Rajasthan Plains

(1) Bhabar Plains →

- It forms in south of Shivaliks
- ^(pebbles) Porosity is high.
- ∴ Small rivers disappear.
- Extension → J&K to Assam.



(2) Tarai Plains →

- Form in South of Bhabar.
- More rainfall here → Vegetation more
- ** malaria occurs ← mosquitoes are found
- जल ही होती है but Punjab, HR, UP, Bihar arranged जल there.

(3) Bhangar Plains

- found on high areas than flood area.
- Alluvial soil found → old soil
- has more stone → so fertility (-)
- Dry area of Bhangar has Rajasthan, Madhya Pradesh

(4) khadar Plains

- found in flood area.
- River deposits new sediments continuously
- so fertility maintained here
- so more fertile plains from all.
- UK - U.P - PB - HR - BH - WB

Indus River Plains

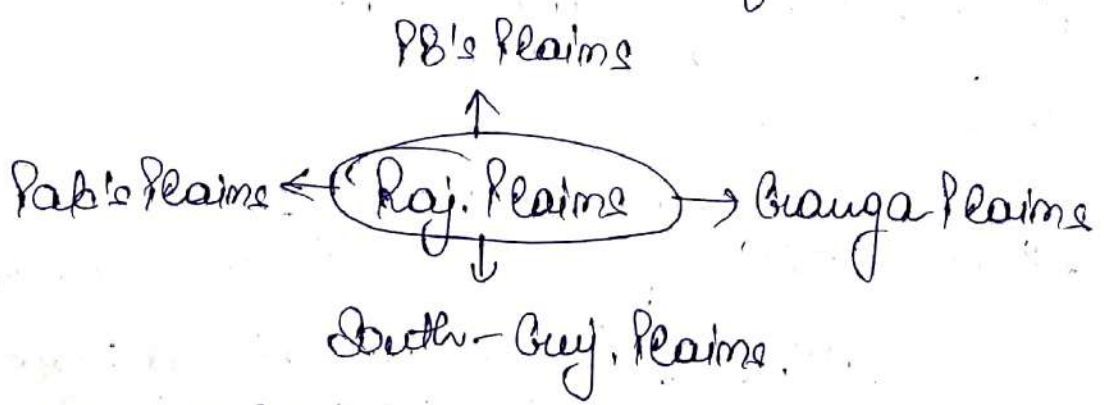
- Irrigation developed here.
 - Green Revolution was applied here so more fertilizers used. So here continuously fertility (-)
 - It has 3 major tributary.
- | | | | |
|--------|---|--------|---|
| Indus | → | Jhelum | (Doab → (अक्षांश))
Doab → Fertile land
b/w two river. |
| Jhelum | → | Chenab | |
| Chenab | → | Rabi | |
| Rabi | → | Beas | |
| Beas | → | Batlyj | |
| | → | | |

- Plain Area b/w → Indus - Jhelum → **Sidhu Sahar** → (J&K) Called
- Jhelum - Chenab → **Chal Plains** → (H.P + J&K)
- Chenab - Rabi → **Rachna** → (H.P + P.B)
- Rabi - Beas → **Bassi** → H.P
- Beas - Batlyj → **Bist** → P.B

→ Green Revolution was started by **Norman Borlaug**

Rajasthan Plains

→ Acid soil / मरुस्थली मिट्टी found here.



→ These plains are divided into 2 parts.

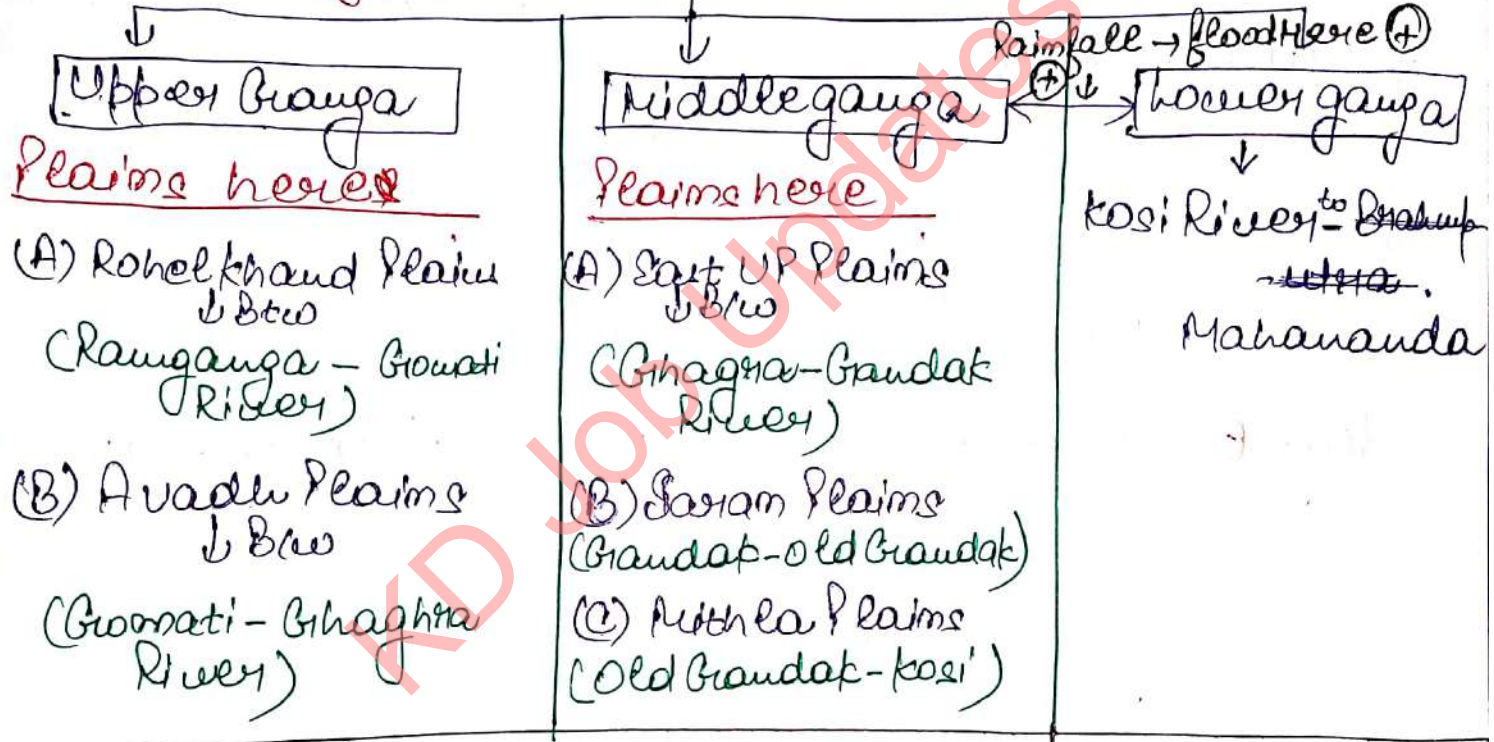
25 cm (+) Rain Plains

- Fertility Normal
↳ called Rohi Land
- Production of crops like wheat, Mustard, Gram.

25 cm (-) Rain Plains

- fertility low
- It is Thar desert area.

Ganga River Plains → Divided into 3 parts.



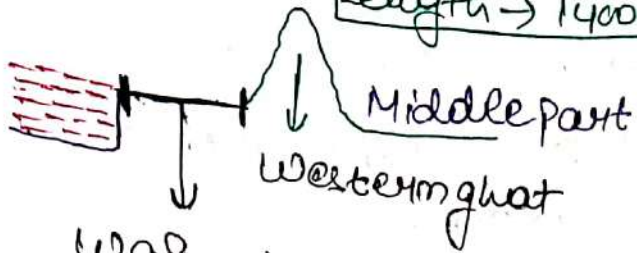
Coastal Plains



West Coastal Plains

WCP

Length → 1400 km



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

- + Konkan Coast → Guj to Goa
- + Kannad Coast → Goa to Mangalore
- + Malabar Coast → Mangalore - Kanyakumari

Ques → Where is Maxima Beach ??

Ans Chennai

Highest Peak of Eastern Ghats → Jindhagada

Eastern Coastal Plains

Length → 1100 km

B/w Bay of Bengal and Eastern Ghats

Northern Circars
↓
Odisha to Andhra

Coromandal
↓

Andhra to Tamil Nadu
→ Beaches are found here.

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

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

Started by → Pt. Jawahar Lal Nehru
He gave the name to that project

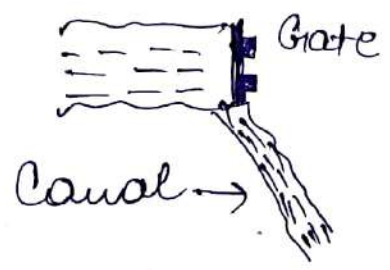
Temple of Modern India

* 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 works with $\frac{1}{2}$ m



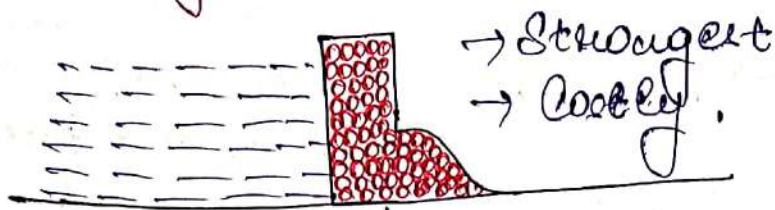
Dam

↓ motive

- Store large amount of water
- Hydroelectricity production
- Reservoir → To store extra water also called Artificial Lake

Dams are of 3 types 1-

(A) Gravity Dam → Constructed by concrete

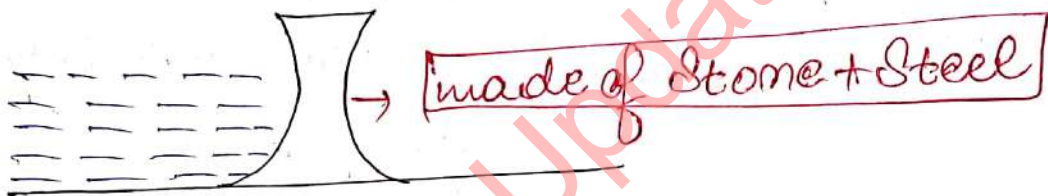


Weight (+) So, Balance (+)

E.g → Minapond Dam, Baphia Mangal Dam
(Odisha) (Punjab) P.D

(Highest Gravity Dam)

(B) Arch Dam →



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

(C) Rock filler → made from stone + soil.

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

~~Effects~~ Project of Ganga River

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

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 Sambhadra Distt.
- Here there is a Reservoir

Grobind 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 + Bheelaungana.

U.K (Garhwal)
(260.5m)

- Length → 261m → India's highest dam.
- It is opened in 2006.
- Water utilized by → U.K - PB - U.P - Delhi.
- It is a rock filler 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

One at Rajasthan, one at M.P.

↓
Ranapratap Sagar dam

↓
Grandhi Sagar dam

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

↓

In Hugel River → water is low

↓

used in trade route

→ formed to increase water in Hugel 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.

(Jhelum River Project) Tributary of Indus River → Jhelum

1. Krishanganga Project → Located at the border of POK in J&K.

↓

→ Opposed by Pak.

→ Target Height was 97mt

Krishanganga is the tributary of Jhelum

↓ But due to the opposition by Pak, via World Bank reduced to

(UNO)

→ Target was to generate 330 mw electricity.

37mt

2. **Tulbul Project** \Rightarrow Joint Project of Jhelum + Wular Lake

- \rightarrow This project do the cleaning of Wular Lake.
- \rightarrow Under Jhelum river hydroelectricity will be produced.
- \rightarrow Wular Lake is India's largest fresh water lake.

Chenab River Project \Rightarrow Trick (शुद्ध)

1. **Baglihar Project** \rightarrow Capacity \rightarrow 450 MW.

- \rightarrow Located on Chenab River in J&K.
- \rightarrow In 2005 opposed by Pakistan.
- \rightarrow Profitable for JK - PB - HP - UK

2. **Salal Project** \rightarrow Capacity \rightarrow 115 MW

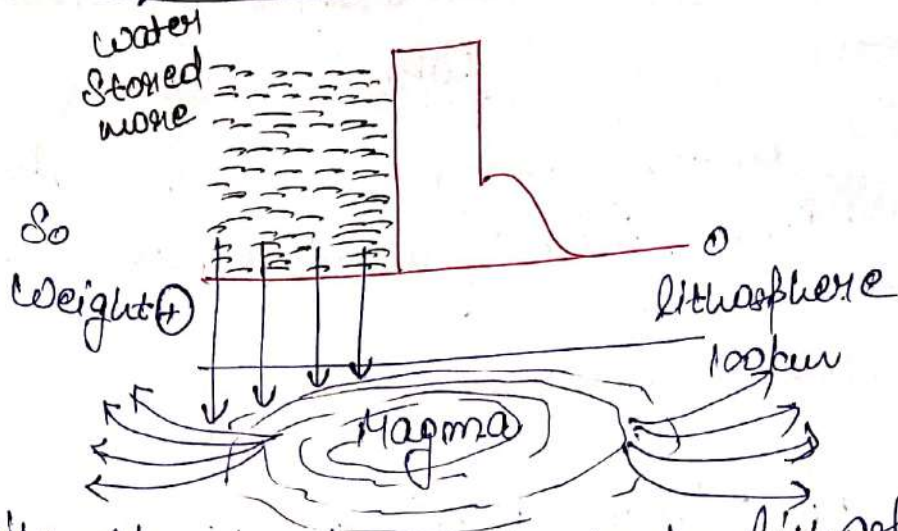
- \rightarrow Located on Chenab River
- \rightarrow 3 Plant are put on Chenab River of 115 MW under this project.

3. **Dalhousi Project** \rightarrow Capacity \rightarrow 390 MW

- \rightarrow Located on Chenab River.

#* world's highest ~~for~~ Railway flyover is forming in Riasi (J&K)
 \downarrow
 will completely form in 2020.

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

→ So 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.

One more project has been announced to be 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. (Raingda)

→ Formed in 1975.

→ Near dam Reservoir ~~was~~ ^{is} formed

Mahatma Pratap Reservoir on Lake

(H.P.)

Announced as Ramsar wetland

Wetland → wet area where at least from two months water stays

→ They are called **sponge of earth**.

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

**

(2) **Bhakra - Nangal Project** →

→ Located on Satlyj 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.

Capacity of these dam 1350 MW.

Current

Sri Chhotu Ram → farmer's leader

↓
known as father of Bhakra Nangal dam.

→ In Rantab's 214m his 64 feet Statue formed whose शिखर Done by Modi.

→ Bhakra Nangal Dam is highest Gravity Dam. (223m).

Largest Dam of India → Sr. Sarovar Dam.

Narmada Project ^{flow in} → MP → MH → Guj. due to

In MP Guj → there was a drought problem

In 1981 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

Obshwar (Khandwa)

Bergi (Jabalpur)

Target dam height was 131m.

↓ but people opposed

So, reduced to 133m.

But due to inhabitate NBA was started.

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

→ State of Guj is also on Sr. Sarovar Dam (132m)

Tapti River Project →

→ Upari Project → In Surat of city of Gujarat.

Krishna River Project →

(A) Tungbhadra Project → Tributary of Krishna is Tungbhadra River.

Under this Project Yempha dam was formed.
Joint Project of Kt. + Andhra

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

(C) Koyna Project → Koyna is located in (MH)

Koyna → Tributary of Krishna on which Koyna dam is formed.

(D) Almety Dam → Located on Krishna River in Karnataka

Maynastshi Project

flow → River in JH, WB

In WB a dam was formed → Masanjori dam
called as Canada dam.

Kaveri Project

↓
Only Perennial River of South India.

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

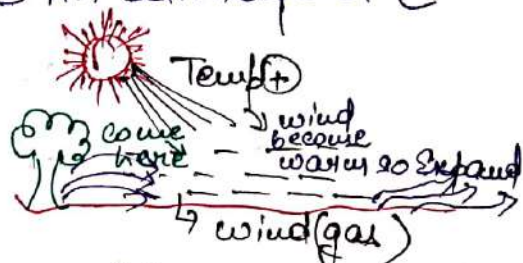
Idukki Dam → on Periyar River ~~is~~
in Kerala
only arc dam of India.

Mulla Periyar Dam → on Periyar River
on Cardamum Hill
in Kerala
But conducted by ~~the~~
Tamilnadu.

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

- Climate → ~~Instant~~ Season + weather at 1 year
32 years se 500 जहाँ 9121 जहाँ
- Season → Cyclic change in fix time
- Weather → Instant change in atmosphere

Atmosphere full of gas



Temperature difference occur.

movement will be at in gas

moving gas are called Air.

Temp \propto Pressure

$T_{+} \rightarrow P_{-}$

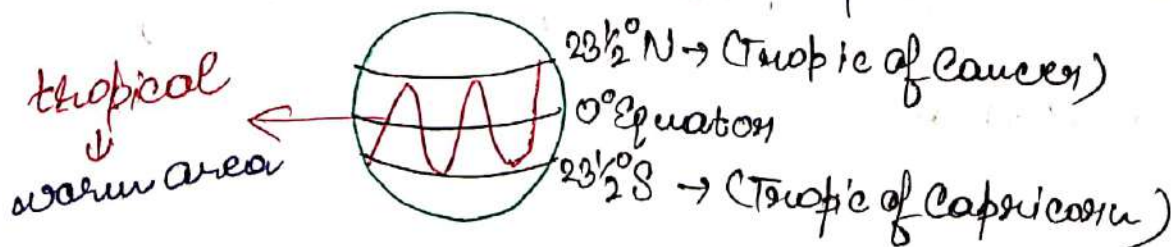
$T_{-} \rightarrow P_{+}$

- Temp \oplus → 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's Climate is → tropical monsoon



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

Because South India located in this zone.

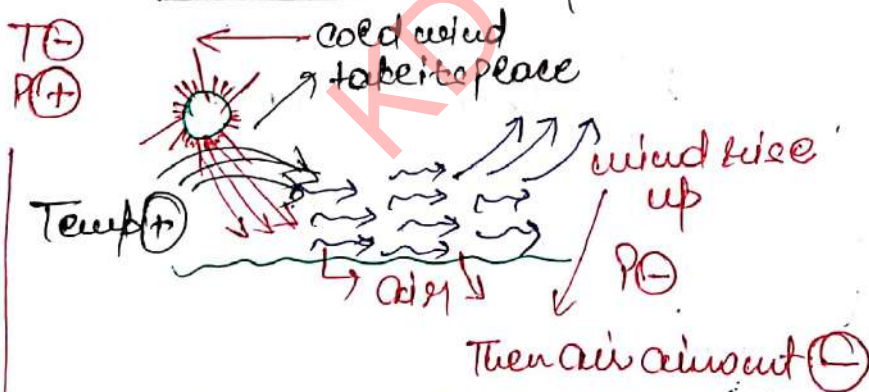
Monsoon → India's Rainfall is $\frac{75}{100}$ %
→ 53% Agriculture depend upon Monsoon.
→ 60-65% of population depend upon agriculture.

Origin of Monsoon. →

Defⁿ **Monsoon** → It is a wind → which change its direction acc. to the season.
Monsoon formed from the word "Mausim" ↑ Heavy
↓
arabic word

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

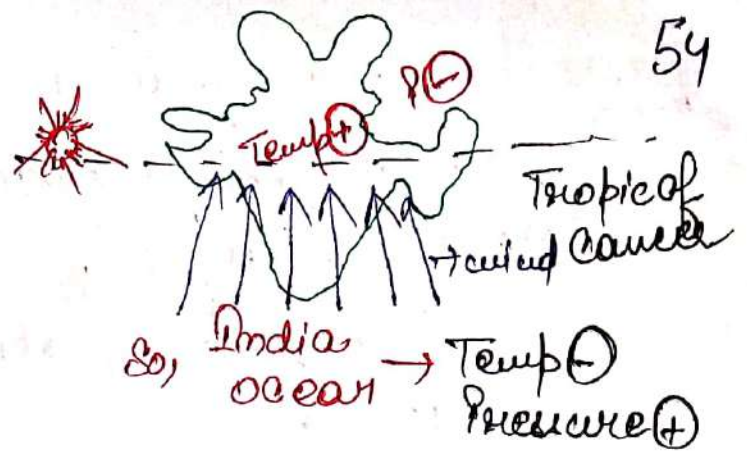
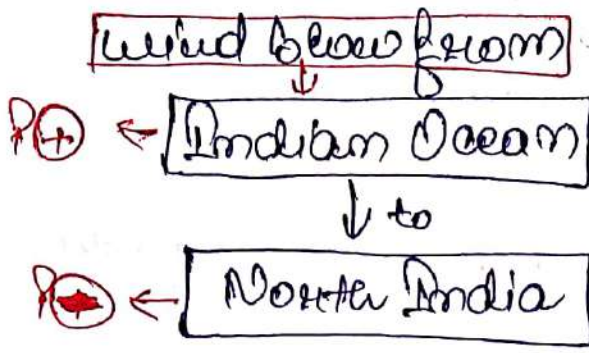
(A) **Thermal Concept** → Given by Halley in 1686



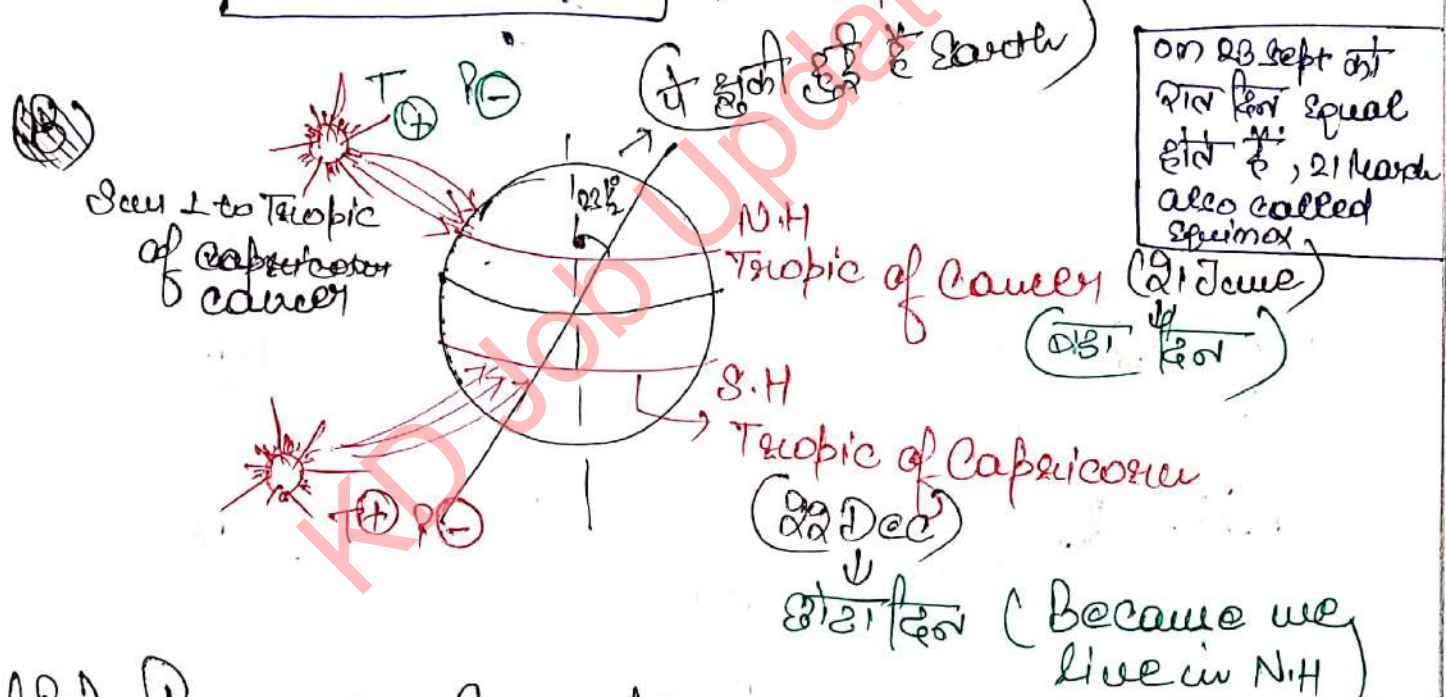
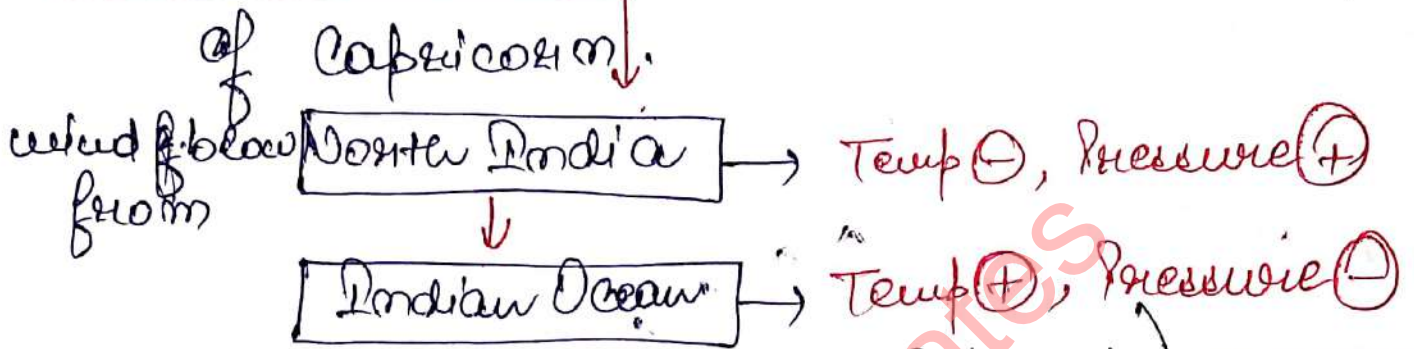
So wind always blow from P(+) to P(-)

In June → 21st → Sun is ⊥ to the tropic of cancer
↓
Summer Season T(+), P(-)

In Summer season



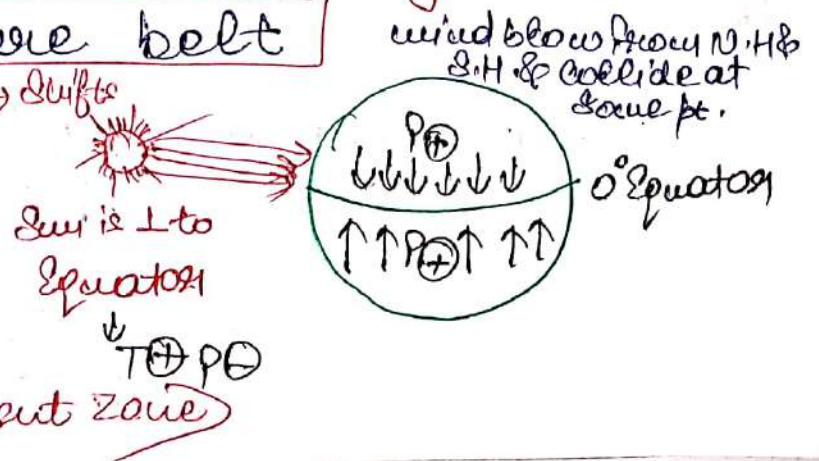
In winter season → Sun will be ⊥ to Tropic



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

Shifting of Pressure belt → ITCZ → Shifts

** (Area) Pt. which, convergent of wind occurs ↓ called ITCZ zone. (Intertropical Convergence zone)

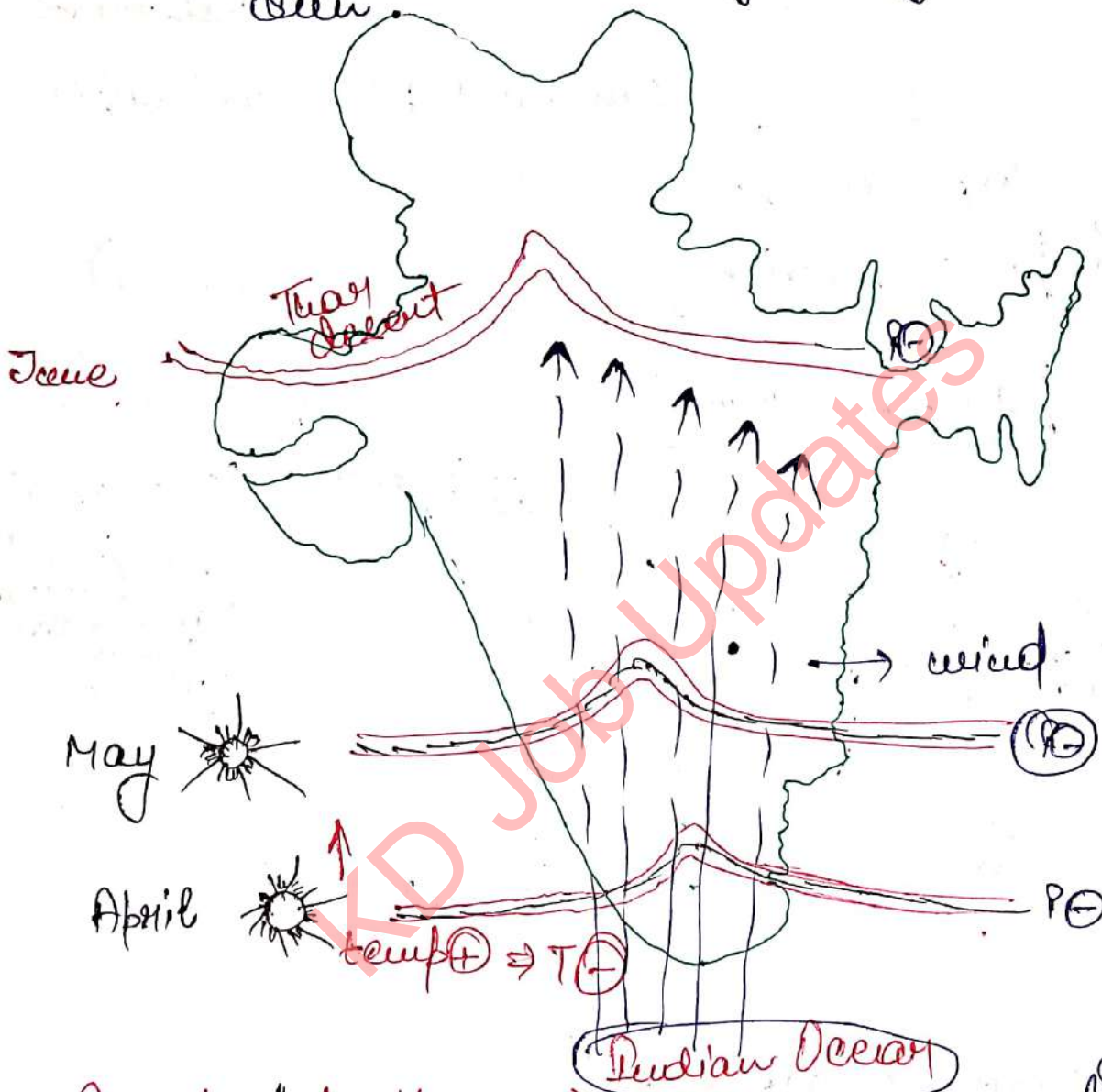


ITCZ → convergent area of air.

↳ always shifts because Sun position

always change ↓

so ITCZ → always change w.r.t to the Sun.



Sun is ⊥ to the Indian Ocean →

(A) Equator → ITCZ → zone

Sun at Angle in

March → 0° (Sun on Equator)

↓
April → 8°N

↓
May → 16°N

↓
June → 23½°N - 24°N



Sunlight will be toward N.T

In June → They desert Temp (↑)
where pressure is low (T_c) shift

wind flows from Indian Ocean to They 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)

So 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

- (a) Winter season
- (b) Summer season

South-West Monsoon

- (a) Wet season
- (b) Autumn season

(A) Winter Season → How rainfall occurs??
↓ In so

North India ⇒ 10-15°C (T_c P₊) direction of wind

South India ⇒ 20-25°C (T₊ P₋)

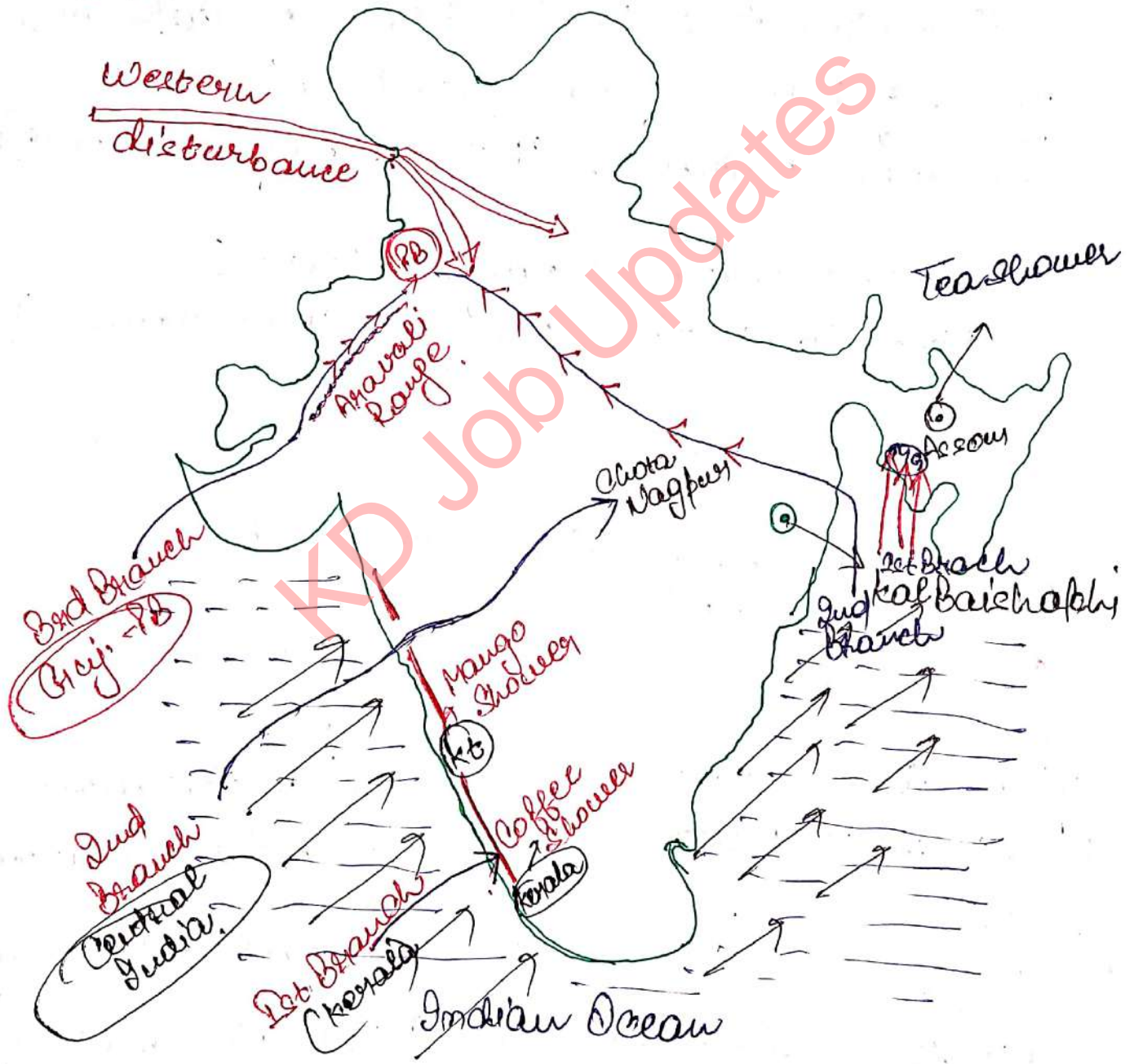
wind blow from North India to South India.

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

But in winter rainfall occur due to ** Western disturbance

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

4% of total rainfall occur in winter season.



Rainfall in Rajasthan in winter is called ⁵⁶.
Mabab.

[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 Bai'shahi]

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

[South-West Monsoon]

↓
[Arrival Monsoon]

↓ direction

[S-W to N-E] → [June 1st
week]

from
Arabian Sea
(65%)

Bay of Bengal
(35%)

↓
[Retreat Monsoon]

First of all Monsoon will rise from Arabian Sea, which do rainfall by 3 branches.

- (A) Kerala (9m June 1st week)
- (B) Central India
- (C) Gujarat, Punjab

Monsoon that will rise from Bay of Bengal which do rainfall by 2 branches.

- (A) Meghalaya
- (B) WB - BH - UP - PB

Class → 10

Retreat Monsoon

Retreat Monsoon Time

Oct. - Nov - Dec.

dominance in

Odisha

Andhra

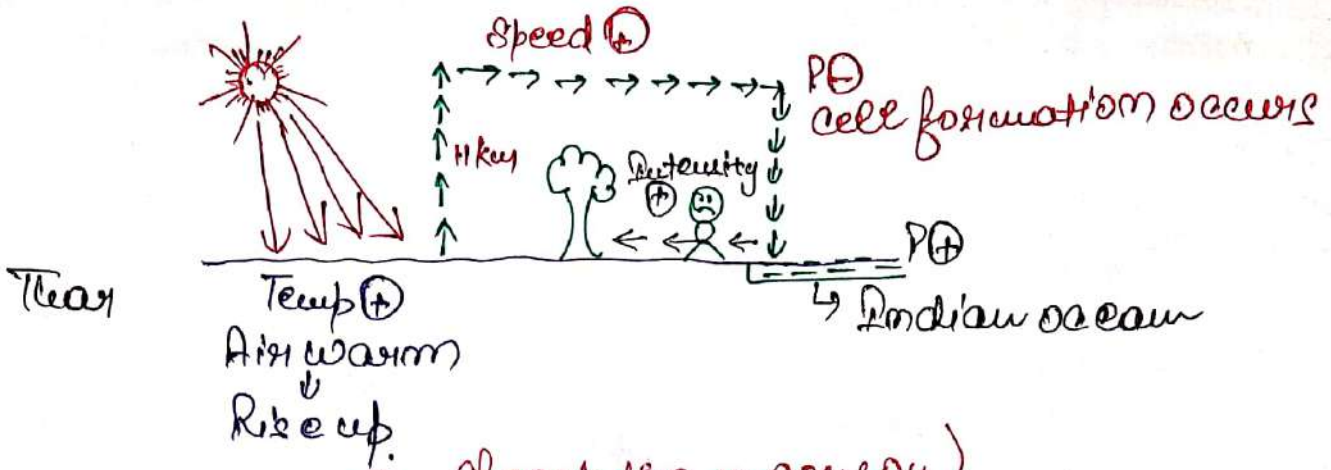
Tamil Nadu



Here at last Rainfall occurs

Via Monsoon of Bay of Bengal

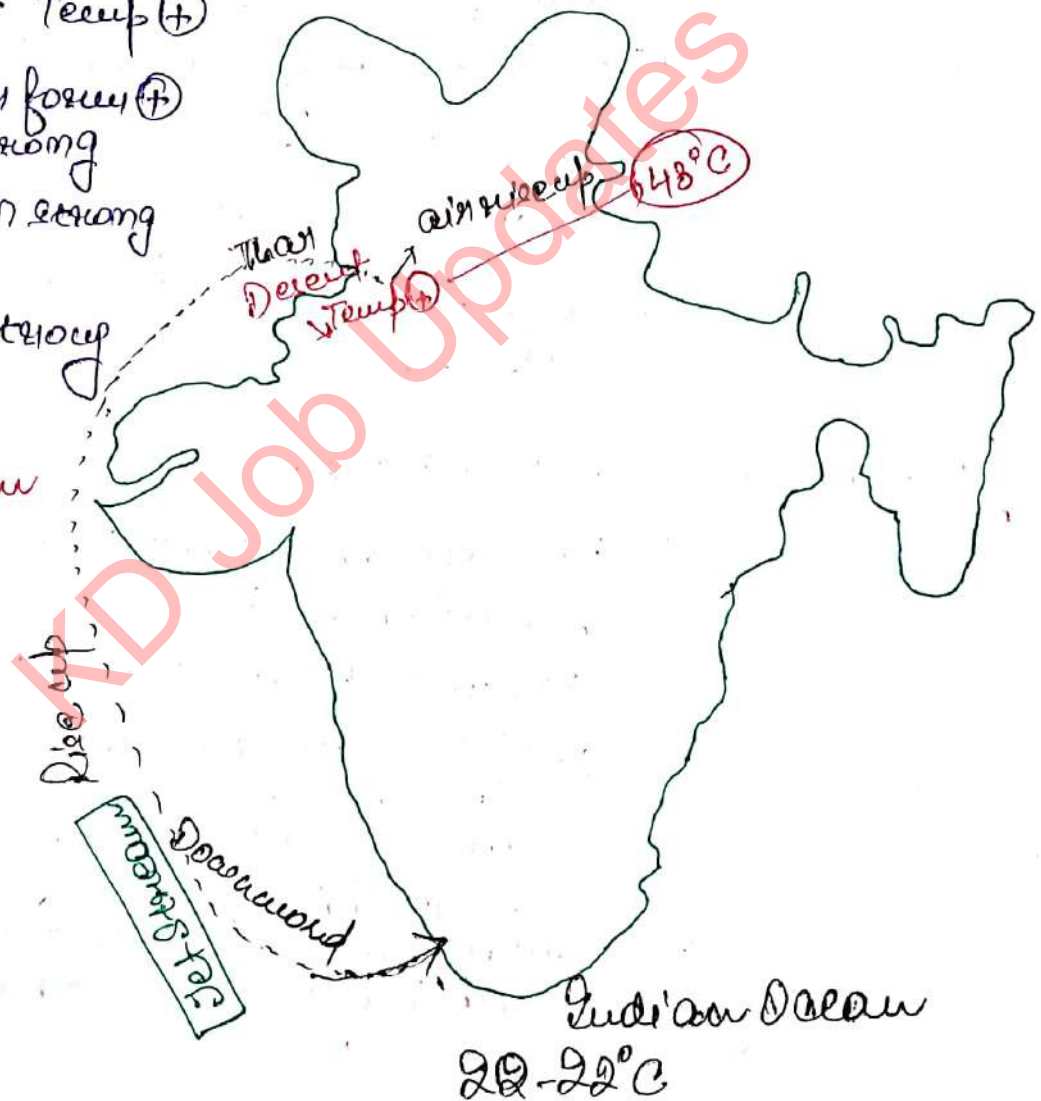
Note :- Effect of JET Stream on Monsoon

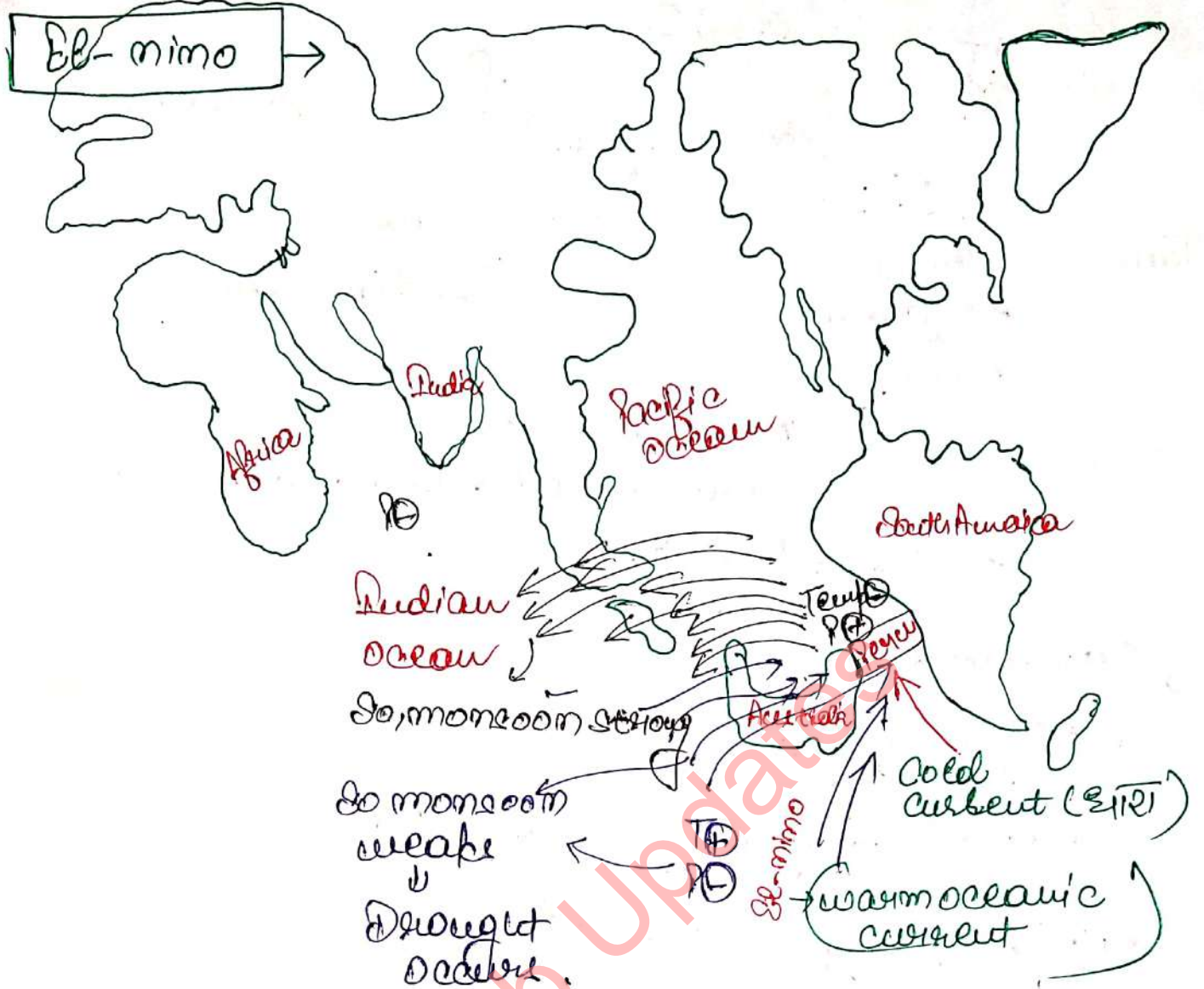


Jet Stream → (boost the monsoon) high speed wind which blow on 11 km of height.

If Thunderstorm Temp ⊕
↓
Jet Stream form ⊕
↓ of strong
Monsoon strong
↓
Rainfall strong

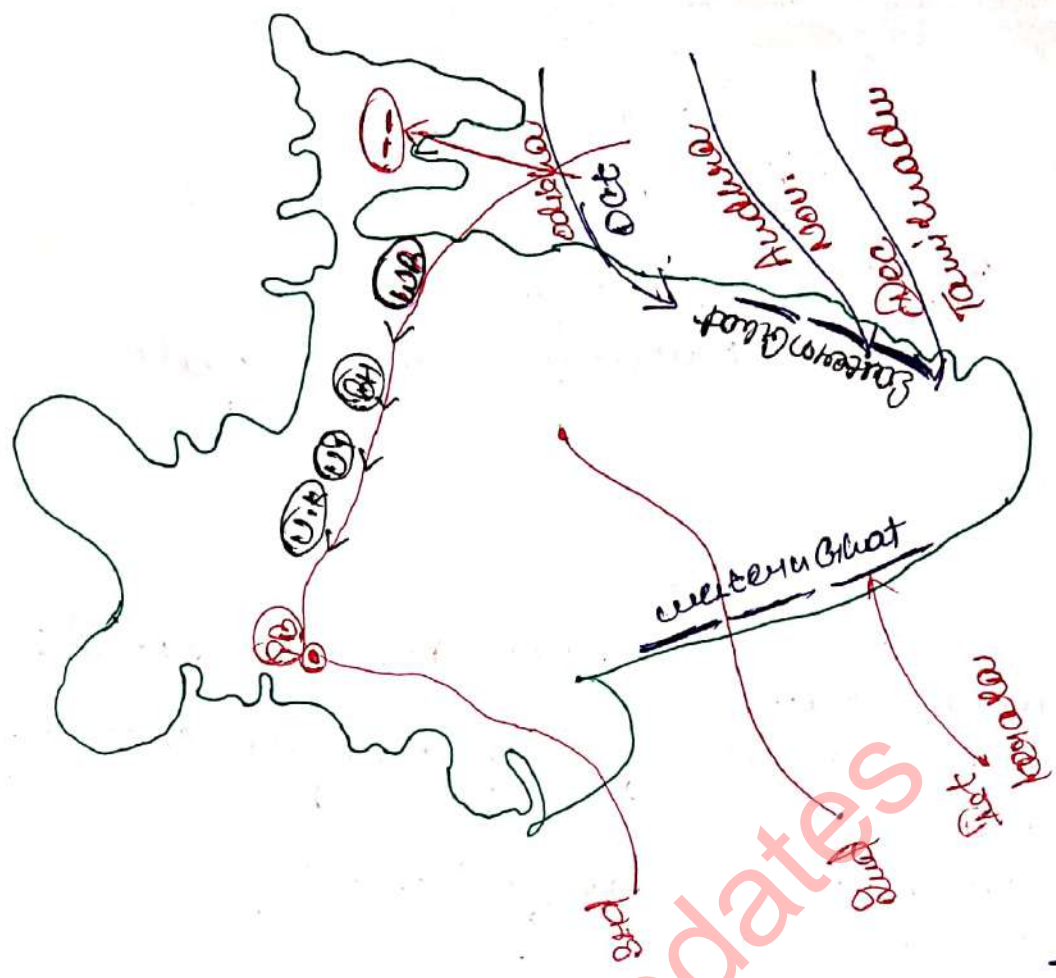
* If Jet Stream is weak then drought occurs



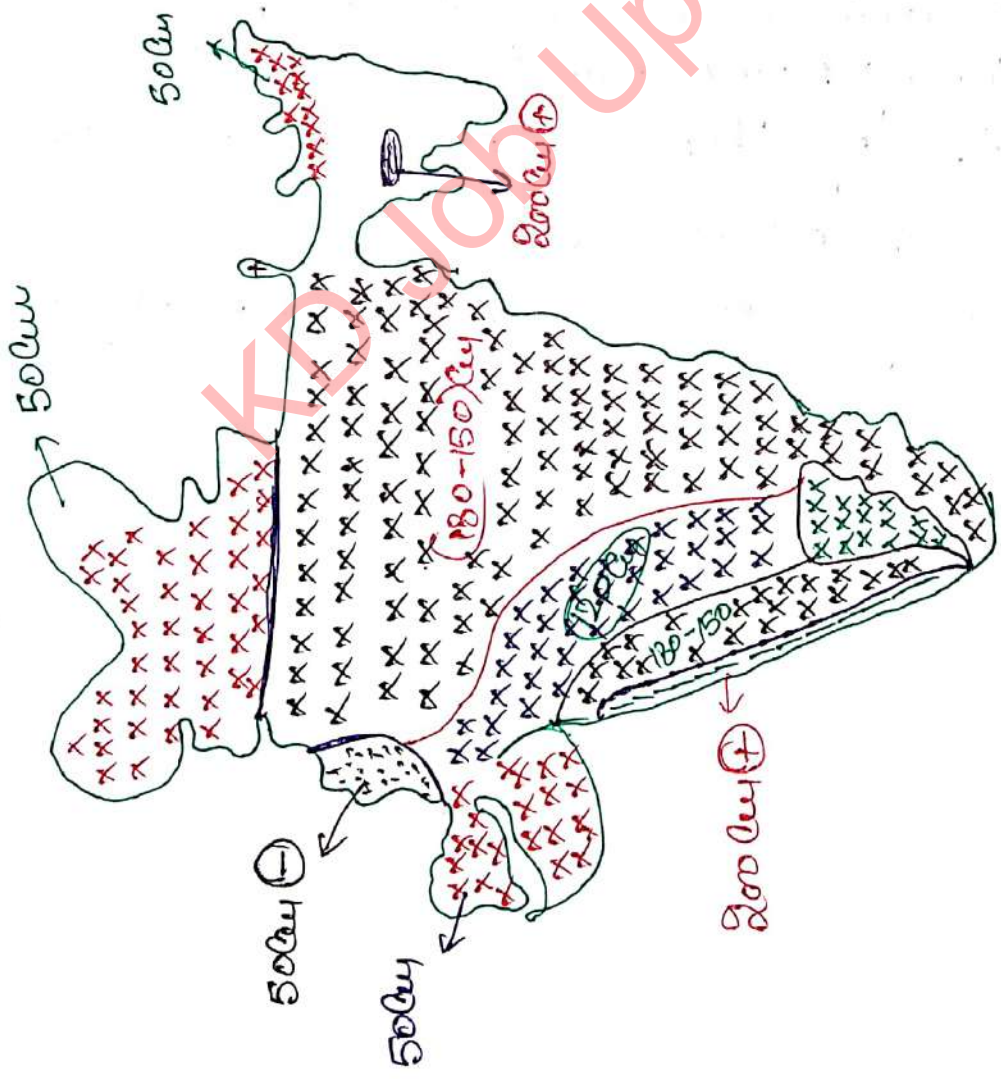


- El-nimo
- warm oceanic current
 - formed in coastal area of South America. (June-July)
 - Replace Peru Current.
 - Pacific ocean \ominus
 - due to which drought occurs in India
 - weak Indian monsoon
 - origin → coast of Peru, in Pacific ocean.

Arrival Monsoon & Retreat Monsoon



Distribution of Rainfall In India



Rainfall is measured by an instrument

Rain gauge

Acidic Rainfall

↓ Reason

SO₂, NO₂

↓

Effect → Trees die

→ Building's colour fade

Soil

Questions → (1) In India where does rain start? → Arabian Sea

(2) In India where firstly rainfall occurs? → Kerala

(3) In which month rainfall starts? → 1st week of June

(4) In Meghalaya how rainfall occurs? → By Bay of Bengal Monsoon

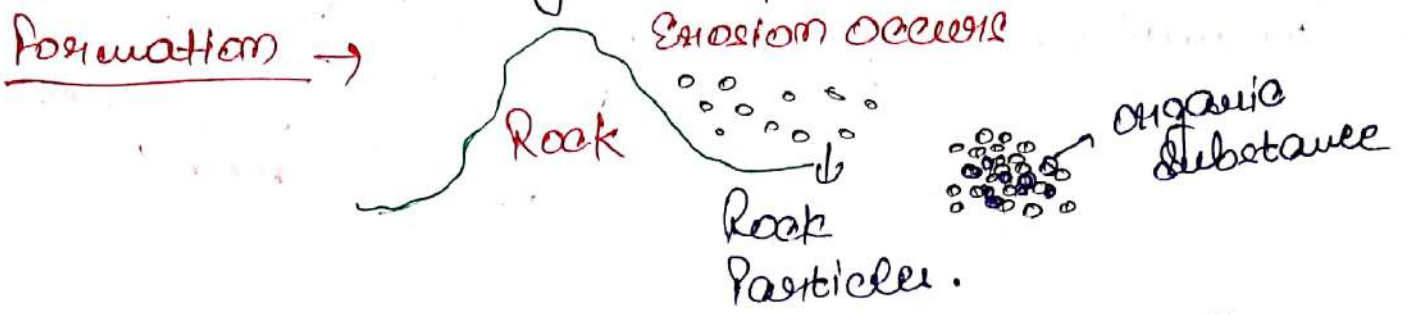
(5) What type of Indian climate → Monsoon Climate

(6) India's climate is tropical

(7) E-W wind originates in which ocean → Pacific Ocean

Soil → Study of Soil is called **Pedology**

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

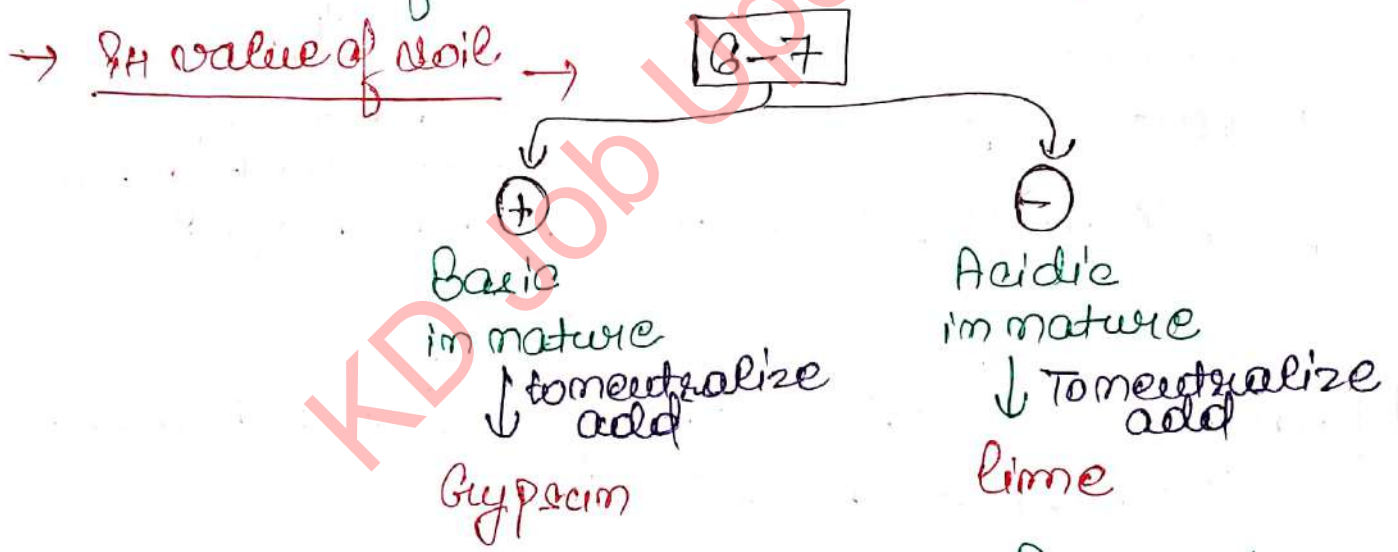


Soil = Rock Particles + Organic Substance

↓ (+)

More fertility

Formation of Soil is known as **Pedogenesis**



Indian Council for Agriculture Research

↓ divides soil in

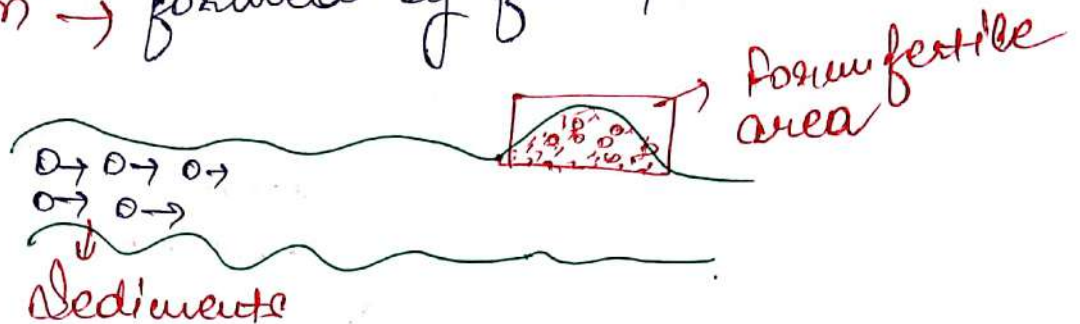
Indian Soil → type

- | | |
|-----------------|------------------------|
| → Alluvial soil | → Montmorillonite soil |
| → Black soil | → Acid soil |
| → Red soil | → Peat soil |
| → Laterite soil | → Saline soil |

(A) **Alluvial Soil** → cover 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 (+)

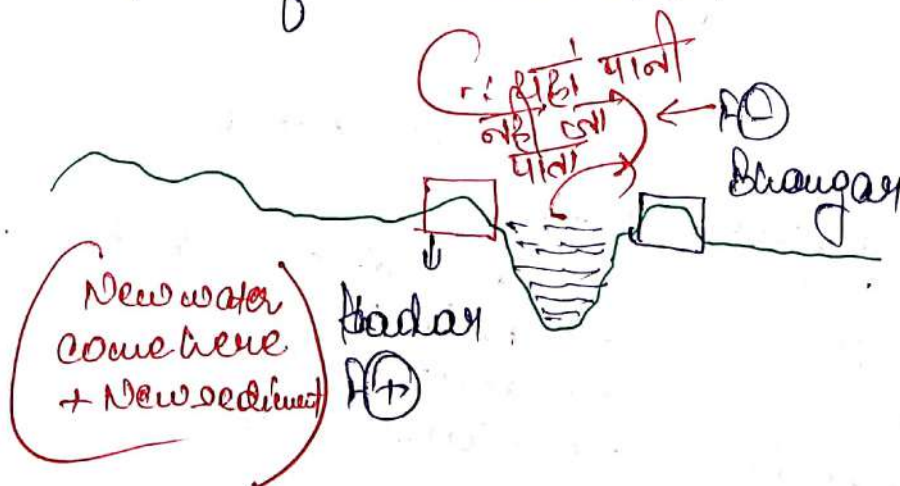
Bhangar

- Old Soil
- Fertility (-)
- found in High Area.

In Alluvial soil → Potash & Phosphorus

↑ Fertility

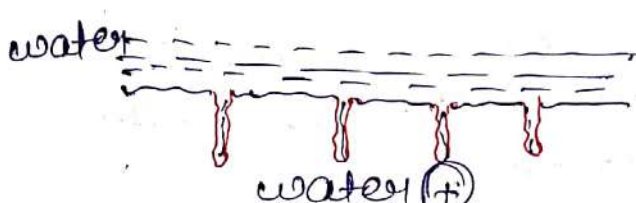
Tarai Soil → In it Nitrogen present is more
↳ also part of Alluvial soil.



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

→ Here Alluvial soil is found in this area of soil.
All crops can be produced in this area of soil.
(B) Black Soil

- Formation → By volcanism
- volcanism form Basalt Rock erosion Black soil.
- Colour is black due to Magnetite Titaniiferous + Silicate
- In this soil pores (+) due to which capillary (+)



when temp (+) ⇒ vaporisation (+)
 ↓
 due to water vapour
 ↓
 cracks will form
 ↓
 so called Self ploughing soil

- other names → Cotton soil
- Reguer (M.P. side केर खेत में)
- Chernozium (International name)

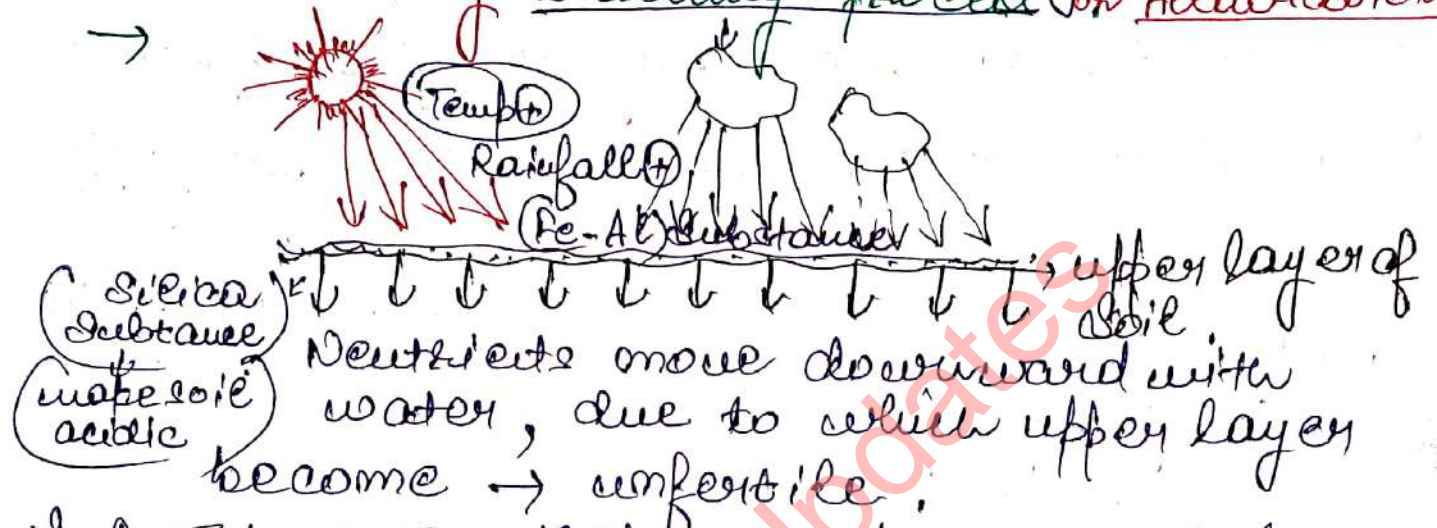
→ कौन कौन से खेती की जाती है → Cotton, Sugarcane, Rice.

→ Area in which Black Soil found → Deccan Plateau - Guj - M.P. (Telangana, bt, MH, Andhra)

(C) Latent Soil

→ word formed from word → later
↓ means
Bricks.

→ It is also called, formed by Bricks.
→ Formed by Leaching process (or Alluviation)



→ This soil will be more basic and less acidic.

→ found in high rainfall area.

→ found → Meghalaya, MH, KT, Kerala, M.P

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

(D) Mountainous Soils

⇒ Found on high elevation areas.

→ On mountain Temp (-) → Ice (+)

↓ so:
Acidic soil ← upper layer having silica ← leaching process

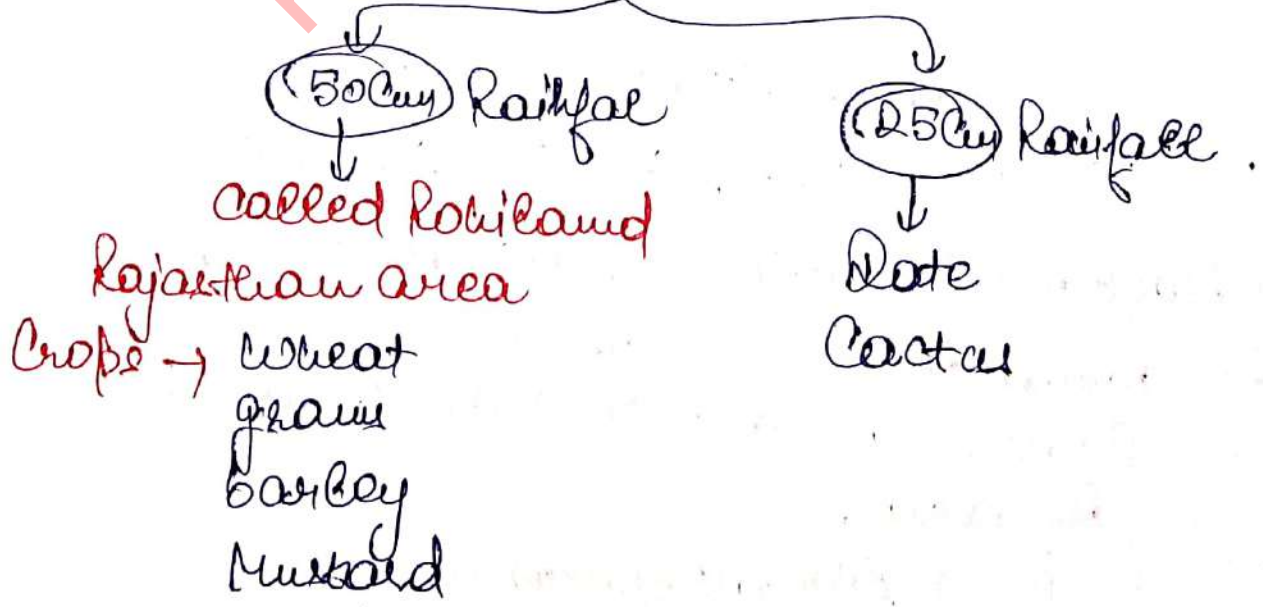
Humus → Organic substance + Fossils (Vegetation)
 Temp. responsive, No movement, forest area

- imprecise humus found in this soil.
(Bilateral)
- due to acidic nature all crops cannot be produced.
- plantation cropping can be done
 ↓
 crop of Tea / Coffee / Spices.
- found in → J&K - UK - HP - Sikkim - Arunachal Pradesh - Kerala - etc.

~~(E) Red Soil~~ → (E) Acid Soil

found in those area which receive
 A Rainfall < 50cm
 > 50cm

→ temp (+) ⇒ evaporation (+) ⇒ Minerals (+)



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 fertilizer → 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 Area.

→ Coastal area of Kerala, Kt, Tamilnadu,
Andhra.

→ Crops → Rice, Sugarcane.

H) Saline Soil \Rightarrow having saline nature due to Magnesium + Sodium

Crops \rightarrow All grains can be produced.

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

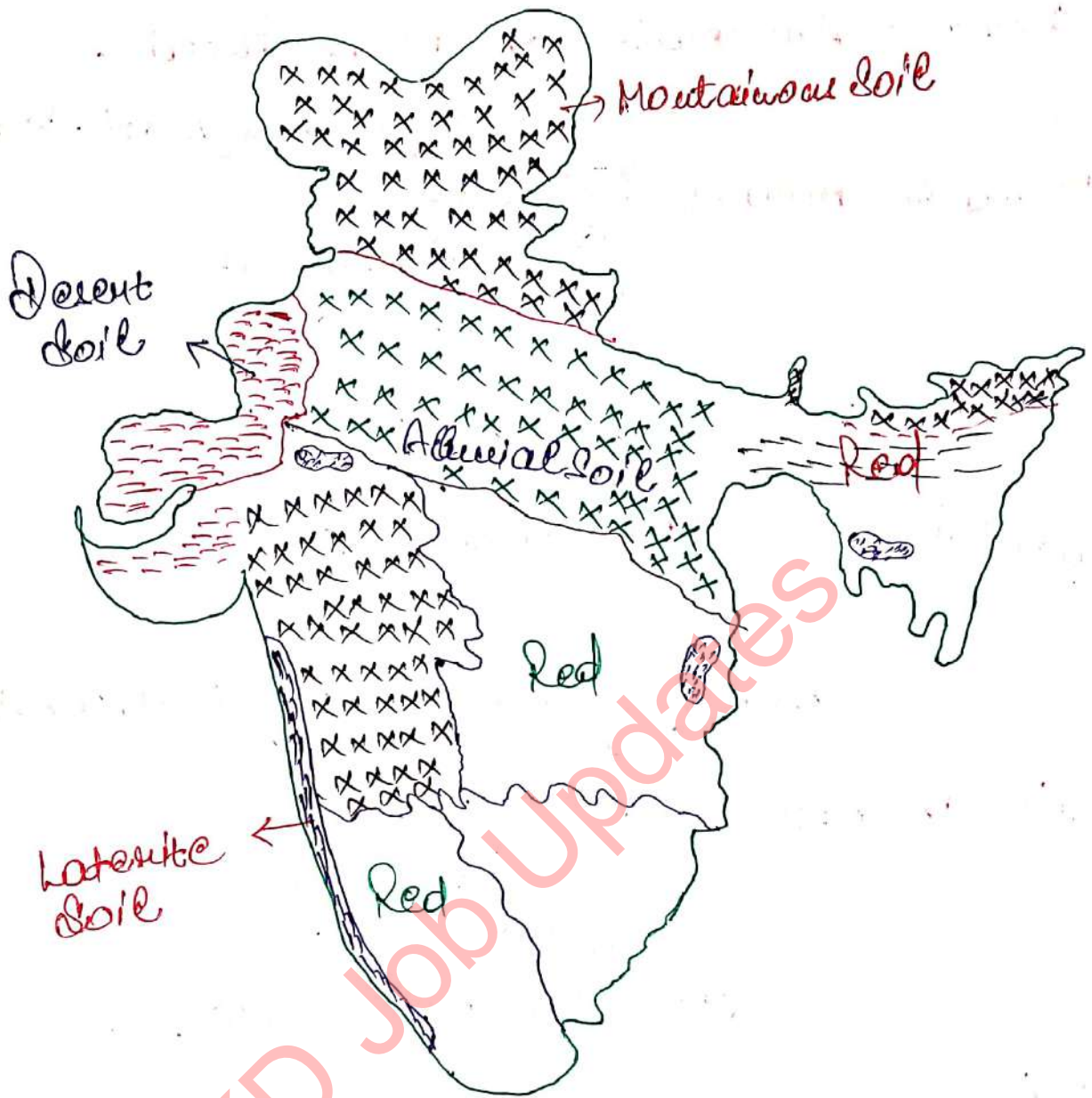
Found in area \rightarrow Guj., BH
M.P., Chattisgarh
U.P., MH

Note :- (A) Soil health card scheme
 \downarrow
Started in 2015 in
Sri Ganga Nagar, Rajasthan
under this \rightarrow checkup of soil \rightarrow Required substance

(B) CAZARI \rightarrow Central Arid Zone Research Institute. (in Rajasthan)
 \downarrow work

Decoded soil's checkup.

(C) CSIR \rightarrow Central Soil Salinity Research
 \downarrow Report (an annual of HRD)
UP \rightarrow Bari's Soil
Guj. \rightarrow Saline soil.



Class 18

Agriculture of India

- India is an Agricultural Country,
- 60-65% ~~to~~ population depend upon agriculture.
- Production in agriculture field is continuously.

Problems → (A) Dependency on Monsoon.

Agriculture

56%

depend on Monsoon

↓
which ~~with~~ remain
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)
↓ (MSP Supported Price)
(Demotivate farmer)
- (E) Chemical fertilizers use
- (F) Shifting cultivation (Cost for Europe)

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, Pulse.

(B) Kharif Crops :-

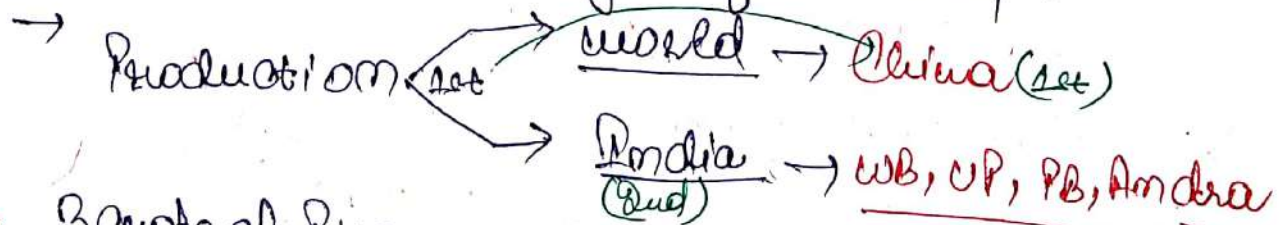
Sown → June-July
 Harvested → Oct-Nov.
 E.g Rice, ~~Barley~~ Jowar, Bajra, Maize, Cotton, Jute

(C) Zaid Crops :-

Sown → March
 Harvested → June
 E.g Green leaf vegetables, Cucumber, ~~Brinjal~~, ~~Cauliflower~~ etc.

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

- depend on monsoon totally.
- It is India's major food crop.



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

- (1) Aman
- (2) Aus
- (3) Boro

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.

World

→ word given by William Gaud.
Green Revolution → Started in 1935 in (Mexico + USA)

Father → Norman E. Borlaug (USA)
(died in 2009)

(By USA)

- ↓ got Nobel prize → (शान्ति के क्षेत्र में)
- (2) Bharat Ratna 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??

Mexico & Mexican wheat ~~नाएत~~ ~~नाएत~~
 ↓ Two varieties ~~नाएत~~ ~~की~~ ~~जाइ~~
 Kalyansona Sonalika

↓
applied only in UP, PB, HB
 ↓
 on 40% of land.

→ It remain successful.

Drawback → Firstly the fertility in all these 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 Fazenda.

Variety of coffee in India

65.

Roubausta Arabica

19

Cotton → Best place - **India**

↳ used in formation of clothes

Production $\begin{cases} 1st & \text{China} \\ 2nd & \text{India} \end{cases}$

+ Maharashtra (max^{im} production)
+ Gujarat

Here cotton is called White Gold

Rubber → found as milk in plant.

Production $\begin{cases} \text{Thailand (1st in world)} \\ \text{In India} \\ \quad \begin{cases} \text{Kerala} \\ \text{Tamil Nadu} \end{cases} \end{cases}$

Sugarcane → One year crop

Sugar is made from it.

Temp. → $21^{\circ} - 27^{\circ}C$
(for production)

Production $\begin{cases} \text{Brazil} \\ \text{In India} \\ \quad \text{(UP, MH)} \end{cases}$

Bajra → ^{Come in} food crops

→ grow in sandy soil

Production → Nigeria (in Africa)

In India → Rajasthan - UP - Guj - HR.

Pulses → come in food crops

Producers + consumers → India
↓
(M.P)

Demand of pulses in India more so they are imported

Tea crops → water loving plant.

↳ grow in slope areas.

Production → China

(In India) → Assam, Kerala, Kt., WB
(53%)

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.

(D) Stimulated Crops → All Kenning Crops.

Opium, Tobacco, ~~शक्कर~~, ~~चरस~~, ~~श~~ Bang.

(E) Oilseeds Crops → give us oil.

Ex → Mustard, Sunflower, Peanuts

→ ~~काशुली~~, ~~खानिया~~

(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

↓
Plain Areas

↓
Mountains also called

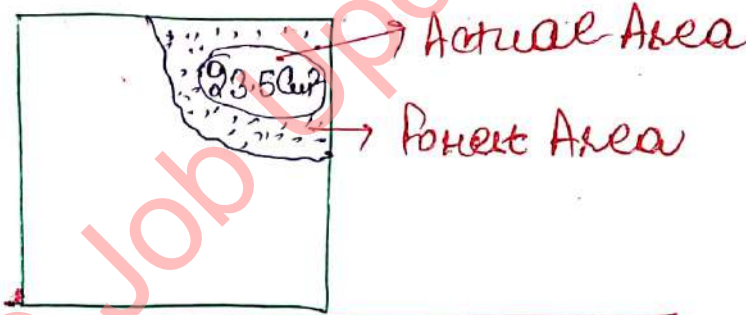
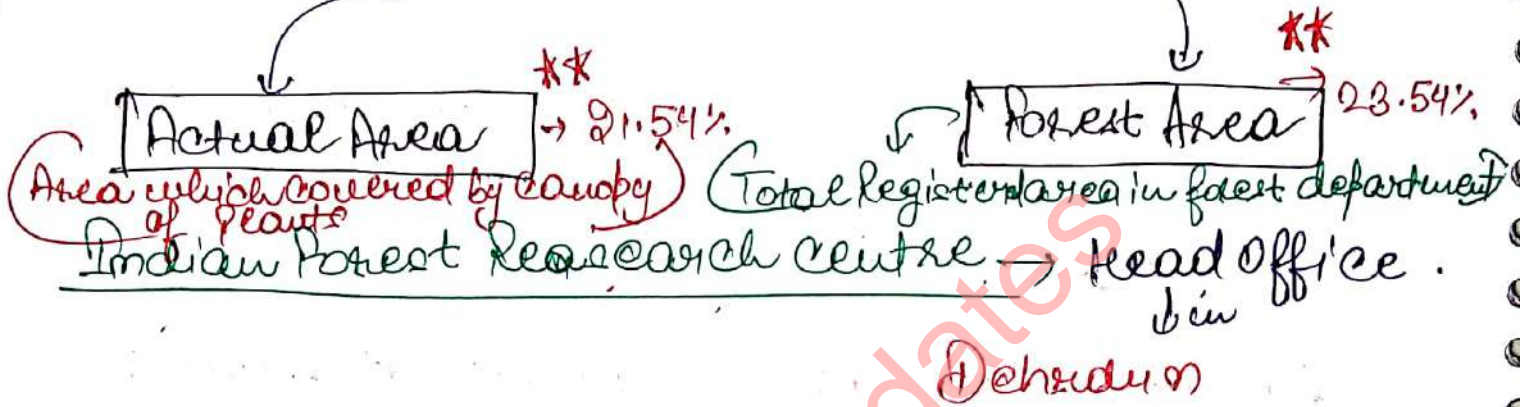
(Ponds)

Shifting Cultivation → Assam

Dahya called M.P.

Vegetation of India

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

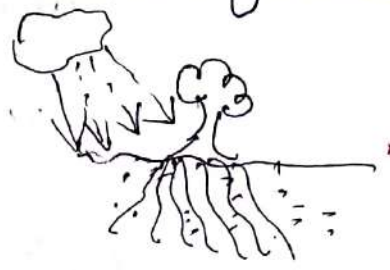


Advantages of Vegetation

- (A) Source of
- Ayurvedic medicines
 - wooden fuel
 - Income
- (B) Helpful in rainfall
- water vapour
 leaf release water vapour
 vapourisation
 Water $\xrightarrow{+T}$ Vapour
 Condensation
 ↓
 cloud forms → Rain occurs

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 CO₂**

Types of forest

(A) **Tropical Evergreen forest** →

In that 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, Mahogany,
Gimchoma.

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

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

Deciduous Dry forest

- Rainfall → 150-180 cm
- temperature high
- Plant density low
- Bacteria (x), Grassland
- found in Assam, Eastern part, JK, MP, CH, West slope of western Ghats.
- E.g. Sal, Shagun, Sandalwood, Sheesham, Akyum.

- Rainfall = 70-100 cm
- temp. → normal
- found on peninsular plateau region.
- E.g. Sal, Sheesham, Neem, Teak, Mango.

20

(C) **Arid Forest** → found in low rainfall areas

- Rainfall → 50 cm or less
- Leaf of plants will be pointed
- E.g. Babool, Puncture, Cactus

Area → Rajasthan → SW ← HR
PB

(D) Tidal Forest → Found in coastal and wet area.

- 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 **Mangrove Forest**.

Plant ^{come} here ⇒ **Budae Plant, Kajutan**


Found in West Bengal, Meghalaya, Kerala

Odisha
Tamilnadu } → Coastal Area
KT

(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, Siberian Pine

3500-4800 mt → Alpine grass

4800 mt → No Vegetation found.

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

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

Some Main Points →

- * In MP vegetation widely spread. M.P > Ar.P > CH
- * On percentage of area → Mizoram (88-90)%
- * Van Mahotsava started by K.M. Murchi (1950-51) MZ > Lakshadweep > Andaman Nicobar
- * Objective (Vegetation of India) → Celebrated in (First week of July)

* 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%

2017 → HR (359%) PB (265%)

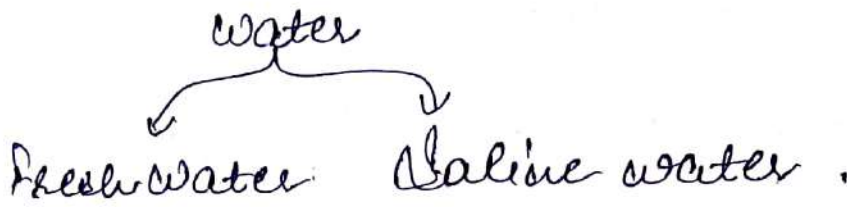
21

Lakes of India

Source of water.

Advantages

(1) Some lakes water used in drinking.



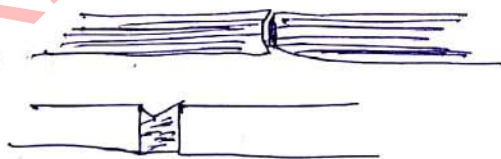
(2) Saline water ^{Source} of Production of Salt.

(3) Tourism

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

Types of lakes

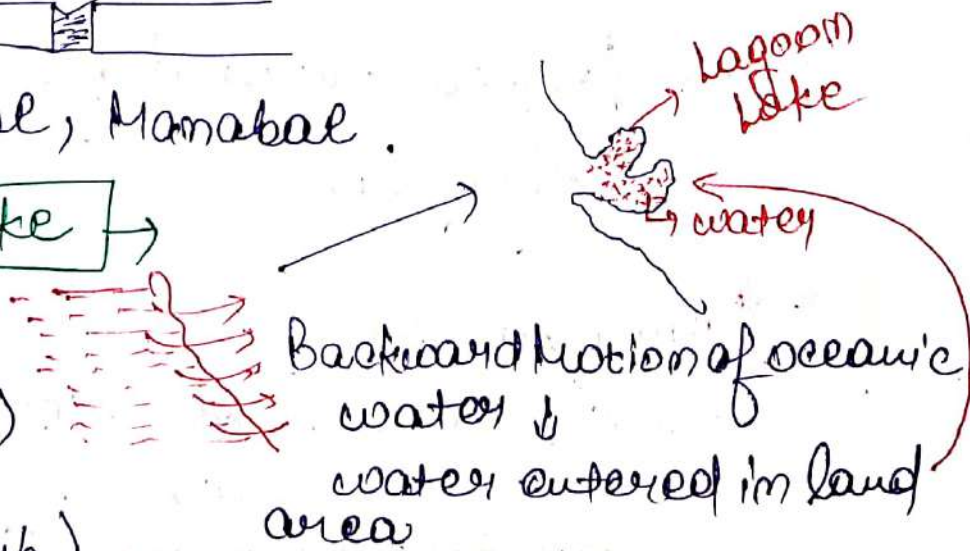
(1) **Tectonic lake** → formation occurs by Plate Tectonic event



E.g. Pangabai, Manabai.

(2) **Lagoon lake** →

- E.g. Chilika (Odisha)
- Vembanad (Kerala)
- Pulicat (Andhra Pradesh)

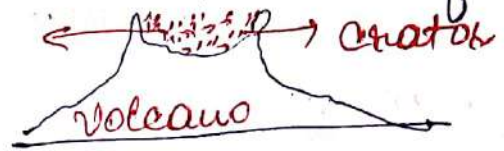


(C) Crater Lake

Mouth of Volcano

→ First of all Volcanism occurs → Crater formed

Crater Lake



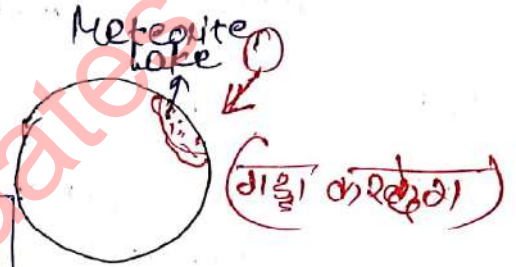
→ Rarely present in India

(D) Meteorites Lake

Meteorites are Asteroid Particles

That fall down on earth

E.g. Lunar Lake - MH



In India → Artificial lakes are there.

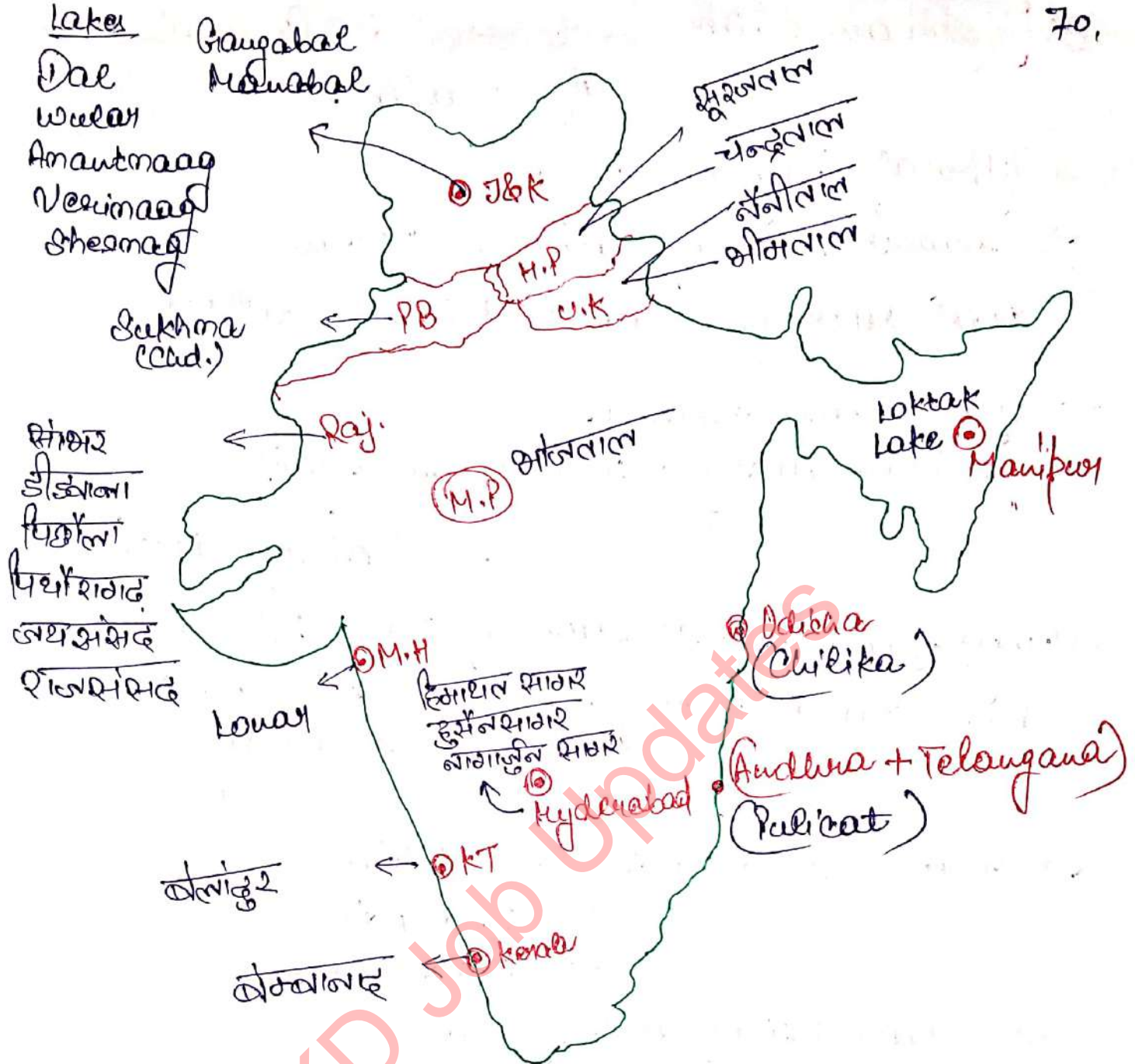
(1) Chilika Lake → Largest lake of India acc. to Area.

→ Located in Odisha.
→ Type of lagoon lake → Saline water or Brackish water

→ It → Ramsar wetland of India 1981
↓
City of Bhanu

(2) Sambhar Lake → Located in Rajasthan

→ High saline water lake of India.
9% salt of India
90% salt of Rajasthan → Produced from this lake
Nearest Districts → Jaisalmer, Nagaur.



(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.
 And High saline water lake.

(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 Regatta.

(6) Wular lake → located in Jammu in (Muzaffargarh Distt.)

- Only fresh water lake of NE India.
- Here there is a floating National Park called Keibul Lamjao.
- water utilized in → drinking
→ Irrigation
→ सिंचनी पानना
- Pteridites are found
low to
vegetation is found

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

Artificial lakes are, Rajsarnand] Rajasthan
Jaysarnand]
Humayt Sagar] Hyderabad
Ahsan Sagar]

largest Artificial lake in U.P's Gomti Dam ^{7.}

Govind Ballabh Pant

World
Note

- world's largest lake → ^(in Russia) Caspian Sea
located (in Asia)
- Fresh water lake → Superior lake (in USA + Canada)
- Saline water lake → Wam lake of Turkey.
- world's highest navigated lake →
↓
(जहाँ नाव आता
पानी है) Titicaca lake
(in South America)
- world's deepest lake → ~~Manabul~~ Baikal
(in Russia)
- India's highest lake → Cho Lake
(in Sikkim)
- India's deepest lake → Manabul (in J&K)
- world's longest lake → Tanganyika Lake
(East Africa)

Minerals of India

- India is rich country in minerals.
- Cuddalore Rock } → Due to which almost all type of minerals found in India.
- Dharwar Rock }
- Gondwana Rock }

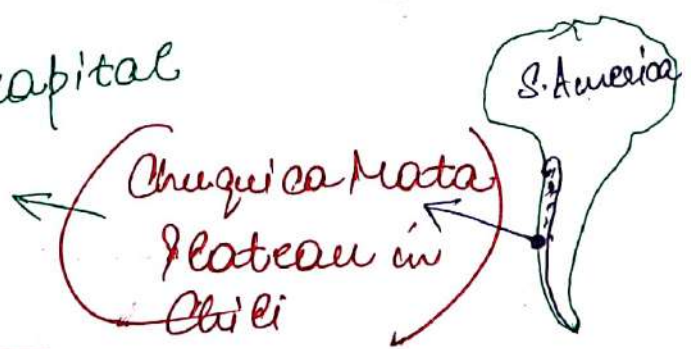
Copper → 1st Metal of human civilization.

- Extraction from → cracks of Igneous & Metamorphic Rock.
- Used in formation of wire. (∵ good conductor of electricity)

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

→ In world → Chile

called copper capital of world



Diamond → Purest form of Carbon.

- hardest non-metal
- Used in Jewellery & cutting of glass

Production → In India → Panna Mine (M.P.) 72.
→ In world. → Russia

Kolimoos Diamond Extracted from Golconda Mine (in Hyderabad).

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

Biggest Market of Diamond is Antwerp (in Belgium) called Diamond Capital of the world.

Gold → Extract from Igneous Rock.

↳ Precious metal

→ Conductor of Electricity.

Production in India → Kolar, Hattimines (in kt)

↓
M.P. → Rajasthan.

↳ In world → China

More Reserve in → Johannesburg, South Africa called Golden City of the world.

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 Chhattisgarh (Bastar)
→ China → 1st

India import

** # **Coal** → Made up of fossils ^{+ Vegetation} → Organic Substance

↓
formation takes million
billion years.
(wastage of living)

↓
Solidification
occurs with time
↓
Coal forms.



Decay roots. ⇒ form organic substance.

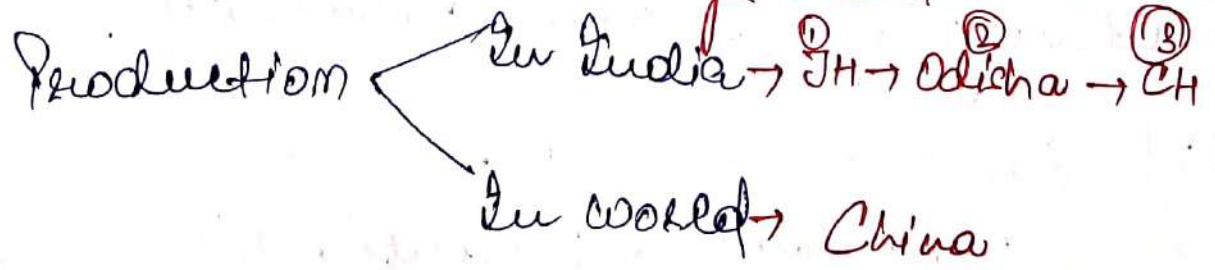
→ Age of coal ⊕ → Carbon amount ⊕

↓
Energy ⊕

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

- (A) Peat (45-55%) (C) Bituminous (65-75)%
- (B) Lignite (55-65%) (D) Anthracite (85-90%)
(cold from fall)

→ Most Energetic coal → Anthracite
→ Peat called Primary coal / Brown Coal



- Bituminous coal largely found in India.
- Lignite → in Tamil Nadu Navali
- 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] 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 affected community.

[B]

Rat hole Mining → Banned in 2019.

In Meghalaya, in Jaintia hills East Rat hole mining is situated.

in which silica amount is more due to^{74.} which polluted coal is found here.

- Due to silica blast treatment 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 pajama
- as a fuel also used.

Petroleum → Petroleum are hydrocarbon.

20% Natural gas 70% Oil

Petrol Diesel → obtained after Refinement

co-products (as waste are formed)

LPG Gas
Paraffin
Wax

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

CH₄ also called Marsh Gas because found on dirty areas.

Clathrates → CH₄ which found in depth of 2km in ocean.

Petroleum Extraction →

In Gujarat → Anleshwar
Bahol
Khambhat

In Assam → Digboi
Surnavally
& Naharkotia

In Maharashtra → Main area here is Mumbai High

↓
170km away from Mumbai in Arabian Sea.

↓
Largest part, from 1970s Extraction started here.

D-G Block → Located in Bay of Bengal.

↓
RIL (Reliance Industries Limited) doing extraction here.

→ 1st effort in 1867 → in Mapam of Assam.

Proper Extraction occurs in 1889 from Digboi of Assam. 75.

oldest place of India

Petcoke → co-product formed by purification of petroleum.

→ used as a substitute of coal.

Efficiency → High.

Cost → low.

Pollution → (+)

→ It is replaced by **Methanol** Biofuel.

↓
Produced by ^{Sugar} corn then used as fuel, as a petrol

i.e. Methanol Economy is preferable.

Oil Refinery of India

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

↓
came in working in 1901.

→ Total Refineries in India → 23

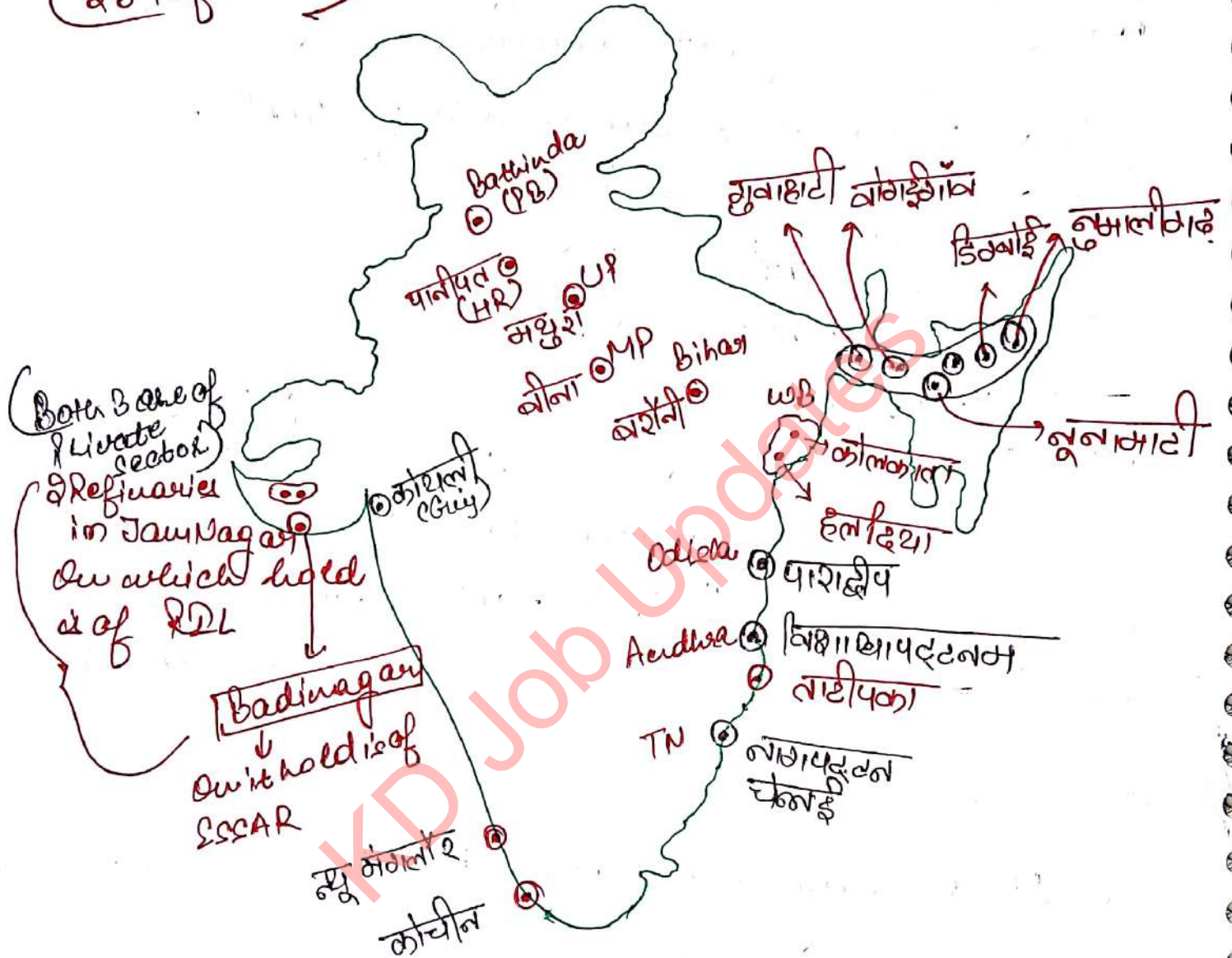
↓
18 Refineries of Public Sector

↓
3 of Private sector

↓
2 are Co-operative (Public Private) both work

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

(23 Refineries)



ONGC → Oil & Natural gas corporation

↓ work

discovering new places of Petroleum

↓

Jawahar helicopter limited

↓

Provide helicopter to ONGC

- More Petroleum found in ~~India~~ (High Reserves) → ~~Benizuela~~ (Benizuela)
- Head office of ONGC in → New Delhi (in Vasant kunj)
- Biggest Refinery → 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 Electrification occurred is 49%.

Railway Line

On the basis of width

(A) Narrow Gauge → Small line
→ 0.782 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 14234 km
↓ to
Kanyakumari

→ World's longest line → Trans Siberian line
↓
Bladivostok to Petersburg 14289 km

Railway Junction

A point at which no. of lines are joint

India's largest → Mathura Junction

World's largest → Chicago Junction

→ India's largest Railway station → हावडा 77.
Howda

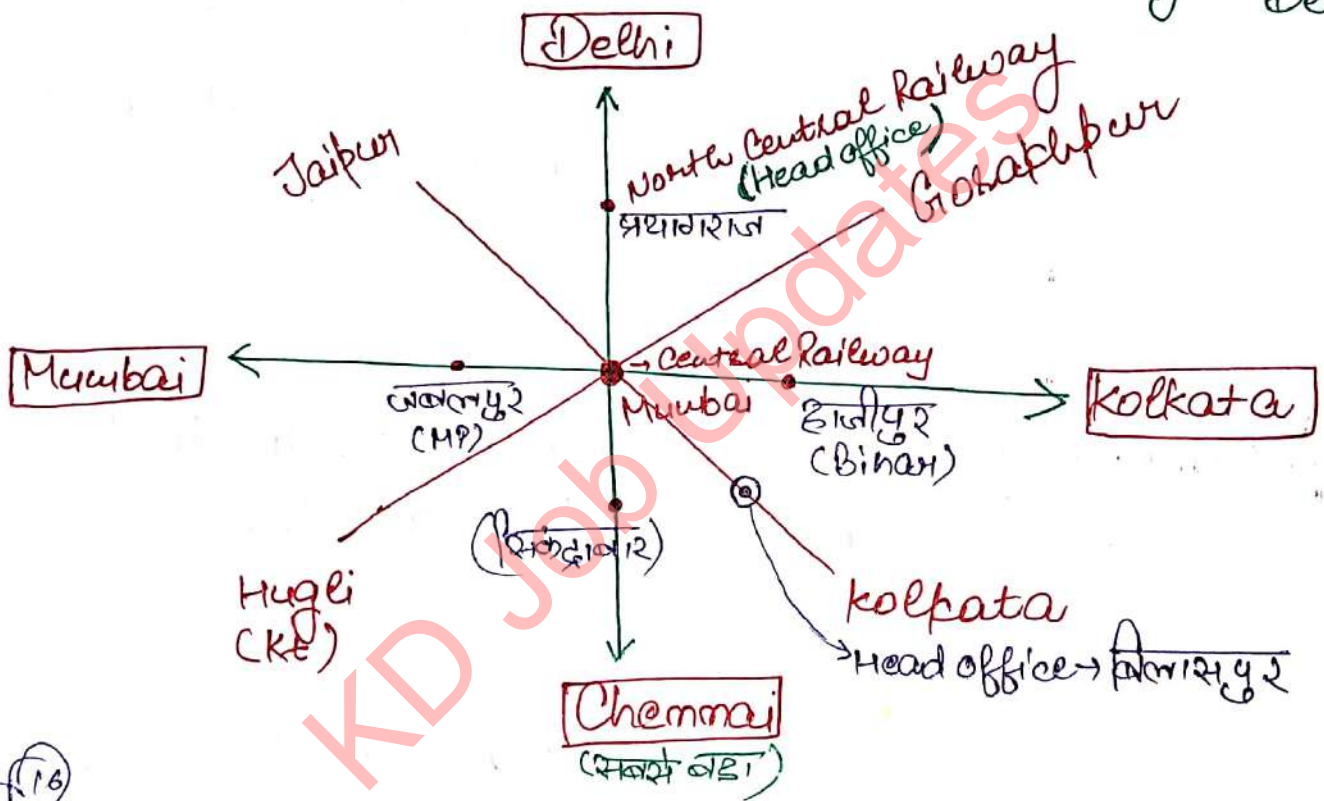
→ world's largest Railway station → Grand Terminal
(New York)

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

Gwalhati

One at

Kolkata Metro

(17)

East Coastal Railway → Bhubaneswar (Head office)

(18)

Southern Coast
(New railway zone) → Vishakhapatnam

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

→ Oldest → Chennai

→ Longest distance travelled train of India

→ Vivek Express (Dibrugarh - Kanyakumari)

→ High Speed Train → Bandra Bharat

↳ Delhi → Varanasi ↓

It replaced Train-18

old name

Speed → 180 km/hr.

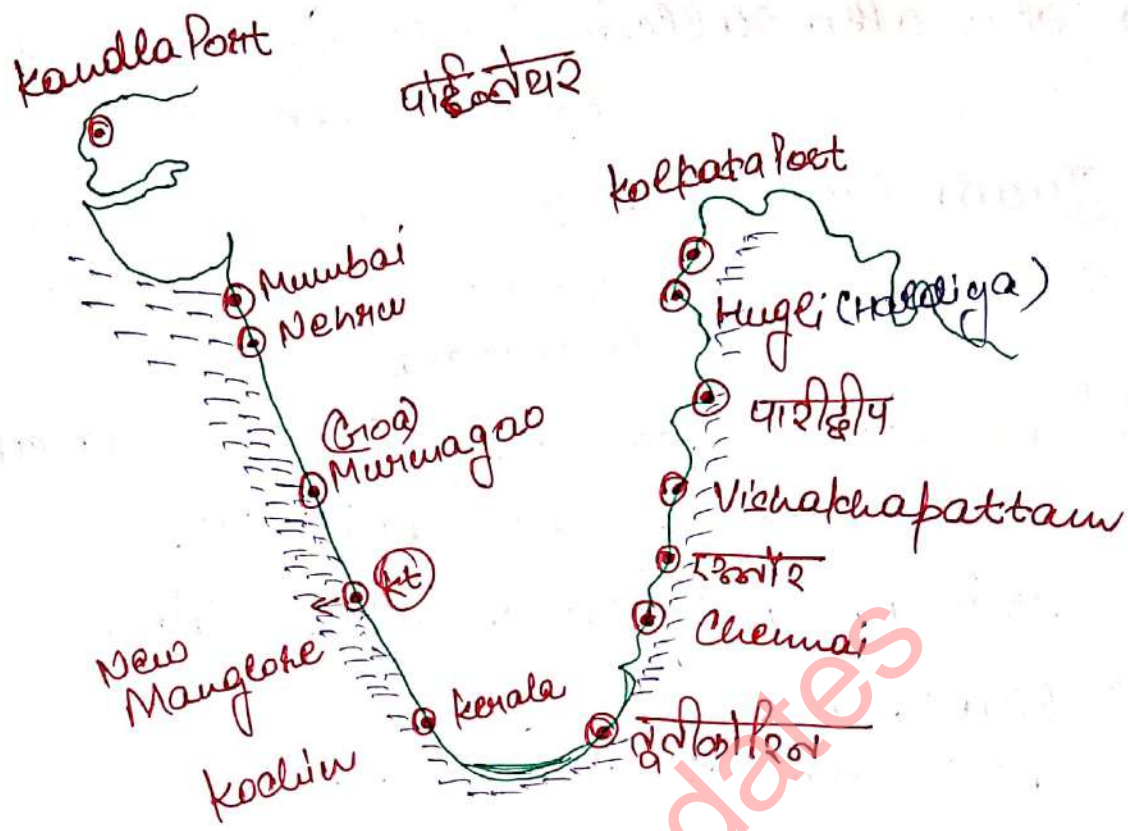
Sea Port of India

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

Artificial
Seaport

Natural
Seaport

Zone ^{divided} _{into} Division
(18) (68)



(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 हस्ता Substituent पार करा प

So Kandla Port formed.

New Name → Dendayal Port

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

- (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 → Nehruvasha Port
 - It is computerised port.

- (C) **Marmagao Port** → located on the bank of Mandovi River.
- Only Major port of Goa.
 - Trade → Fish, Fertilizer, Iron Ore,
घास व वन ।

- (D) **New Mangalore Port** → located in Karnataka

- Trade → Kudremukh ^{Iron} Ore
- ↓
Iron extracted
↓
Transport to
Export
Japan.

- (E) **Kochi's Port** → located on Wallingford Island in Kerala.

Trade → Fish, coconut, leather product, spices.

Day Dahaj Port in Gujarat

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

→ Located on the bank of Hooghly River in West Bengal.
Here known as Haldiya

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

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

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Biggest Exporter of Iron ore.

(H) Paradeep Port → Located in Odisha
 → Natural Port, at harbour - artificial.

(I) Vishakhapatnam → 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.

→ Some port conducted by private company.
 (used as substituent of Chennai Port).

Trade → Cement, fibres, 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 → NH 44 Shimoga to Kanyakumari
(13745 km)

→ Shortest N.H →

From notes

Census



Counting of people in a certain area is called Census.

→ 1st ~~Sam~~ 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 → Lord M
last " " (2011) → Chandramoli
(चंद्रमौलि)



Census of 2011

Acc. to total → 15th Census.
of Independent India → 7th Census.

Slogan → Our Census Our future.

Logo → A lady teacher with laptop.

Total Population → 121 Cr.

सबसे कम जनसंख्या → U.P

" " " " → सिक्किम

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

Density \rightarrow No. of Person/km²

Max^m \rightarrow Bihar \rightarrow (1103)

Min^m \rightarrow Arunachal Pradesh \rightarrow (17)

Population Density of India \rightarrow 382

Literacy of India \rightarrow 74% (Avg.)

\rightarrow Max^m Literacy Rate \rightarrow Kerala.

\rightarrow Min^m " " \rightarrow Bihar

\rightarrow Male Literacy Rate \rightarrow 82%

\rightarrow Female " " \rightarrow 64%

Difference
is due to

Rajasthan

In U.T.s

\rightarrow Max^m \rightarrow Lakshadweep

\rightarrow Min^m \rightarrow Dadra Nagar Haveli

Sex Ratio

\rightarrow 943/1000 (of India)

Counted
at

Female/Male

\rightarrow Max^m \rightarrow Kerala (1084)

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

\rightarrow Max^m Population growth but literacy rate
down of Muslim religion

\rightarrow Max^m literacy is of Islam Religion
(सिद्दी एम)

Tribes of India

** 8.3% of the population acc. to census of 2011.

→ Gonds tribes → ^{सबसे अधिक} widely spread in India

* found near Satpura and Vindhya Range.

* M.P > CH > MH Gonds 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 (चुपटी नास)
* Colour → dark skin
* Rice lovers.

→ Bhil tribes → Tamil word → 'Villu'

→ They are also known as 'Bowman'
↓ means 'Bow' (धनुष)

- used bamboo for bow
- 39% population of Rajasthan is under Bhil
- Brave fighter.
- Ekplabya → Bhil.

- * Shabri → Bird
 - ↳ offered her to Lord Ram during search of Sita.
- * They also speak Truth.
- * Dance → Ghoomar.
- * Famous for Sculpture (शिल्पकला)
- * Wine consumers
- * low economic conditions.
- * 2nd largest tribe in India.
- **Santal** → 2nd largest tribe of India.
 - found near Rajmahal hill & Chotanagpur plateau.
 - area → where they are found Jharkhand, West Bengal, Odisha, Bihar.
 - Protest against Permanent fighters.
 - Brave fighters.
 - needs fulfilled by Plant Forest.
 - Make basket + Mat to sell.
 - Main work → Agriculture.
 - Dance lovers.
 - Celebrate Karam Festival → to increase wealth.

→ **Khasi** → Came from Mayanma and stay in plains of Meghalaya & Assam & Arunachal.

→ Northeast to tribe of India

→ Female is preferred firstly

i.e Property transfer from mother to youngest daughter.

→ They use battmat instead of Dairy Milk as sweet for gifting.

→ Agriculture → Shifting Cultivation.

→ **Tharu Tribe** → found in Terai Region of **N.A & U.P**

* Plain work Agriculture → Permanent. (Khasi tribe found here)

* Max^m Rice production they do.

* They celebrate Divali as a sorrow. worship of **Ravan** they do.

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

→ **Toda Tribes** → live ^{on} Nilgiri Mountain.

* They consider themselves as the
descendant of Arya.

* Do shifting cultivation.

* Throw stones from upward to downward
(for rainfall).

→ **Bhutia Tribe** → came from Bhutan and
live in Sikkim.

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

KD Job Updates