World

25 august 2019.

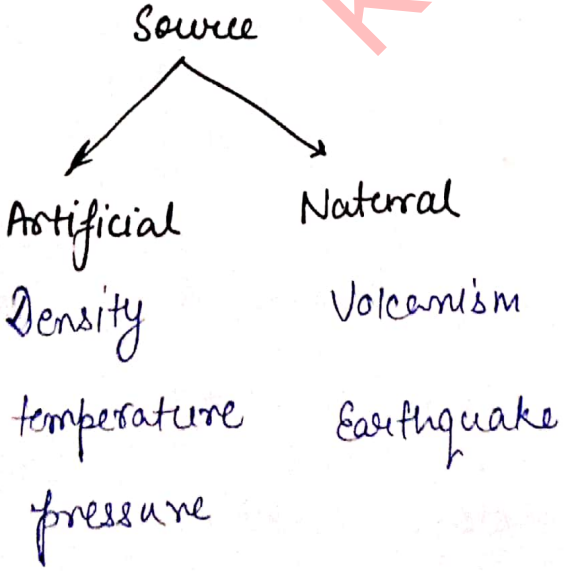
World Geography

*Geomorphology.

1. Interior part of Earth
2. Plate tactonic theory & continental drift theory
3. Volcano
4. Rock
5. Earthquake + Tsunami
6. 7 Continent

* Interior part of Earth *

interior part of Earth is a close system so information about this point depends on various point.



Density :- $\frac{\text{mass}}{\text{volume}}$

No. of particles present in a certain part.

Surface density → 2.9 - 3 gm/cc³

↓

Depth ⊕ → Density ⊕ → solid ⊕

Centre → Density max. → 13 gm/cm³

↓

Heavy metal < Ni / Fe

Avg. → 5.5 gm/cm³

Earth की सबसे ज्यादा घनत्व होता है।

Ni^+ Fe^+ → Electric current

↓

magnetic field

Temperature · 15°C

Depth ⊕ → temp ⊕

32 mt ⊕ ↓ ⇒ +1°C

temp ⊕ → Radio Active Substance

→ Plate tactonic event

max° → Centre.

* **Pressure.**

Close system → Interior part

(P & T) → centre

centre

* **Volcanism.**

in volcanism magma comes out from surface. In which melt form of metals found which helpful in study of interior part of earth.

* **Earthquake.**

↳ cracks in lithosphere

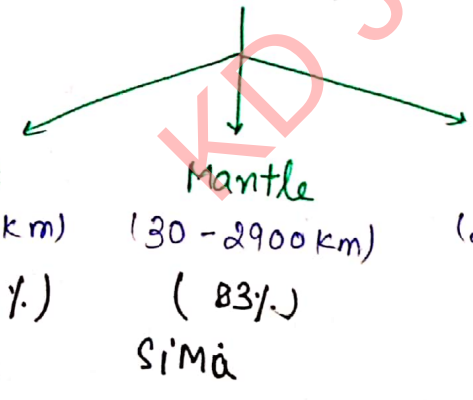
↓

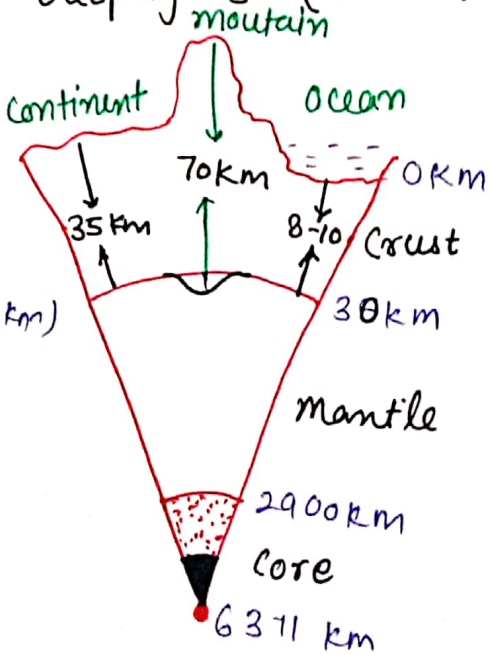
{ minerals extract

↓

interior part

International Union of Geodesy & Geophysics (IUGG)





Centre.

Outer

(2900 - 5155 km)

4900°C, magma

Inner

(5155 - 6371) km

6000°C, solid

Lithosphere.

mantle

100 km {30 km + 70 km}

Asthenosphere.

100 km — 400 km

→ Radia Active Substance ⊕

→ temp. ⇒ 1900°C

↓

magma

Discontinuity -

Artificial line → Variation

Conrad discontinuity
- upper crust
- lower crust

moho dist ⇒
- lower crust
- upper mantle

Repetti distt →
- upper mantle
- lower mantle

Guttenberg dist.
- lower mantle
- upper core

Lehmann distt.
- upper core
- lower core.

Volcano

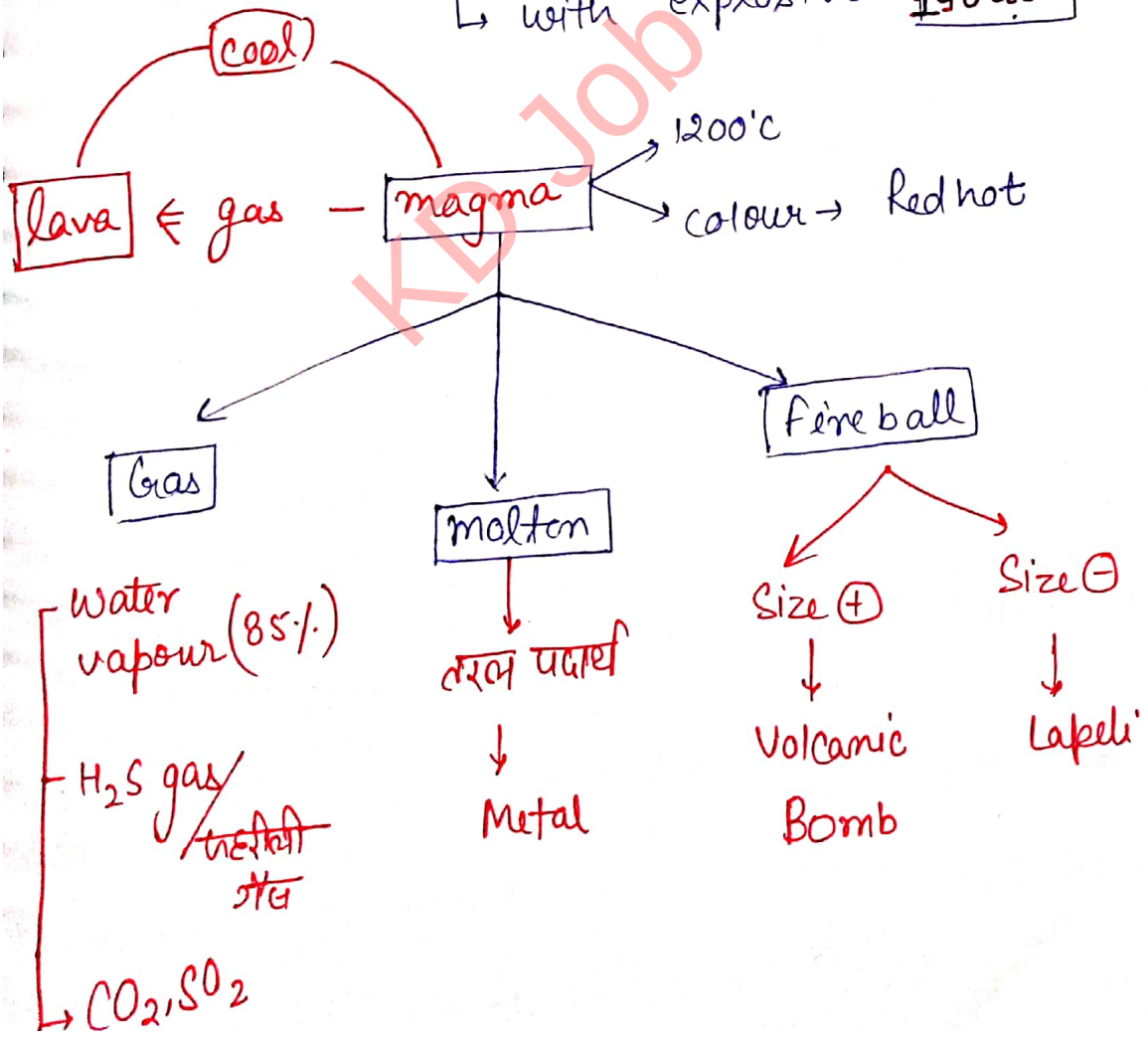
Volcano is a vent or pipe thraugh which magma comes out towards earth surface. and this process called 'Volcanism'

Causes of Volcanism-

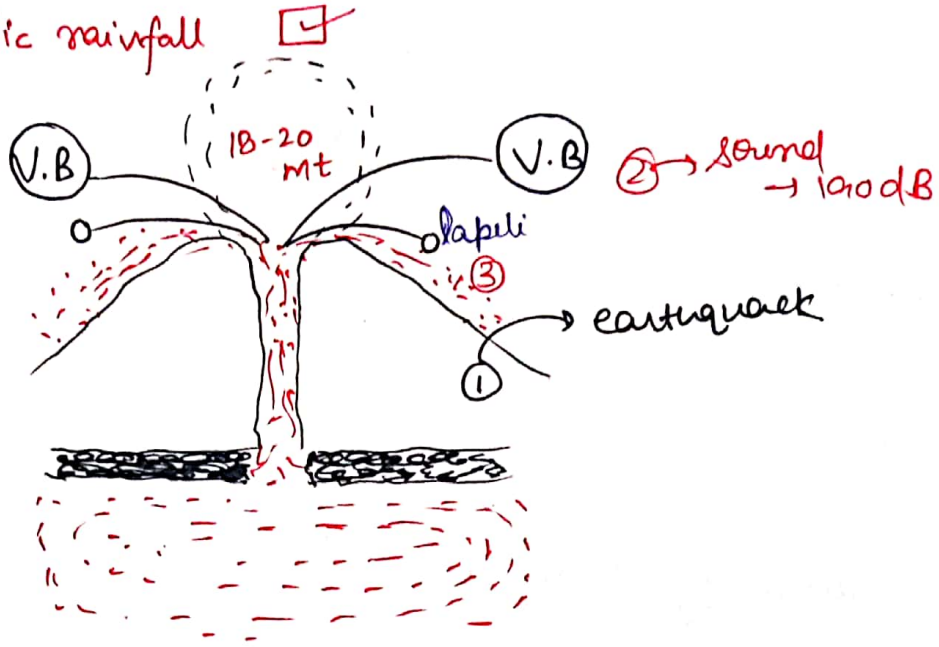
a) Plate- tactonic event.
b) High- intensity earthquake.
c) Increase Pressure of asthenosphere.

Volcanic Eruption-

↳ with explosive sound 190 db



earthquake acidic rainfall



Types of Volcano -

(a) Active Volcano- These volcanoes erupted constantly.

eg- Monoloa, Kilaeu } USA

Barren Island → A&N

Mt. Erebus → Antarctica

Ojos - del - saldo - S. America

Visuvius, Etna } Italy

[Cotopaxy

GST → Ecuador (S. America)

b) Dormant Volcano - these volcanos not erupted for a long time but thair is possibility of eruption in future.

eg- Fujiyama (Japan)

- Narcondam (A&N)

- And
- Krakatao (Indonesia)

c) **Dead Volcano** - these volcano has not been erruptedsince thousands of year and thier is no indication of iruption in future.

eg. (a) Aconcagua (Argentina) (S. America)

(b) Killimanjaro (Africa)

↓

तंजानिया

(c) Popa → (Myanmar)

Note – Volcanoes are called safety balb of earth.

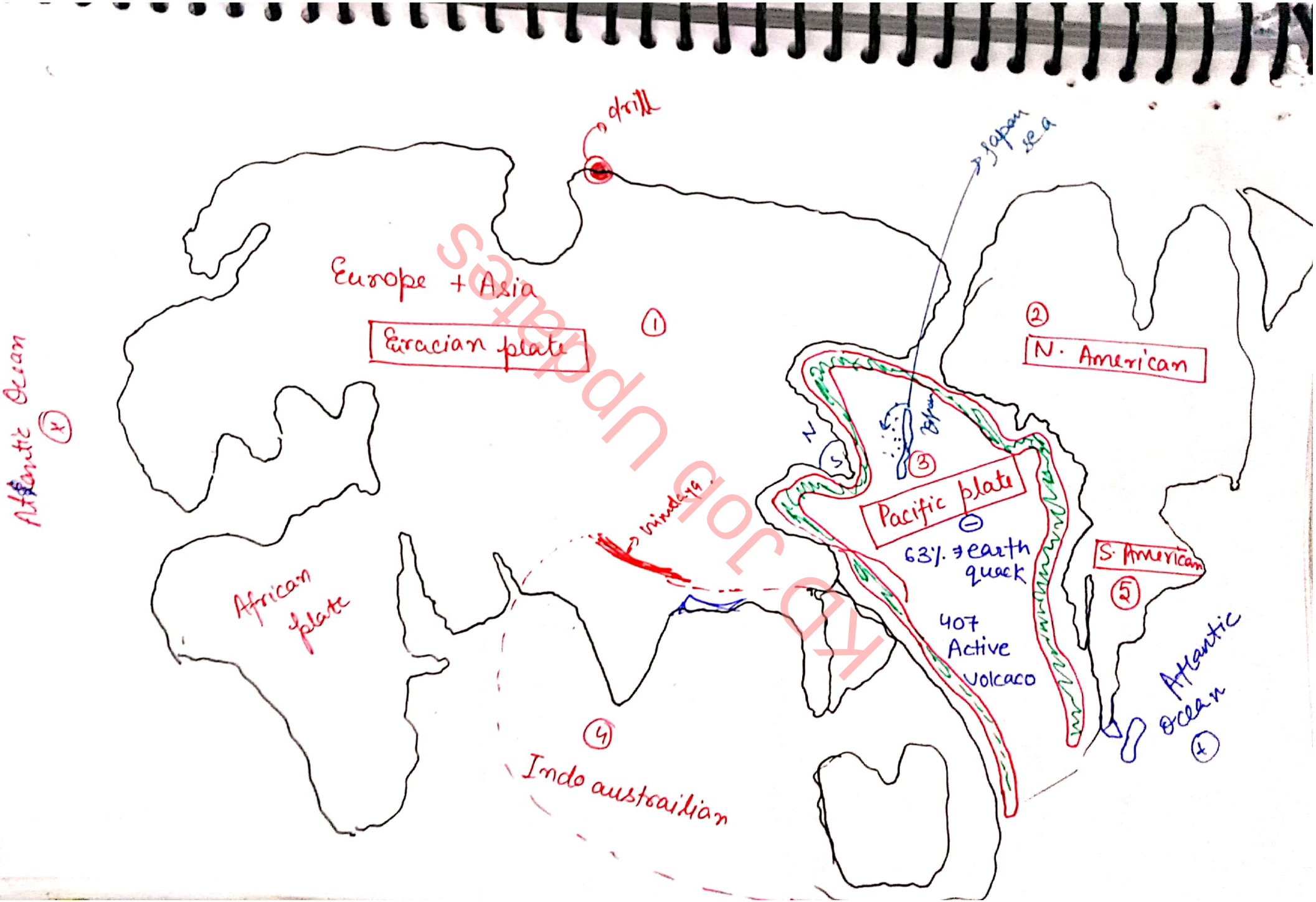
(1) largest volcano – Monoloa
(2) Highly active volcano – Kilaeu
(3) Higest volcano – Ojos-del-Salado
(4) India and South Asia has only one active volcano – Barren Island.

Si → ⊕ ⇒ explosive → ⊕

Ring of fire

- Ring of fire is a joint part of five plates.
- Located – pacific Ocean.
- length – 40,000 Km.

total volcano → 407 active volcano.


drill
Japan sea
Europe + Asia
Eracian plate
①
Atlantic Ocean
X
②
N. American
Japan
N
S
③
Pacific plate
⊖
63% → earth quack
S. American
⑤
407 Active Volcaco
Atlantic ocean
+
Indo australian
④
African plate

Rocks.

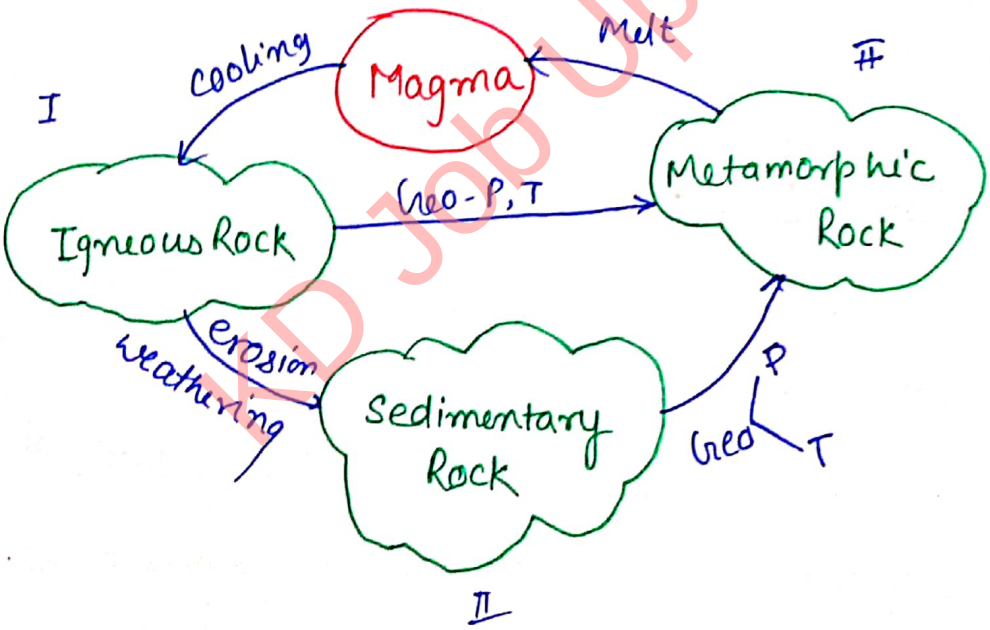
All substance found in lithosphere termed as rock. rocks are found by mineral. There are three type of rocks :

Element → Minerals → Rocks → lithosphere

Ⓐ Igneous Rock

Ⓑ Sedimentary Rock

Ⓒ metamorphic Rock



A-) Igneous Rock-

- these rocks are formed by volcanism/magma/fire.
- Due to having high temperature fossils, coal and petrolium are not found in these rocks.
- Metals and granuals are found.

On the basis of magma it divided into two parts

a) Extrussive igneous rock —

these rocks are found by solidification of lave on surface.

eg → Besalt rock , Rhyolite rock , andesite rock.

b) Intrussive igneous rock -

these rocks are found by solidification of magma under surface; layes are not found.

eg → Granyte (black marbels) , diorite , dolerite

- these rocks formed 95% part of crust

* Sedimentary Rock:

these rocks are formed by erosion and weathering of igneous rock and sediment deposition.

eg → ~~Gypsem~~ Dolomite , chalk , lime stone } $CaCO_3$

Gypsem , coal , sand stone , ~~claycell~~ shale } clay

* Metamorphic Rock -

formed by effect of geo P, and T on major rock

Major Rocks	Metamorphic Rocks
a) Besalt	Amphibolite
b) Grabbro	Serpentine
c) Granite	Gneiss
d) Dolomite	Marbles
e) chalk	
f) lime stone	
g) sand stone	quartz
f) Shale	shlate

Note. Surface of the earth ~~form~~ 75% formed by sedimentary rock and 25% by igneous and metamorphic rock.

Earthquake

Earthquake is the quacking of earth due to elastic energy released by breakdown of rocks

A) Plate tectonic event -

magma → plates → lithosphere

magma → convectional current

plates → move

lithosphere → Vibration → earthquake

11 march 2011 → Japan

Japan → pacific plate

Japan → Japan plate

pacific plate → earthquake → 8.9

14 march 2011 → Tsunami

- 2000 ⊕ Death
- fukusumadiachi atomic power station
- Sandai airport ⊗

2004 — Sumatra Island - Indonesia

Indian plate | 7.9 | Bermiplate

- Earthquake of Nepal 2015 caused by convergent of indoaustralian and euracian plate

B) volcanism is also caused to earthquake.
C) formation of large dam also cause of earthquake.
D) High bomb blast.
E) breakdown of rocks.

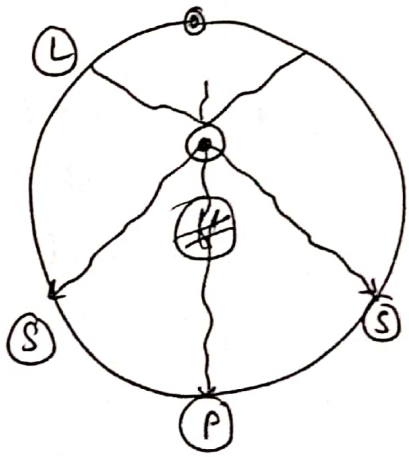
Earthquake wave / seismic waves

↓

Origin → focus of earth

120 - 180km

epicentre → ⊥ to the focus
→ earthquake waves reached first
→ उत्तरीत (+)



P waves

→ Sound wave
→ velocity → 8 - 11 km/s
→ Crust / m / core [cross]

S- wave

→ light waves

→ velocity → 6-8 km/s

→ core (x) [→ 3-4 km/s
→ Dangerous (+)

L- waves

only in crust

3-4 km/s

→ core (x) [→ Dangerous (+)
→ 3-4 km/s.

Note- ① Earthquake intensity measured by Seismograph. and the scale which used in measurement called Richter scale. If intensity increase 1 digit then destruction will be increase 10 times.

② Homoseismal lines joint same time earthquake influenced area.

③ Isoseismal lines joint same earthquake intensity plains.

peninsula →
3 side river
and 1 side litho.

Continent

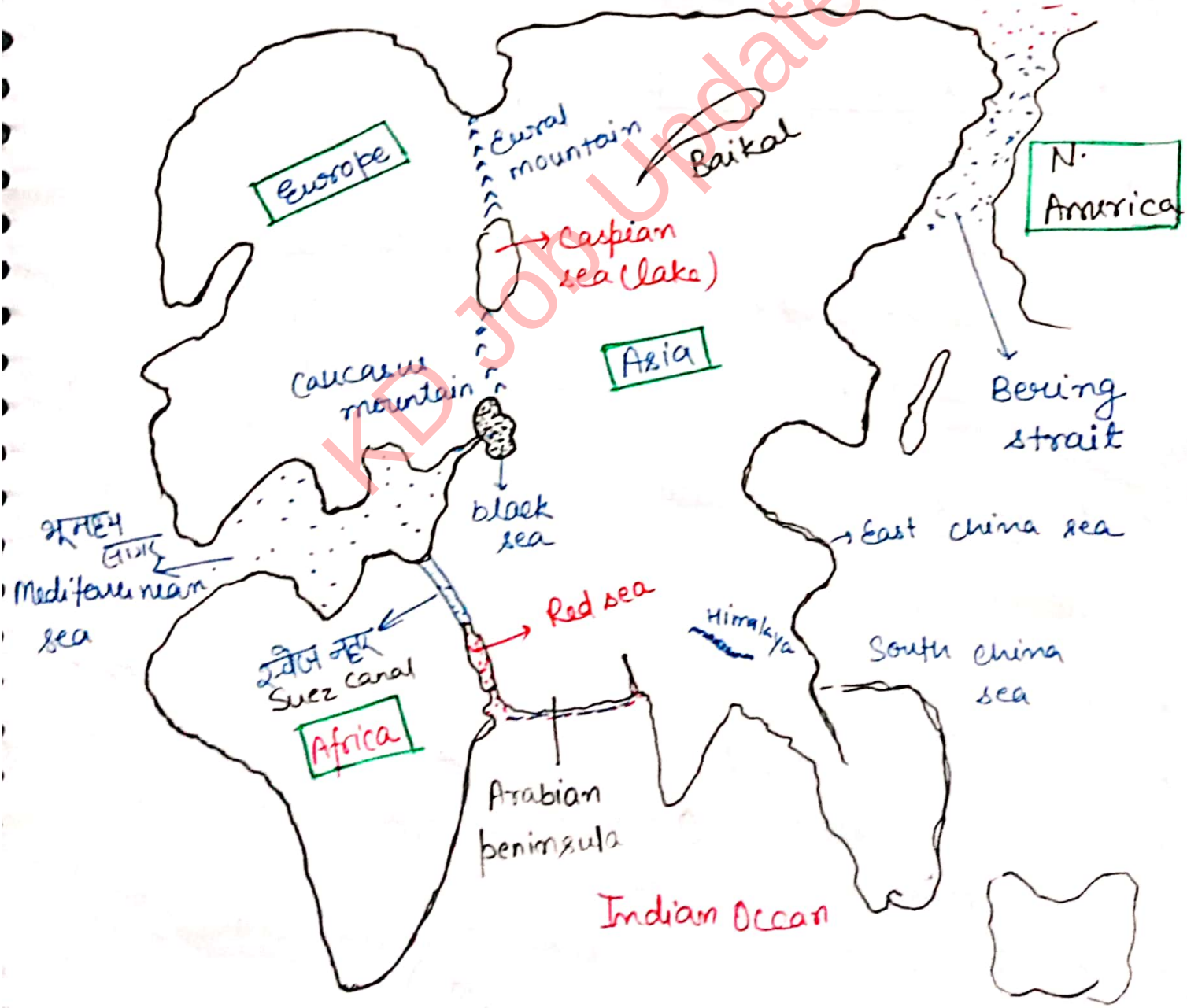
"Continent are large landform area." Their are 7 continent in this world.

- acc. to area -

Asia > Africa > N. America > S. America > Antarctica > Europe > Australia.

- acc. to population -

Asia > Africa > Europe > N. America > S. America > Australia > Antarctica.



- **Asia Continent -**

⇒ 30 % Area

⇒ 60 % population

⇒ largest continent

- **World's longest / largest :**

① Peninsula → Arabian

② highest mountain → Himalaya

③ lake - Caspian sea (saline water)

④ deepest lake - Baikal

- **World's deepest trench :**

deepest part of ocean is called 'trench'

- Meriana trench / Challenger trench

area - (11033 mt.)

located → pacific ocean near phillipiens Island.

- **World's largest plateu :**

Pamir plateu.

- **Some facts-**

- Caspian sea located b/w Europe and Asia continent
- Caucasus mountains stretching b/w the black sea and the caspian sea.
- Eural mountain range forms b/w the Continents of Europe and Asia

- Suez canal connecting the mediterranean sea to the red sea.
- Red sea lying between Africa and Asia.
- bering straif lying b/w Asia and N. America Continent

- **Pakistan -**
  - Pakistan called 'Country of Canal' because it have World's largest irrigation pattern.
  - Swat river valley is called 'heaven of Pakistan.
  - Khusabu is a atomic reacter of Pakistan.
  - salt range is a type of block mountain and it having major source of minerals.

Afganistan -

- Khaibar pass is located b/w Pakistan and Afganistan.
- In medival time this pass used by invators.
- Afganistan is World's high producer of opium.

China -

- World's high population country.
- Wheat, rice, Tea, fruits, vegetables, gold, coal, cotton, mica, Tin, fertilizer, gypsem ⟶ World's high producer.
- ~~Hwang~~ Haung-Ho river is called yellow river and sorrow of China
- Yangci river is longest river of Asia. It originate from Jari hill and drainge into the East China sea.
- At present this river is World's highly plastic pollution carrying river.

Myanmar - • Arakanyama is the extension of Himalaya

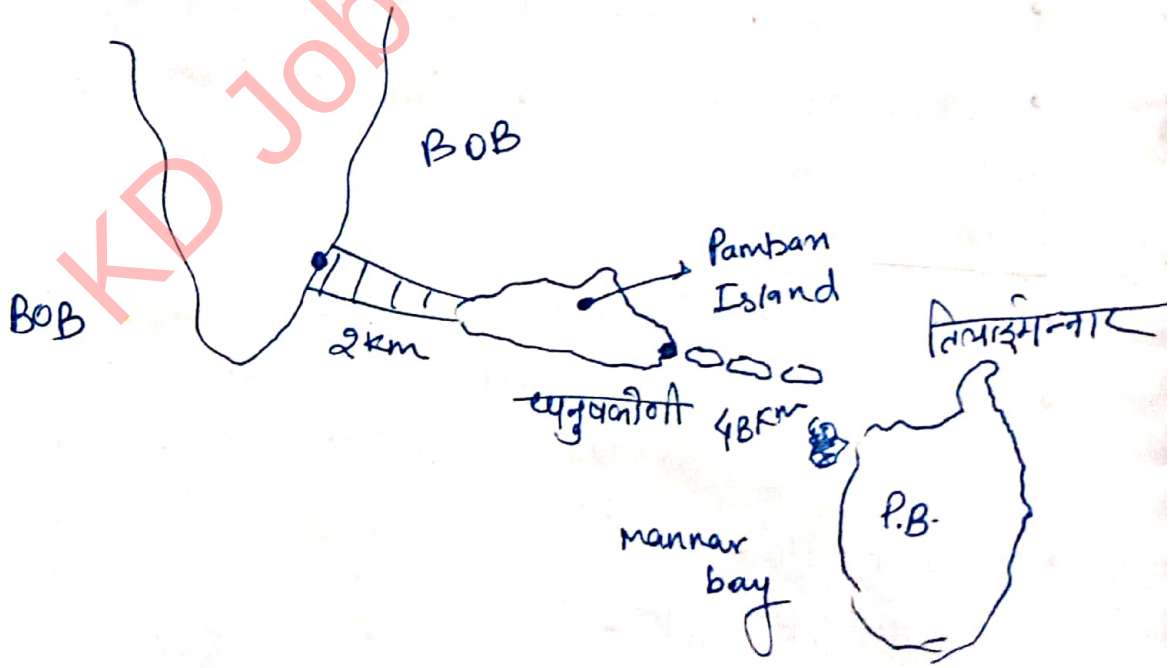
- It called 'Country of golden pagoda'.
- Irabati river is called 'lifeline of myanmar'.
- It is nearest country to the A&N.
- HKakabo razi mountain located in Myanmar, Place - Koelin.

(Nilgiri mountain called blue mountain.)

Srilanka -

Sequence:

BOB
Palk strait
Palk Bay
Mannar bay

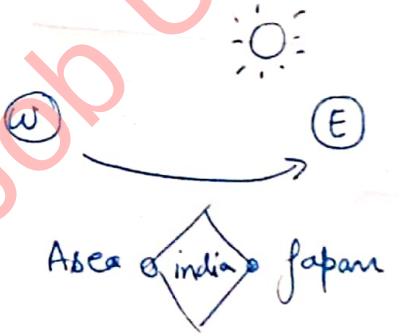


- Srilanka is a coconut shape country.
- Major river → Mahabeli ganga.
- major and religious peak → adam's peak.
- ~~Highest~~

- ~~Export~~ Srilanka high exported country of the tea
- on the basis of total production.
- Jafna Peninsula is located in Srilanka.

Japan.

- located in East Asia.
- It's called Great britain of the East
- Capital - Tokyo; located on Honshu. Island. Tokyo is the
- largest city on the basis of population.
- It saparated by mainland of Asia by Japan sea.
- Japan is world's high producer country of car and truck.
- Japan is called Sun rising country because it located is East most part



- Old name of Japan was Nippan.

Thailand is called ~~country~~ land of white elephant
land of thousand elephant called Laos.

* Africa Continent -

- World's second largest continent.
- Area → 21%
- population → 30%.
- this continent was discovered by Stenley & livingstone.
- poor continent
- dark Continent
- Tropical zone → tropic of Cancer + tropic of capricon + equator
  - ✓ 23 1/2° N-S

↓

all line passes through the africa continent.

- temp. is high so ~~traps~~ tribes are dark skin so called dark continent

temp is high

↓

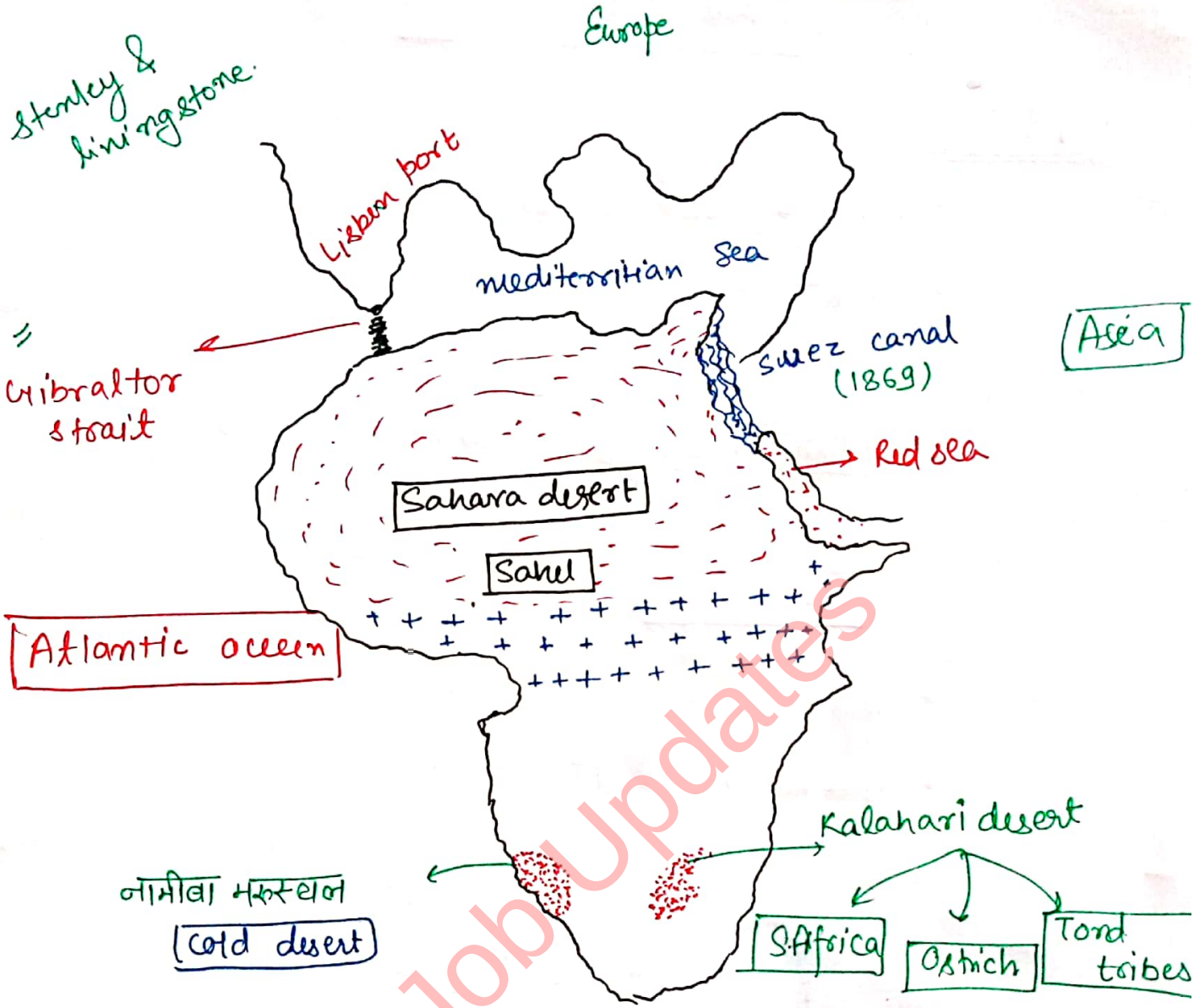
- ⊖ Agriculture → 10% land

so called Poor continent.

High temperature ~~pressur~~ place -

Lebia → Alajizia अल्जीजिया

Coldest place → Moracco



* Desert -

Sahara Desert -

World's largest desert → Hottest desert } 84 lac km² } 10% Area of Africa

→ Badda tribe

in south → Sabana ~~Desert~~ Grassland

area ⊕ Sahara | Sahel | Sabana ⊖ area

Rivers of Africa Continent

Naile River-

- Origen → Victoria lake
- longest River of the world

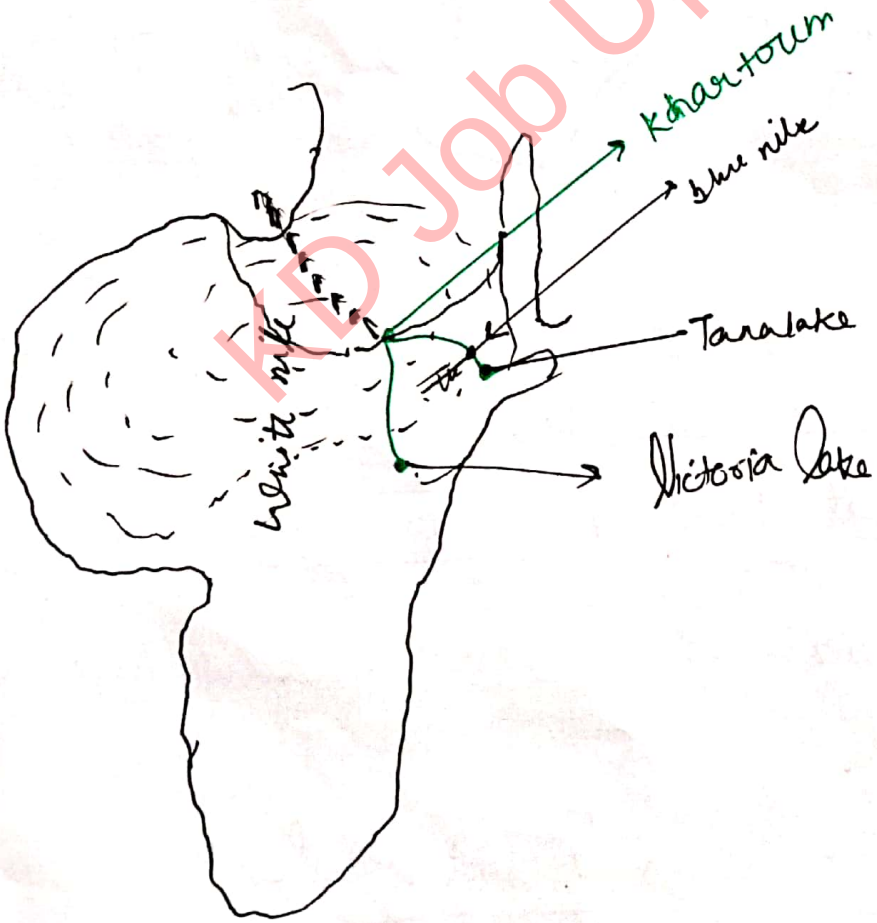
↓

Ashwan dam has been constructed on this River.

↓

Nassar lake

- length → 6690 km. (approx).
- lifeline of Egypt (Misra).



* Congo / Zaire River.

- It cuts equator two times.
- Pygme tribes lives in this basin.
- Limpopo River :- Cuts tropic of capricon two times.

Notes:-

* Major crop → Hirse
* World's high producer ~~countr~~ continent of crops.
* World's high reserve of gold → 'Johansberg' so it called 'Golden City'
* Diamond reserve → Kimberlay ('Diamond City')

largest country → Aljeria (area.)

acc. to population → Nijeria

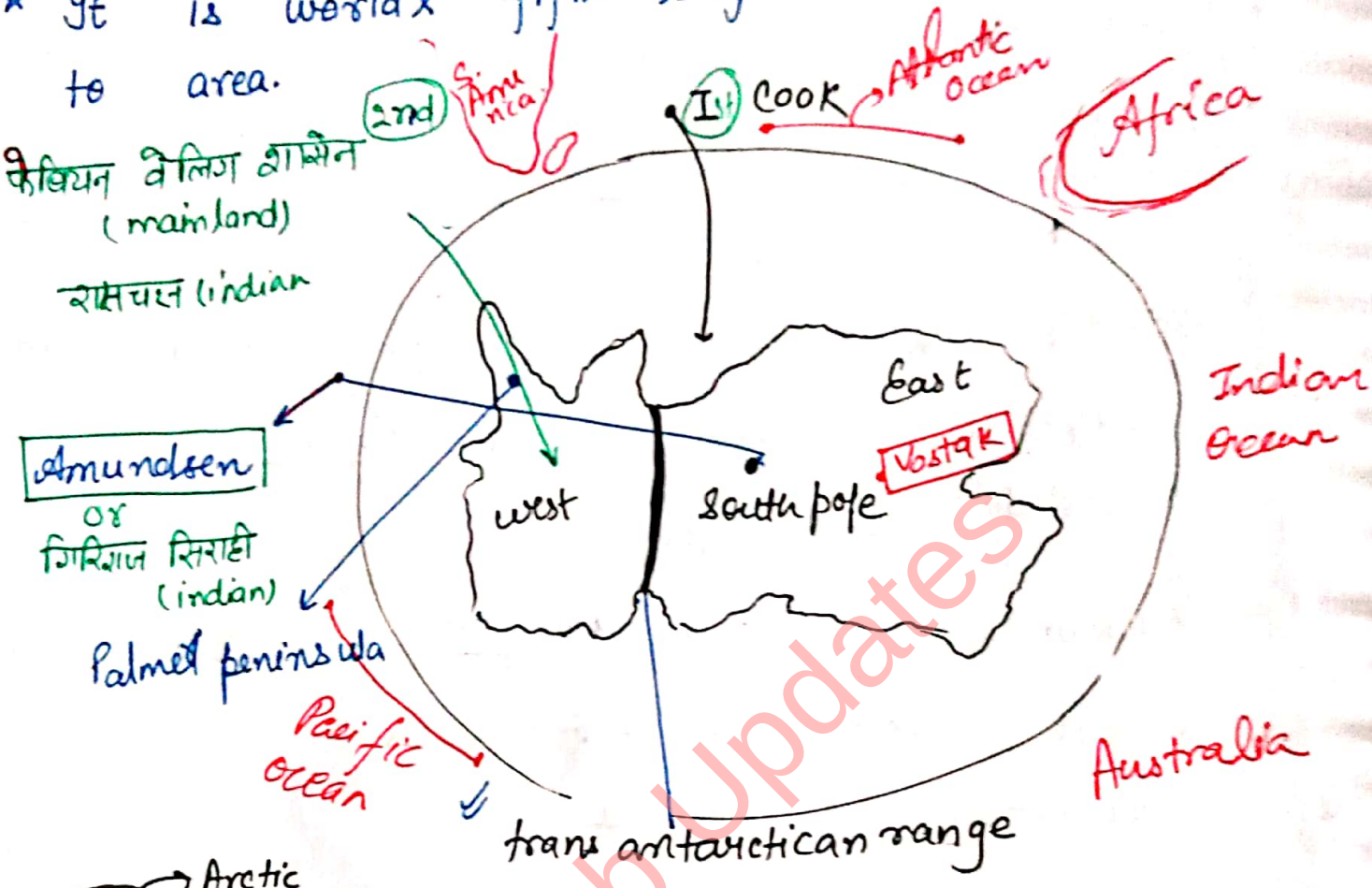
On the basis of population density → Mauritius
(It is located in Indian Ocean)

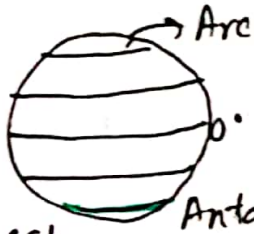
Highest peak of Africa Continent is located in Tanjania.
(Kilimanjaro → 5895mt.)

Horn of Africa → Somalia
Ethopia
Eritrea
Djibouti
(तट)

Antarctica Continent

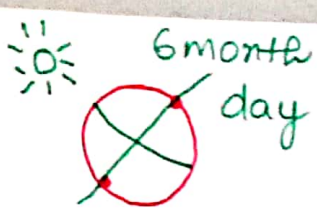
* It is world's fifth largest continent according to area.

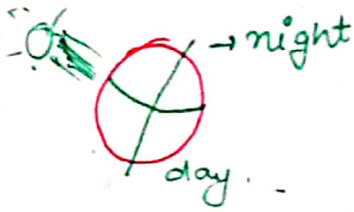




* 99.9% are covered by snow.
* White continent.
* Dedicated to Science
* Movable ~~con~~ continent.

* Discovery of continent
  - first effort - Jems Cook (1773)
  - second → Fabian willing Sassar (1820)
  - Amundsen (1911) (South pole)





- Active volcano of Antarctica continent is Mount Abrus.
- Palmer peninsula is only snow free part of this continent.
- It is invaded by USA.
- Trans Antarctican range is a major mountain range of this continent.
- Highest peak → Vission Massif.
- minimum temp. → Barkhoyansk, Siberia -69°c
- Recorded temp. → temp ⊖ → Vostak
  -95 °C -95c

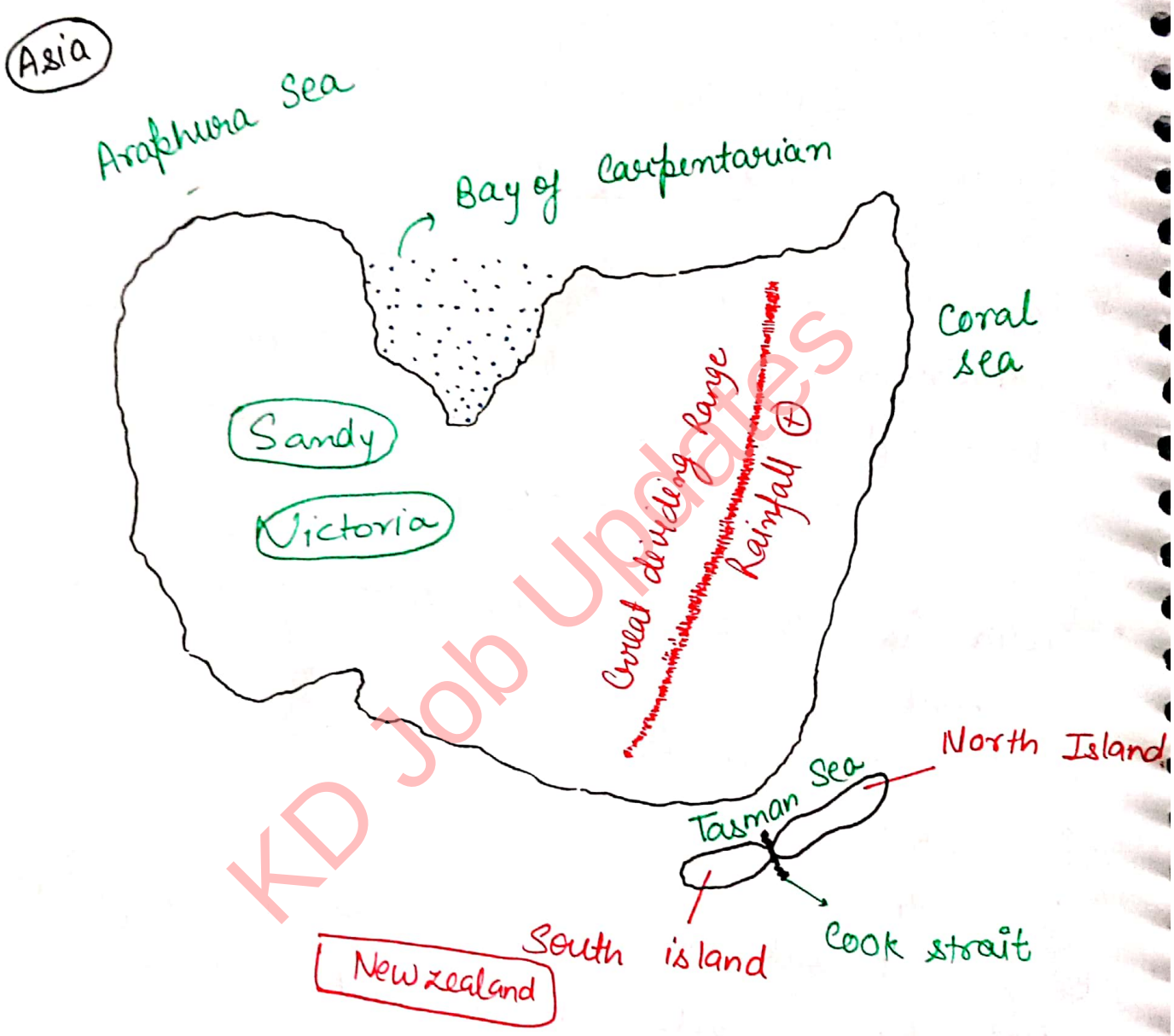
- India has three research centre on Antaretica Continent.
  i) Dakshin - Gangotri
  ii) Maitri
  iii) Bharti

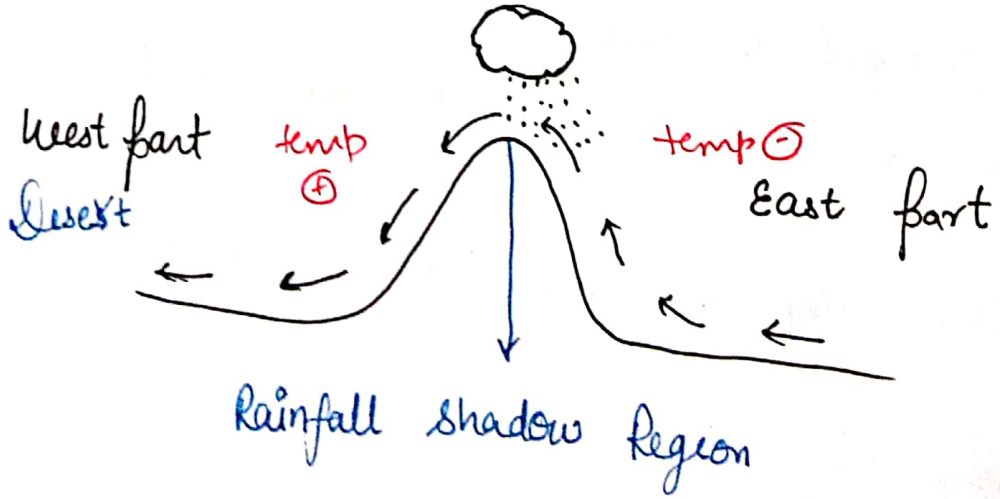
At present Dakshin-Gangotri work as camp and Maitri, Bharti works on environmental research and microscopic research.

- Peguine is a flight less bird. and found on this continent.
- Lycanes are vegetation of this continent.

Australia Continent

Australia is World's smallest continent (acc. of area).
6th rank (acc. of population)





→ Rainfall ⊕

→ Agriculture ⊕

→ 85% population → East part due to effect of Cold oceanic current.

→ Folding mountain → Great dividing Range

→ East part of Australia

Rainfall – ⊕

(because mountains)

KGF → Kolar Gold field

Desert मरुस्थल

↓

Great sandy desert / Sandy desert
Great victoria desert / Victoria Desert } in west part

↓

Gold mine are found → Coolgardie, Kalgoordie

Discovered by → Thomas Cook & Tasman

Bay of Carpentarian → Minerals + Petrolium

- Appror. 70% area of this continent located in semiarid and arid area. so this continent is called 'continent of thrust land'
- Australia continent is world's high producer and exporter county of wool. Here wool is produced by Marino Sea and Angora rabbit.
- Sheep rearing area called station.
- Workers of Woolen factory called jaikaro.
- passes through this continent → Tropic of Capricon.
- World's largest coral reef → Great barrier reef.
- It is located in → Coral sea.
- largest lake of this continent → lake Eyre.

Height of Everest - 8850 mt.

NewZealand

- It is located in South ~~west~~ east of Australia
- It is the Group of two island. (North island + South island) these two islands ~~join~~ saparate by Cook strait.
- Newzealand is called 'Great britain of South'
- Australian Alpepse Mountain is located in this continent.
- Murray River originate by this Mountain.
- Darling River join murray river.
- Murray River is longest river of this continent.
- Grassland of Australia continent called downs.
- Capital → Kenbera.
- Highest peak of this continent → Kosuisco.
- Height → 2228 mt. ≈ 2200 mt.
- Ocenia is group of 14 countries →
- Australia, Newzealand, Noru, Tonga, Papua newgini are the part of this continent.

* Europe Continent-

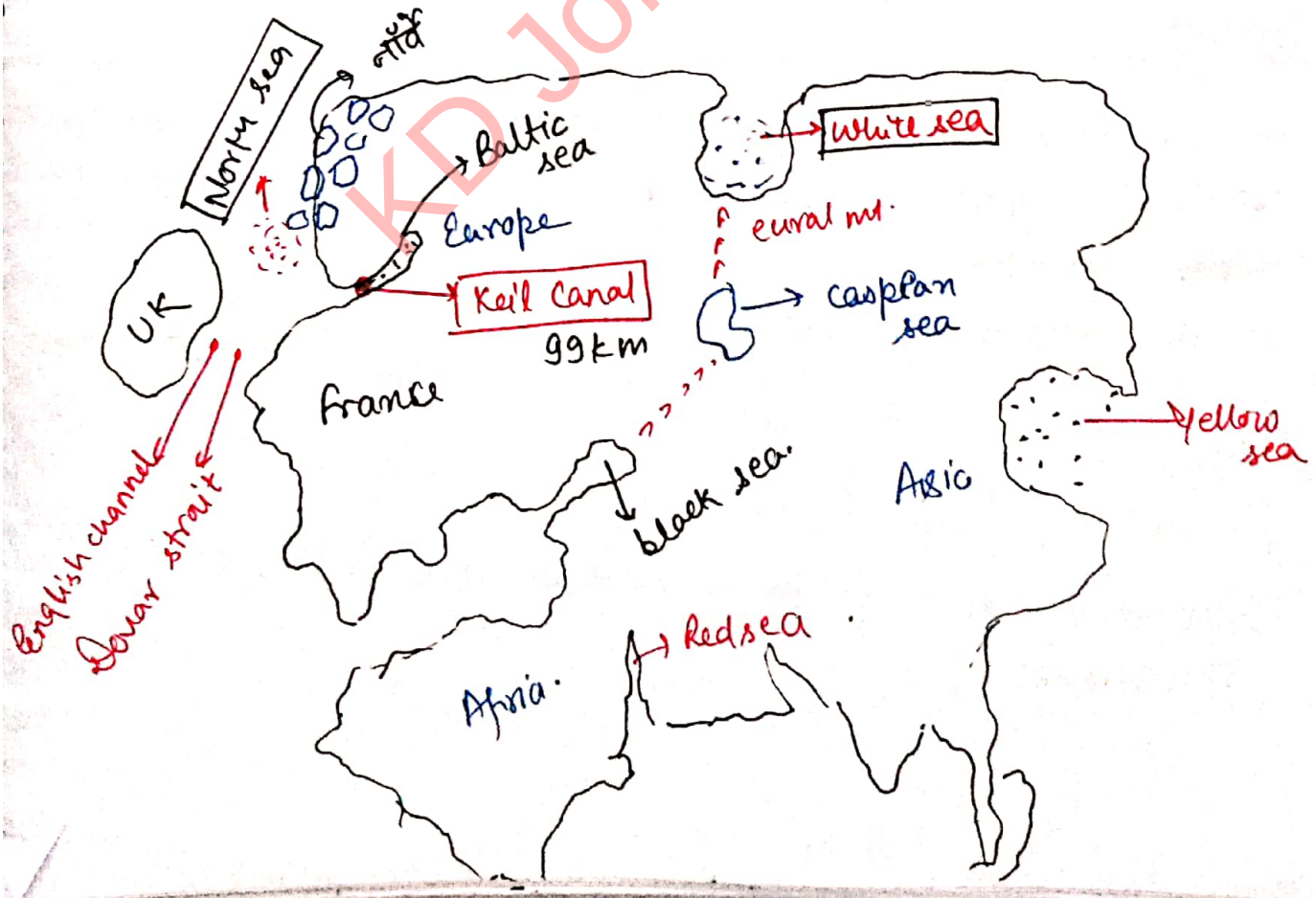
- It is World's IIIrd largest continent (acc. of population) and sixth largest continent (acc. of area).
- Europe → Gibraltar strait → Africa
- Europe → Caspian sea → Eural mountain.
- There is no desert found in Europe continent. Because its east part recieved rainfall by eastern layer wind and west part recieved western layer wind.

~~Continent~~

* this continent ~~conti~~ called continent of Peninsula

France.

- France is self depend in food production . So called Country of farmers.
- Capital → Paris. , located on the bank of sein river.
- Paris is called City of fashion and beauty.
- Alpse mountain located b/w france and Italy.
- Jura mountain located in Switzerland. and it saparates this country by france.
- Pyrenees mountain located in spain.
- Vosges mountain located in Jermany.
-



- france and UK are separate by English channel and Dover strait.
- Baltic sea and north sea are connected by Keil Canal. length → 99 km.

Italy-

- Italy is called India of Europe.
- Po river of italy is purest river. So called 'Ganga of Italy'
- Venice → Queen of Adreatic sea.
- Italy is world's high producer country of Olive and grapes.
- World's highly demanded grapes wine is shampen. It produced by france.

Norway-

- It has first rank in H.D.I. (Human development Index)
- produced Hydroelectrocity from north sea and supply to neighbour country.
- It is example of fiord ~~country~~. coast.

Neatherland -

- famous for Tulip flowers crop.
- Internation court of justice → Head office → located in The Hauge.

Somphen → tribes
man eater ← A&N

Denmark-

- famous for dairying industry.

Finland.

Called 'country of thousand lake.'

River.

- longest river- Bolga river.
- busiest river - Rhine river.
- Coal are found in this river valley. So this river is also called 'Coal river'
- Denube river passes through five capitals.

- Norway + Sweadon + Denmark → Scandinavia.
  Scandinavia + Fin land → 'pheno scandinevia'.

Mountains.

- Caucasus and Eural mountain is major mountain of Europe.
- Mount ~~abrus~~ albrus is called highest peak of this Continent.

Englland + Bels + Scottland → Great britain.
Great britain + North island → Uk

Climatology.

Chapter - 01

Atmosphere

"atm is the envelop of surrounding of gases which hold to the earth by gravitation" ~~wtc~~

Composition of atmosphere-

a) water vapour
b) dust particles
c) gases

Gases -

A) ~~Ø~~ Nitrogen -
- → 78.1 %.
- → 128 km height
- → we feel air pressure
- → Control fire

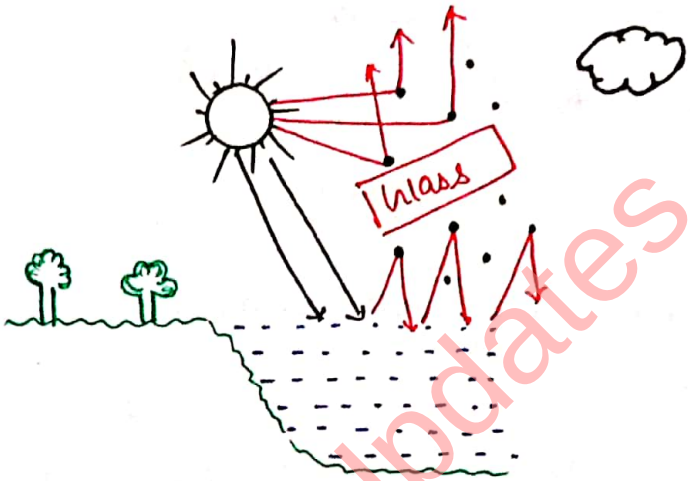
B) Oxygen -
- → 20.9 %.
- → 64 km
- → participate in Respiration
- → to burn fire.

C) Argon - (Ar)-
- → 0.94 %

d) CO_2 →
- → Heavest gas
- → 32 km
- → Global warming ⊕
- → गर्मा बढ़ाती है

* Watervapour -

- Condensation → clouds.
- Work as a glassplate.
- Extra light not comes on earth.
- Extra energy not released.
- Blanket of Earth.



* Dust particles -

↓

medium

→ Light of reflection

→ brighness ⊕

(behave as आर्द्रता ग्राही .)

* Layer of Atmosphere -

(A) Troposphere

Height → max → 18 km

equator

165 mt → -1°C

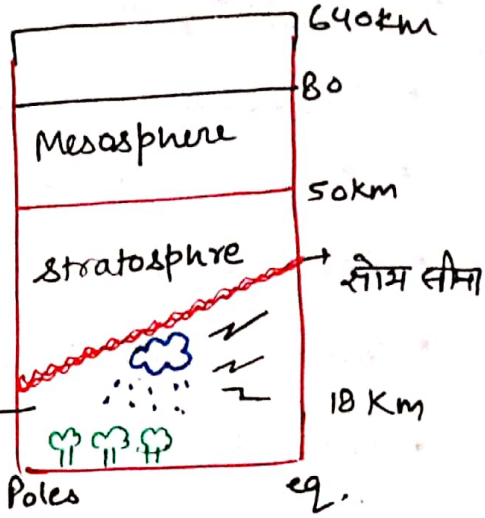
↓

normal lapse rate

min → 8 km

Poles

weathering events → rainfall वृष्टि



(B) Stratosphere-

temp. increase

weather event (X)

aireplane drives in this

Ozone layer found

20 km

UV rays → absorb → temp (+)

UV rays → Reflect

dust particles are not found (X)

coldest.

Mes~~o~~sphere-

* charged partides are found

Radio station

* lighting effect generate
* Aurora Borealis → N. Pole
* Aurora Australis – S. pole

Exosphere

640 → 10,000 km

* Artificial Satteblite

B - 18 km

18 - 32 km

60km

60 - 640 km

Atmospheric Pressure

"Pressure exerted by air coloumn on a certain area called air pressure." It is measured by 'Barometer' and the unit which used in measurement - millibar.

If indicator of barometer (Hg) -

move downward = rapidly decrease, strom weather.

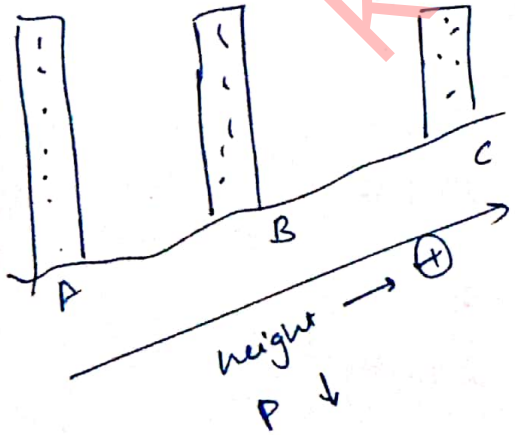
move upward = " increase, clear weather.

(↓↑) → firstly decrease then increase = rain approach.

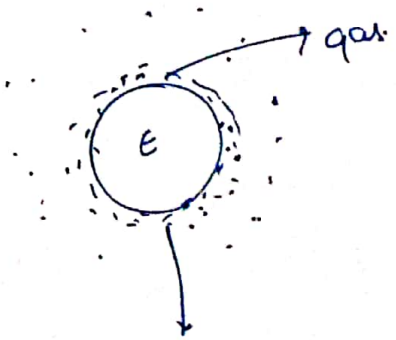
distribution of Air Pressure-

A) Vertical- If height increase then air density will be decrease so pressure also decrease.

B) Horizontal- Air pressure horizontally classify on the basis of pressure belt.



air ↓ so



gas particle will be attract by gravity.

density ↑, P↑

i) Tropical low pressure belt [10°N – 10°S]

Equator → Sun rays ⊥ to the equator

↓

temp ⊕ → ground surface heat

↓

air expand

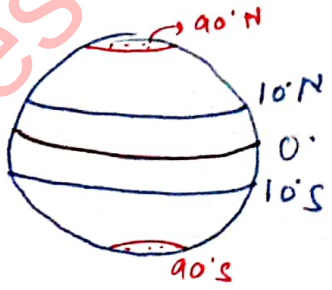
↓

Pressure ↓ , Air density ↓

5° N / S } Doldrum

↓

Calm belt



ii) Polar pressure belt

equator → Sun rays not ⊥ to the equator

↓

temp ⊖ → ground surface cold

↓

air shrink

↓

Pressure ↑ , Air density ↑

iii) Sub tropical pressure belt -

$\left(23\frac{1}{2}^{\circ} - 35^{\circ}\right)$ N·S

rise up air of tropical region diverted ↓ by coriolis force. So in sub tropical region air density increased and pressure also increased. -call

30 - 35° ⟶ Horse latitude.

iv) Sub polar belt -

This pressure is induced by coriolis force.

In this region coriolis force is very much effected with respect to the equator. So the air deflected by force and pressure decrease.

range → $45^{\circ} - 66\frac{1}{2}^{\circ}$ N.S

Wind

- Blowing gases are called 'air'
- Horizontally blowing air called 'wind'.

Type of Wind -

i) **Permanent Wind** - These winds do not change its direction according to the season. ~~that is always~~

These winds further divided into two parts.

a) **Easterlier Wind** - these winds effective in eastward direction. these winds responsible for the rainfall in east part of continent. On equator rainfall is caused by these winds; Subtropical → tropical. or these winds called **trade wind**.

b) **Westerlier wind** - these winds effective in westward direction. these winds blow subtropical to subpolar.

northern hemisphere → S-W to N-E
southern hemisphere → N-W to S-E

These winds responsible for rainfall only in west part of northern hemisphere not in southern hemisphere. That's why desert are found in west part of continents in SH.

When these wind passes on ocean speed will be always increase and sound generate.

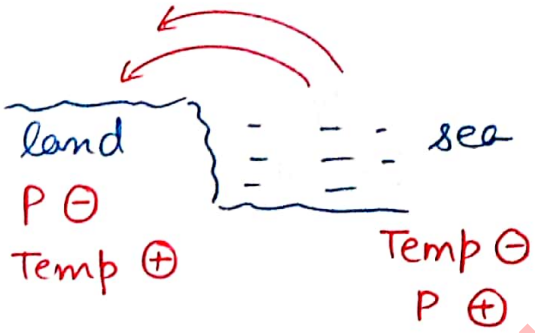
(A) on 40° → Roaring

(B) on 50° → Furious

(C) on 60° → Shrieking

ii) Temperory Wind - Change its direction according to season.

Day :-



wind blow from sea to land, called 'sea breeze'.

Night :-

wind blow from land to sea, called 'land breeze'.

iii) Local Wind - These winds blow only in certain area
It divided into two part.

a) Warm wind - → temp. → increase
→ Rainfall ⊕ /

b) Cold wind - → temp → decrease
→ Rainfall ⊖

Warm winds -

A) Chinook Wind- / Snow eater

given by → Red indians → warm wind → blow in east part of Rockey mountain (N. America)

↓

snow covered → Grassland

Chinook → snow melt → Grass - Grow up

B) Foehn Wind -

→ Alpse mountain → Italy (Europe)

C) Sirroco Wind-

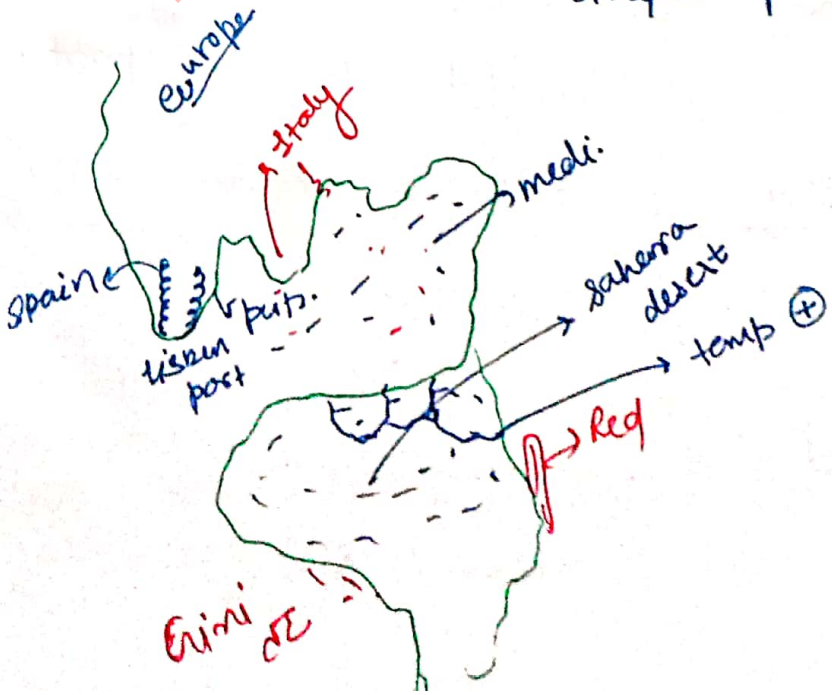
Sahara desert → medi. Sea → Italy

↓ ↓ ↓

Red Dust particles + Water vapour bloody Rainfall

↓

Grapes production effect



d) Khamsin → Egypt / Mistra
e) Hi'bli → lebia
f) ~~Tun~~ chile → Tunesia

} warm + dusty

g) Harmattan wind → called Doctor Wind

सहारा मरुस्थल → गिनी तट

h) Zonda wind → Argentina.
i) Simoom wind → Iran.
j) Samoom wind → Iracc.
k) Loo → blow in only in N. India
Pakistan, India.

Cold Wind-

i) Mistral wind - Spain.
ii) Purga wind } - Russia.
iii) Buran wind }
iv) Pamparo wind - Argentina.
v) Papagayo wind - Maxico.

Cyclone

'Cyclone is the rotation of winds due to effect of Coriolis force and earth rotation'.

i) Sub tropical cyclone-

↓

→ also called temperate cyclone

→ $\left(30^{\circ} - 66\frac{1}{2}^{\circ}\right)$ N-S

→ centre → low pressure

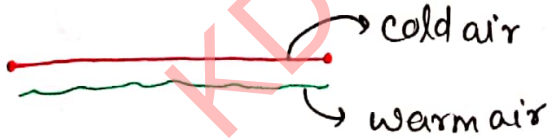
→ outer part → high pressure

→ air blow towards centre

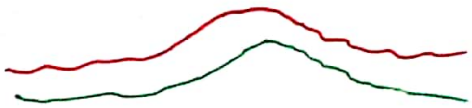
→ Rainfall → very low

→ Norway, Alaska, Russia.

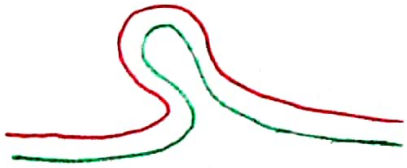
(a)



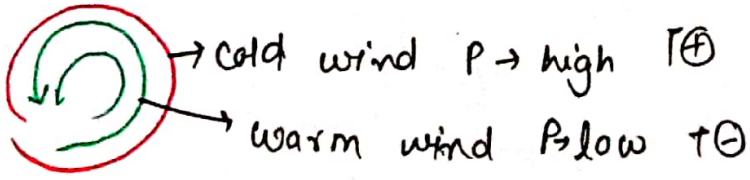
(b)



(c)



(d)



ii) Tropical Cyclone-

in equitorial region → LP

N.H ← Equator → S.H

↓

HP → LP ← HP

↓

Intertropical Convergent Zone (ITCZ)

↓

air rise up , deflect by coriolis force

↓

Cyclone

Rainfall → very high.

front part → very high Rainfall

↓

cloud formation

back part

Again Rainfall

eye of cyclone

↓

Clear weather

(*) महासागरों से गुजरने पर लहरें उठती हैं।

① in caribian sea → ~~Harike~~ Hurricane.

② in Maxica & U.S.A → Tarnedo.

③ in china sea (Japan, china, phillipins) → Typhoon.

④ in Indian Ocean → Cyclone.
(India, Srilanka, maldiv...)

⑤ in Australia → Willy-willy

€

Ocean of World.

Pacific > Atlantic > Indian > Antarctic > Arctic.

Pacific Ocean- It is World's largest ocean, it covered 33% area of earth;

- **Sea →**
  - Japan sea
  - Baring sea
  - bay of California
  - Yellow sea
  - East china sea
  - South china sea
  - Coral sea.

- **Island →**
  - Japan
  - Phillipins
  - Tonga
  - Aleutian

deepest trench - Mariyanna trench. / challenger trench (11033 mt)

shape → △

Atlantic Ocean-

→ second largest

→ covered → $\frac{1}{6}$ $\frac{\text{pacific}}{2}$ and $\frac{\text{earth}}{6}$

→ Sea →

- Baltic sea
- North sea
- labradoor sea
- Gulf of Maxico
- Caribian sea
- Bay of Panama.

Island →

Caribian island.

Deepest trench →

Peutorico.

Shape → S

* Indian Ocean-

Shape → acc. to NCERT → △

'Indian Ocean is only ocean which named on a Country.

Sea →

Arabian sea.

bay of bangal

Andman sea

bay of khambhat

~~Ra~~ bay of kutch

bay of Mannar

Palk bay

- **Island** -

  Andman & Nicobar
  Madagascar
  Mauritious
  laksha dweep
  Maldiv.
  Sri lanka.

deepest trench -

Sunda trench

* Antarctic Ocean and Arctic Ocean.

Antartic and Arctic Ocean are covered by snow.

* Tide. 'Rise up of oceanic water called tide.

↓

due to effect of sun and moon Gravitation

- Spring / high tide
  - ↓
  - Full moon / New Moon
  - 20% → diff. in height
- low tide / Neap
  - ↓
  - 7, 8th
    - Bright fort night
    - dark fortnight

World's high tide

- Bay of Fundi – Canada
  - 18–20 mt
- India
  - Okha Coast – Gujrat
    - 3–4mt.

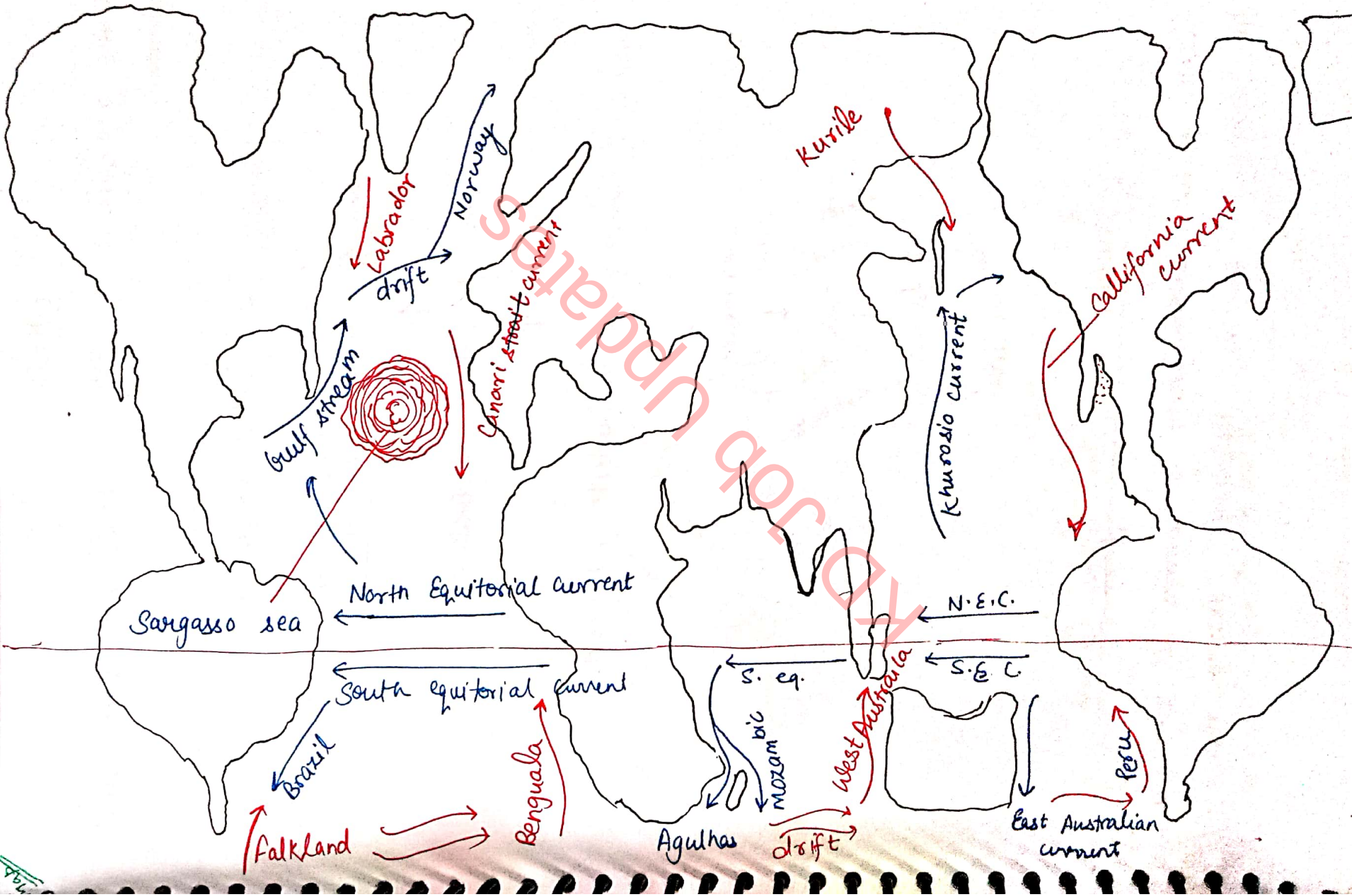
Oceanic Current

'Flow of oceanic water with a definite direction and velocity called Oceanic Current.' If velocity and direction indefinite then it will be called 'drift'. Their are two type of oceanic current.

i) Cold Oceanic Current – a) It ↓ the temp. of particular area and caused to the formation of desert.

ii) Warm Oceanic Current – a) It ↑ temp. and responsible for rainfall.

Oceanic Currents



Cosmos

'Whole arrangement of ~~celestial~~ Celestial bodies and space called Cosmos.'

Cosmos → celestial bodies + space

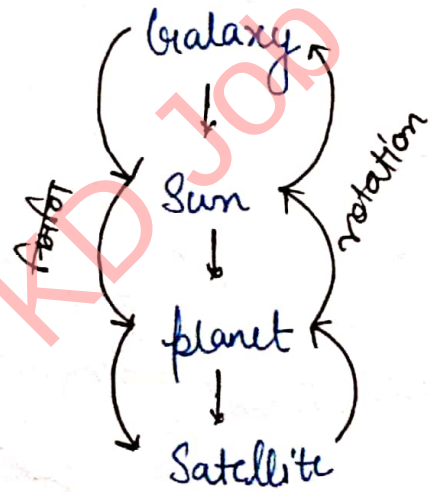
No. of Galaxy → cluster → Supercluster

↑

No. of Star → Galaxy

↑

Solar System { Sun, → planet → Satellite, Asteroids



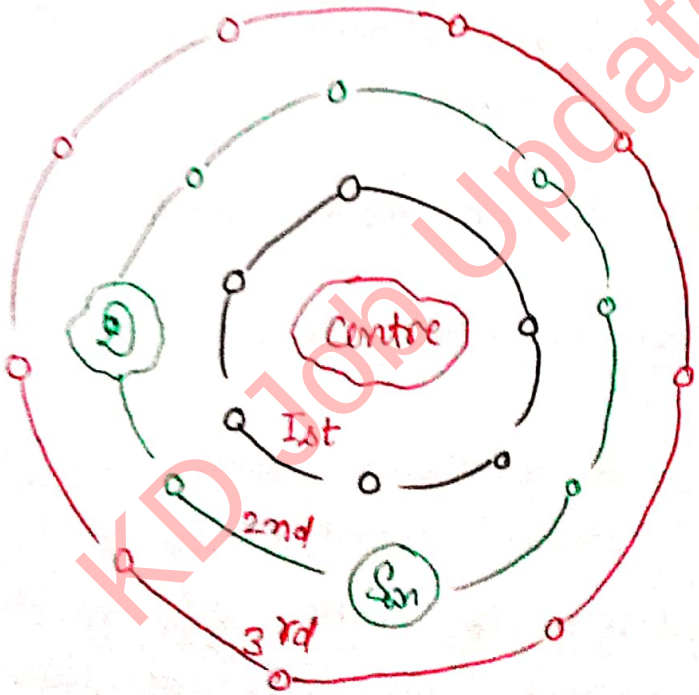
Structure of Solar System Cosmos

'Tolmi' started systemtic study of Cosmos in 140 A.D. He suggested 'geocentric Hypothesis'. Acc. to this

hypothesis sun revolved around earth.

In 1543 Copernicus suggested 'Heliocentric hypothesis', acc. to this theory earth revolved around sun.

- Galaxy - Group of $\overset{\text{no. of}}{\vee}$ stars called Galaxy. Our own galaxy is 'Milky way'.
  - → 3 rotatory arm
  - → shape - spiral



3rd arm → H - clouds → move → compile → Collision → energy released

nebula

$H \rightarrow He$

nuclear fusion reaction

Proto star / Primary star

Sun → 2nd arm
Nearest star to the sun
} Alpha Centuri a, b, c

↓

'Alpha Centuric' ⇒ Proxima centuri

Dogstar → Brightest + Biggest star.

- Star – All those celestial bodies which have its own energy, temperature and brightness are called star.

Source of Energy – Nuclear fusion reaction

Brightness of a star represent its temperature.

Life cycle of star – A protostar formed by gasious cloud. which called 'Nebula'.

- After long time hydrogen of centre will be decrease. Star will be expand and appear as red hot colour. which known 'Red giant', Temp. → 3500°C, excessive of He.

- Again 'He' converted into Heavy metals and initial star will be exploded. This exploding star called Supernova.

ms → mass of sun.

1.4 ms → chandrashekhar limit

3rd Supernova (exploding)

- 1.4 ms ⊕
  - e⁻ highly spin } 4th Pulsar
  - ↓
  - e⁻ orbit released
  - ↓
  - 5th neutron star → energy released
  - ↓
  - 6th Black hole
    - → gravitation ⊕
    - → density ⊕
    - → darkness ⊕
- 1.4 ms ⊖
  - ↓
  - White dwarf
  - ↓
  - Black dwarf
  - ↓
  - disappear

Sun - star → It have its own energy

(A) Core → N. fussion

(H) → (He)

Temp. → 15 m°c

(B) Photosphere →
- → Brightest layer
- → Visible part
- → temp = 6000°c
- → Solar flares → origin
- → Sun spot → cold pole

1500c

(c) Chromosphere -

↳ Atmosphere of Sun

{ H → 71%.
{ He → 26%.

(d) Corono → outer layer

Visible only at the time of S- Eclipse

~~Differe~~ Distance b/w Sun and Earth

maximum distance → 15.21 Cr. km ~~Epi He~~ → Apyhelion (4 July)
minimum → 14.7 Cr. km. → Perihelion (3 jan.)

~~Apyhelium~~

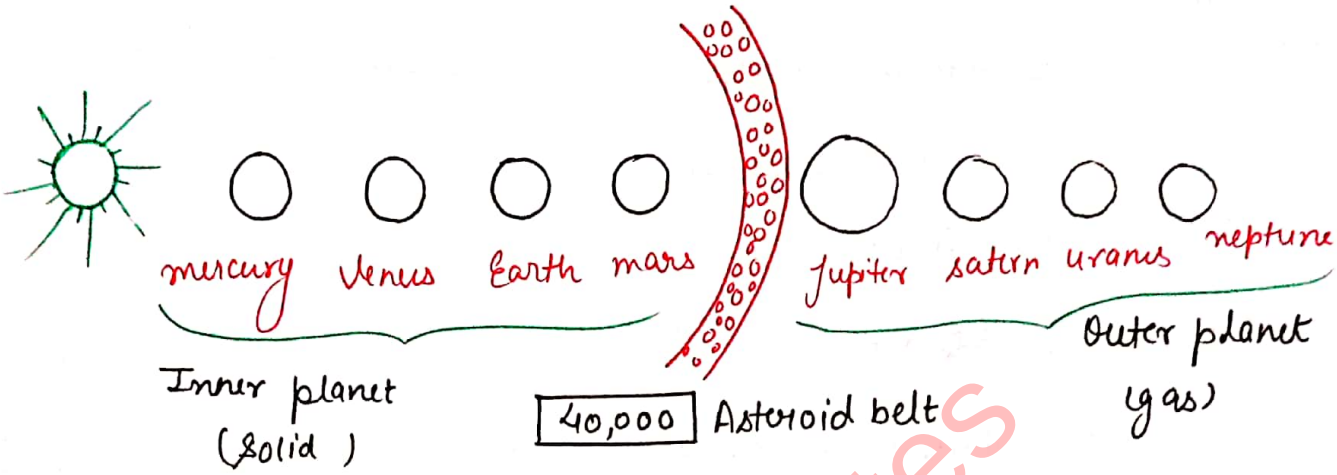
* Sun light incident on earth in the form of radiation.
* time → 8 minute (18 - 22) second

Planet - All those celestial bodies which revolved around sun and do not have its own energy and temperature.

International Astronomical Union (IAU) was stablised to conduct research work related to Solar system.

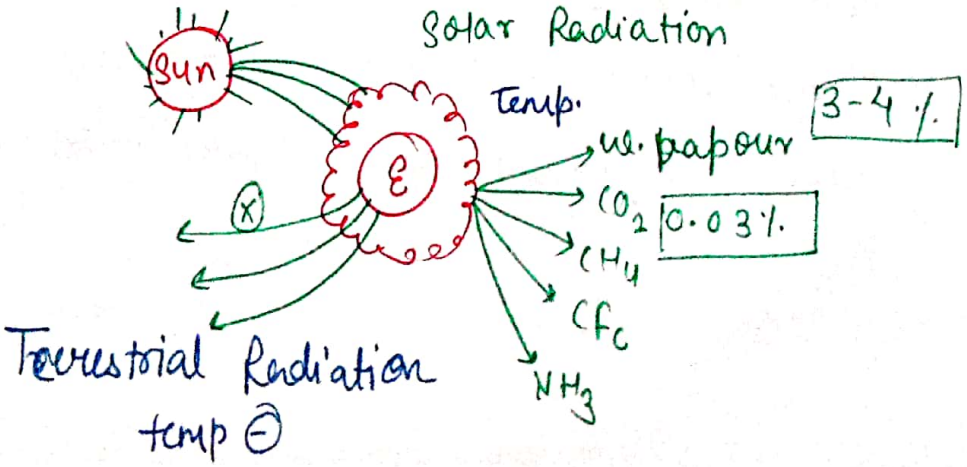
In 2006 a convection of IAU conducted in Prague there definition of planet was revised.

" Gravitation of a planet is highly necessary to gave it round shape." On the basis of this point pluto was rejected from the series of planet. At present major planet are '8'.



Mercury -
- Smallest planet
- nearest planet to the sun.
- do not have its satellite and atmosphere.
- Here Days are very warm and nights are very cold. (temp. diff → 543 °c)
- Rotation time → 59 days.
- Revolution time → 88 days.

Venus - known as morning star, Evening star, (sister planet of earth) twin planet, CO_2 → 95% present



rotation time - 243 days → maximum
revolution time → 224 - 250 days
revolved around sun East to west clockwise.

Mars - Due to having FeO called red planet.
Seasonal change also occcured on this planet
has two satellite
a) Phobos
b) Deimos (smallest)

Rotation time → 24 hours
Revolution time → 687 days
Mars orbital mission started → 2013 by India

Heighest mountain of solar system → Nicks Olympia (3x mt. everest)

Jupitor -

biggest planet
due to having radio energy it also called 'star like planet'

acc. to(IAU) satellite → 67 (possibility)
largest → Granymede
rotation time → 9 hrs.
revolution time → 11.86 yrs.
Asteroid belt located b/w Jupitor and Mars.

Saturn- largest planet on the basis of size and number of satellite

total satellite → 62

largest satellite → Titan

surrounded by 7 rings made by silicate.

rotation time → 11 hrs.

Revolution time → 29 year.

Uranus -

Due to having high tilt angle, called 'lying planet'

surrounded by 9 rings. in which 5 rings are α, β, γ, Δ, ε.

Covered by methane clouds so appear as green color.

revolved around sun similar to the venus.

total no. of satellite → 27, largest → titania.

rotation time → 17 hours.

revolution time → 84 year.

Nepture- farthest planet to the sun.

no. of satellite → 14

rotation time → 16 hrs.

revolution time → 165 year.

Our satellite : Moon

→ satellite of Earth

Moon light → Reflected light of sun

distance b/w (M) & (E)

max → 406000 km → Apogee

min → 384000 km → perigee

59 % part → visible

41 % part → invisible

Rotation
Revolution → 27 day 7 hour

↓

we can see only one part of moon

(E) ↔ min. dis (M)

a

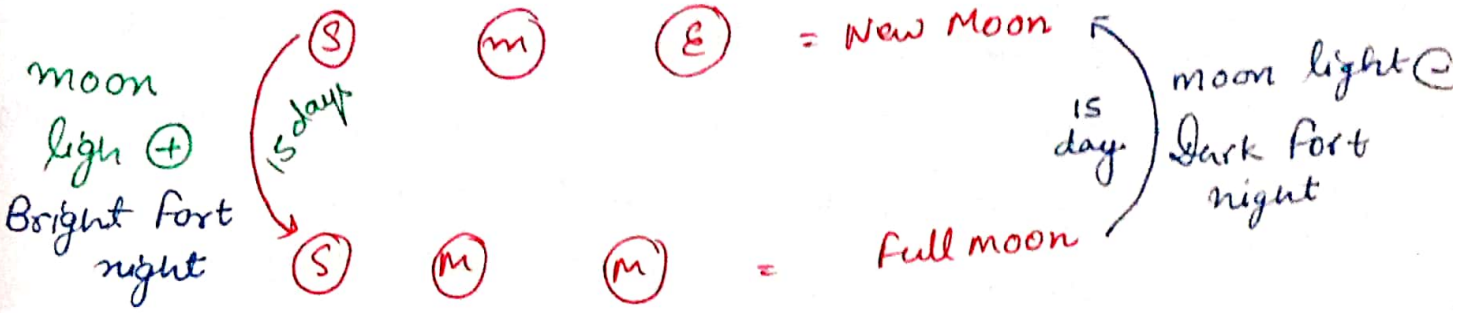
Perigee → Supermoon → 40% brightest

Supermoon → 14% biggest

Heighest mountain → Leibtnz.

- Phase of Moon -

Change in ~~sa~~ moonlit portion called phase of moon.



Syzygy
युति वियुति

- Eclipse - invisible

Max - 7

Lunar Eclipse

S E m

Full moon

90 min

Solar Eclipse

S m E

New Moon

7-8 min.

S E m

5° → eclipse ⊗

S E m

5° ✗ eclipse ✓

Meteors - part of Asteroids.
stay away from earth.

Meteroids - When meteors entered in earth's gravity area. Started glowing and called 'shooting star'

If they do not burn completly and fall down to the earth then called 'Meteoroids'

Comets - formed by gas dust and ice. When they entered in gravitational area of Sun; attract with a great velocity and started glowing with gasious state so called comets.
Halley comets appear after every 76 years.
last time it was seen in 1986.

Latitude & Longitude

Horizontal → latitude

Vertical → longitude

Spring

21 march → Equinox

23 sep → Autumnal Equinox

diff → 6 month

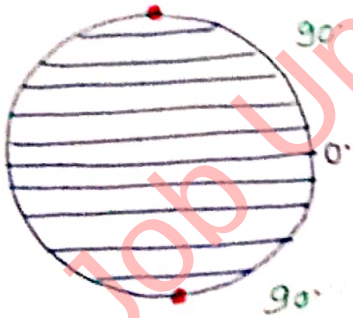
(A) Equator 0°

North → N. Hemisphere

South → S. Hemisphere

Sun 'L'

Day = Night



90 + 0 + 90 → 181 → latitude

180 - 2 (poles are point not lines so not counted)

= 179 → latitude line

distance b/w two latitude line

1° ⇒ 111km

→ Zone

- $23\frac{1}{2}^{\circ}N$ → tropic of Cancer

  ↓

  Sun '⊥' → 21 June

  Summer solistice

  N. Henu → longest

  S. Henu → Smallest

- $23\frac{1}{2}^{\circ}S$ → tropic of Capricon

  ↓

  Sun '⊥' → 22 Dec. / Winter solistice

  22 Dec.

  S.H. → ~~shortest~~ Longest.

  N.H. → Shortest.

Longitude.

→ vertical lines

→ distance b/w 2 lines → max. at equator - 111.32 km.
min. at poles - 0
this distance called gore

→ total lines → 360

→ 0° line called international time line. It passes through Greenwich of London. so called Greenwich merridian line (GMT).

→ In east of this line - time increase.

(1° → 4 minute)

→ 180° line → ~~date~~ International Date line.