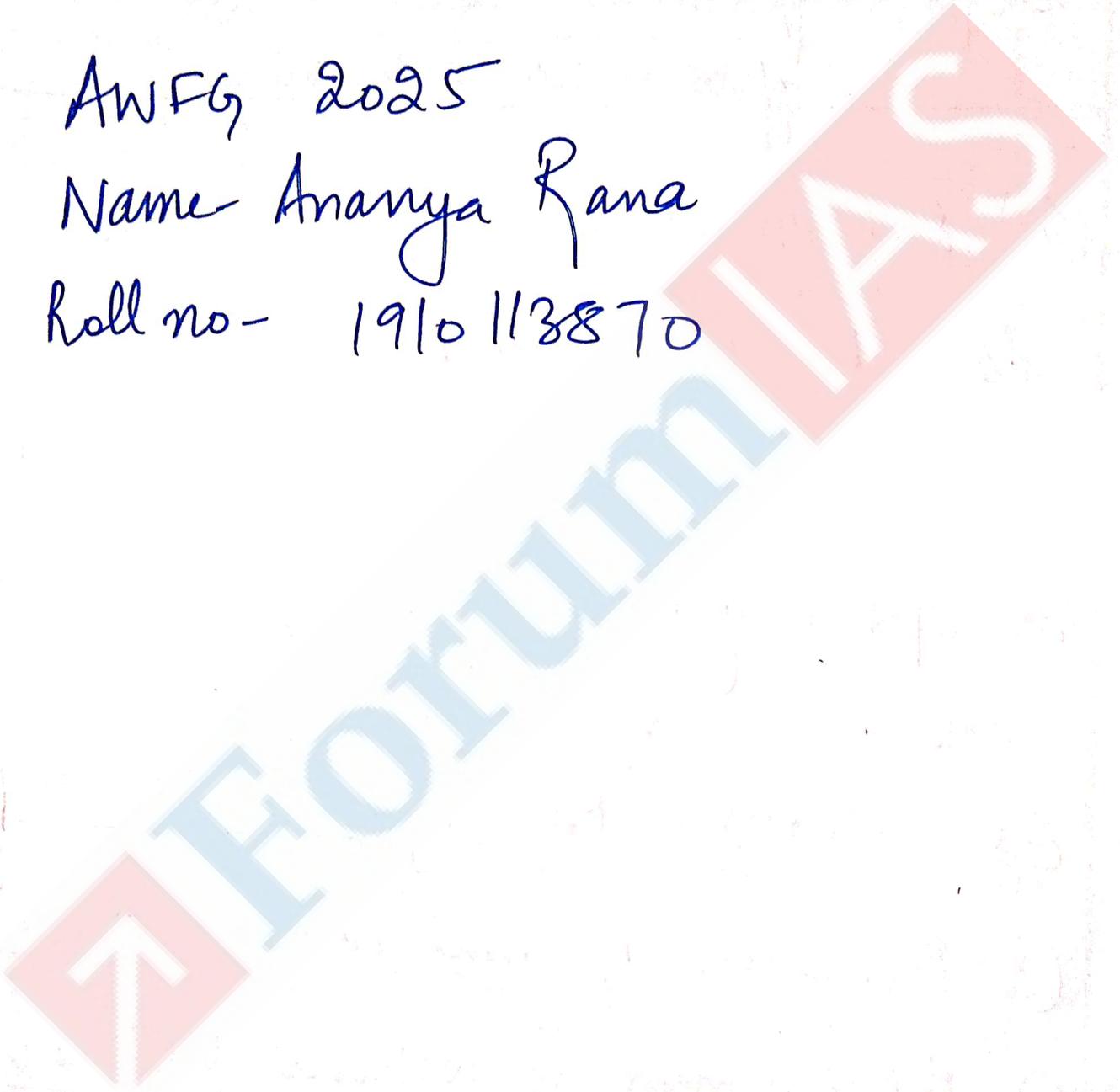


AWFG 2025

Name Ananya Rana

Roll no- 1910113870



ANSWER WRITING FOCUS GROUP 2025

TEST #25 – (Test Code: 880065)

Instructions to Candidates -

- There are 7 Questions in this Question paper.
- All Questions are Compulsory.
- For all updates, please visit the noticeboard <https://forumias.com/blog/awfg2025/>

अभ्यर्थियों के लिए निर्देश -

- इस प्रश्न पत्र में 7 प्रश्न हैं।
- सभी प्रश्न अनिवार्य हैं।
- सभी अपडेट के लिए कृपया नोटिसबोर्ड देखें – <https://forumias.com/blog/awfg2025/>

Allotted Time : 1 Hour

Total Marks : 95

Q.1) How do the changes in Himalayan glaciers reflect and contribute to the visible signs of climate change in the Indian subcontinent? Analyze with relevant examples.

(10 Marks, 150 Words)

हिमालय के हिमनदों में परिवर्तन भारतीय उपमहाद्वीप में जलवायु परिवर्तन के दृश्यमान संकेतों को किस प्रकार प्रतिबिंबित और योगदान करते हैं? प्रासंगिक उदाहरणों सहित विश्लेषण कीजिए।

(10 अंक, 150 शब्द)

Q.2) Provide an account of the various erosional and depositional landforms created by running water.

(10 Marks, 150 Words)

बहते पानी द्वारा निर्मित विभिन्न अपरदनात्मक और निक्षेपणात्मक भू-आकृतियों का विवरण प्रस्तुत करें।

(10 अंक, 150 शब्द)

Q.3) Warmer waters of Bay of Bengal are typically more prone to cyclones than the cooler and calmer Arabian Sea, but the trend seems to be changing. Examine.

(10 Marks, 150 Words)

बंगाल की खाड़ी का गर्म जल आमतौर पर शांत और ठंडे अरब सागर की तुलना में चक्रवातों के प्रति अधिक संवेदनशील होता है, लेकिन यह प्रवृत्ति बदलती दिख रही है। इसकी जाँच करें।

(10 अंक, 150 शब्द)

Q.4) Briefly explain the mechanism of the monsoon system and highlight the various difficulties associated in its accurate prediction.

(10 Marks, 150 Words)

मानसून प्रणाली की क्रियाविधि को संक्षेप में समझाइए तथा इसके सटीक पूर्वानुमान से जुड़ी विभिन्न कठिनाइयों पर प्रकाश डालिए।

(10 अंक, 150 शब्द)

Q.5) What do you understand by coral bleaching? Briefly discuss its causes and consequences.

(15 Marks, 250 Words)

प्रवाल विरंजन से आप क्या समझते हैं? इसके कारणों और परिणामों पर संक्षेप में चर्चा कीजिए।

(15 अंक, 250 शब्द)

Q.6) Discuss the factors influencing the formation of soils. Also, throw light on distribution of major types of soil in India. (15 Marks, 250 Words)

मृदा निर्माण को प्रभावित करने वाले कारकों की चर्चा कीजिए। साथ ही, भारत में मृदा के प्रमुख प्रकारों के वितरण पर भी प्रकाश डालिए। (15 अंक, 250 शब्द)

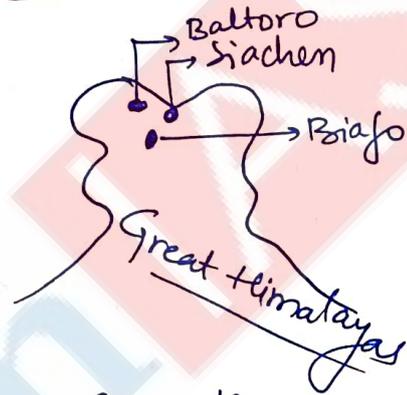
Q.7) Explain the global pattern of earthquake occurrences and discuss its multidimensional impact. (15 Marks, 250 Words)

भूकंप की घटनाओं के वैश्विक पैटर्न की व्याख्या करें और इसके बहुआयामी प्रभाव पर चर्चा करें। (15 अंक, 250 शब्द)

1.

Himalayan glaciers are known as third pole of the world and has been witnessing changes in its composition due to climate change.

Changes in Himalayan glaciers reflecting climate change



Some Himalayan glaciers

① Decrease in size due to melting

Caused by rise in atmospheric temperature. (eg) IPCC report on Himalayas

② Loss in biodiversity due to change in temperatures of survivable place

(eg) Temperate vegetation is shifting towards poles.

③ Frequent disasters like GLOF in Sikkim, Chorabari disaster in Uttarakhand.

Changes in Himalayas contributing to climate change

- ① Decrease in Earth's albedo due to melting of snow.
 - ② Absorption of black soot by snow increases melting.
 - ③ Melting rises sea levels which contribute to existential threats for some island nations @ Tuvalu.
 - ④ Disrupts cycle of cooling and heating that sustain Earth.
 - ⑤ Promotes warming of Asian Continent
- ⑨ According to WMO report, Asia is warming at twice the rate of world.

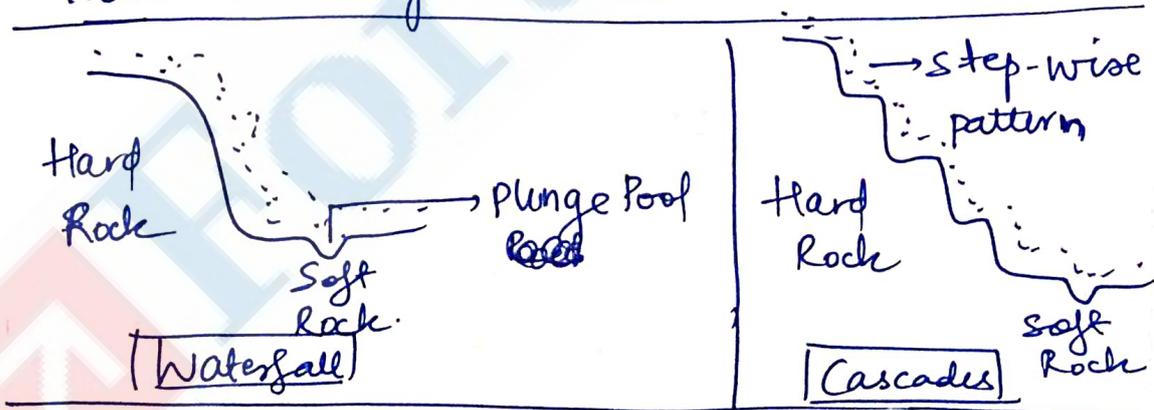
Declaration of 2025 as 'year of Glaciers' is a step in right direction. Decreasing green house gas emissions and promoting Mission LIFE should be way forward.

2.

The landforms formed by running water are called fluvial landforms. They are formed due to abrasion, attrition and erosion-deposition of matter by running water.

Various erosional landforms formed by running water

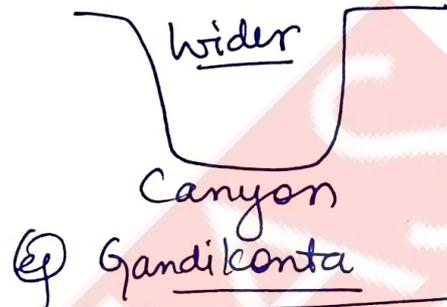
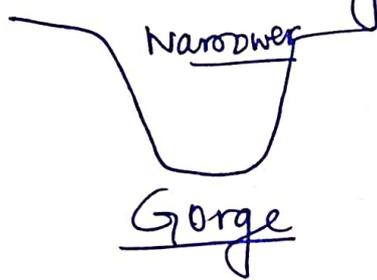
① Waterfalls and cascades - when hard rock remains steady while soft rock in the front is eroded.



② Rapids - Formed by erosion of all surface leaving only an isolated standing dykes structures.



2. Canyon / Gorge - By erosion of surface rocks creating deep structures.



Various depositional landforms

1. Delta: Formed by deposition of silt at mouth of river

(e) Sunderban Delta on Ganga



2. Ox-bow lakes:

Formed due to cut off and deposition of silt while meandering

(e) Goga Beel



3. Strip off ~~and~~ banks

When silt is accumulated inside convex bank of river

4. Floodplains

(e) Bangar - old
Khadar - new
alluvial
soils



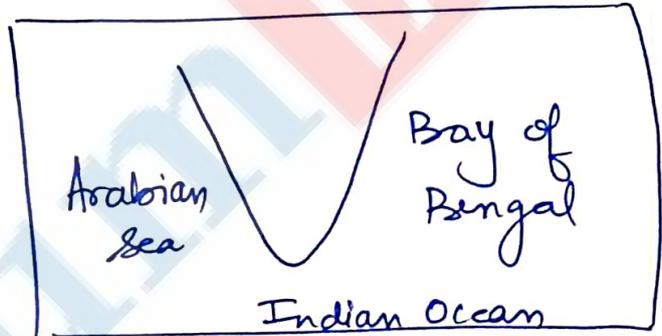
Fluvial landforms enrich the dynamism of earth and provide picturisque sites to witness.

3. The rate of cyclone formation in Arabian sea has nearly doubled in the last 15 years as compared to those in Bay of Bengal.

Bay of Bengal is more prone to cyclones

① Smaller in size than Arabian Sea

② More flux of fresh water
eg Ganga, Krishna



③ More enclosed body thus higher warming caused by contact with land.

④ Suitable conditions available especially during pre-monsoon times.

eg Cyclone Amphan, Taukate etc

However, over the years Arabian Sea is witnessing changes in temperature giving rise to more cyclones.

Factors leading to higher number of cyclones in Arabian Sea.

- (1) Indian Ocean Dipole - Positive IOD increases temperature in West Indian Ocean and hence Arabian Sea.
- (2) ENSO - Frequent and prolonged spells of El-Nino in Pacific Ocean have indirect bearing on Arabian sea temperature.
- (3) Slowing down of AMOC - leading to disruption in heat distribution.
- (4) Decrease in influx of already scarce freshwater @ Narmada & Tapi.
- (5) Green house gas emissions caused by vehicles used for trade via sea.

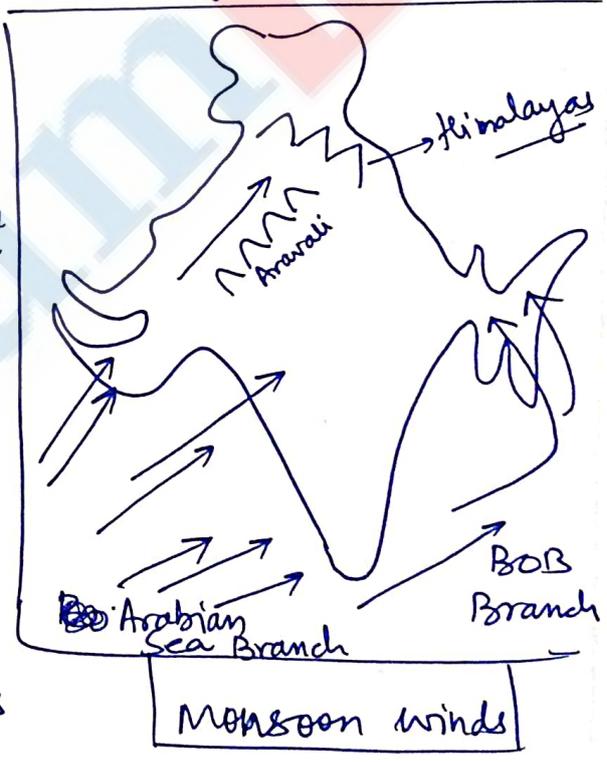
This rising and changing trend of cyclones is a wake up call to take efficient steps to prevent reaching tipping point and fulfill mandate of Paris agreement.

4. Monsoon system is a pan-India phenomenon [also present in some other pockets of the world] which is a result of presence of favourable conditions over the continent in summers.

Mechanism of monsoon system

① Warming of Indian continent in summer leading to development of low pressure region.

② This cause air to move from high pressure region in Indian Ocean towards land.



③ While moving, winds carry huge amount of moisture with it

④ 2 Branches - Arabian Sea and Bay of Bengal to cause rain

in different parts of region

This monsoon is called South West Monsoon, responsible for rainfall in majority of India. Other retreating part is North East Monsoon for T.N. coast.

Difficulty in accurately predicting monsoon patterns

- ① Rise in climate change making all natural phenomenon getting abrupt.
- ② Connections with other global phenomenon like ENSO, IOD, AMOC etc.
- ③ Changed nature of heat distribution due to differential heating of some parts of Earth @ Asia is warming at twice the rate of World (WMO).

The unpredictability can be reduced by investing in R&D eg. Project Mausam by IMD to prevent farmers from losses

5. Corals are the cnidarian species of polyps living in symbiotic relationship with an algae called zooxanthellae. They are called the 'Rainforests of the Ocean'.

Coral Bleaching

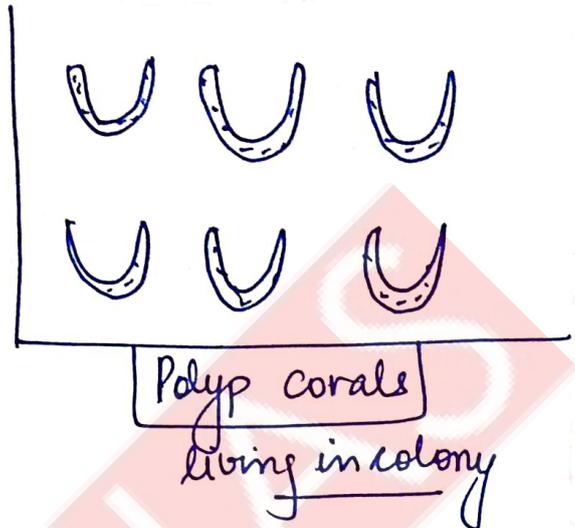
It is a phenomenon of loosing of colour by corals due to expulsion of zooxanthellae.

The corals becomes dull and white after coral bleaching.

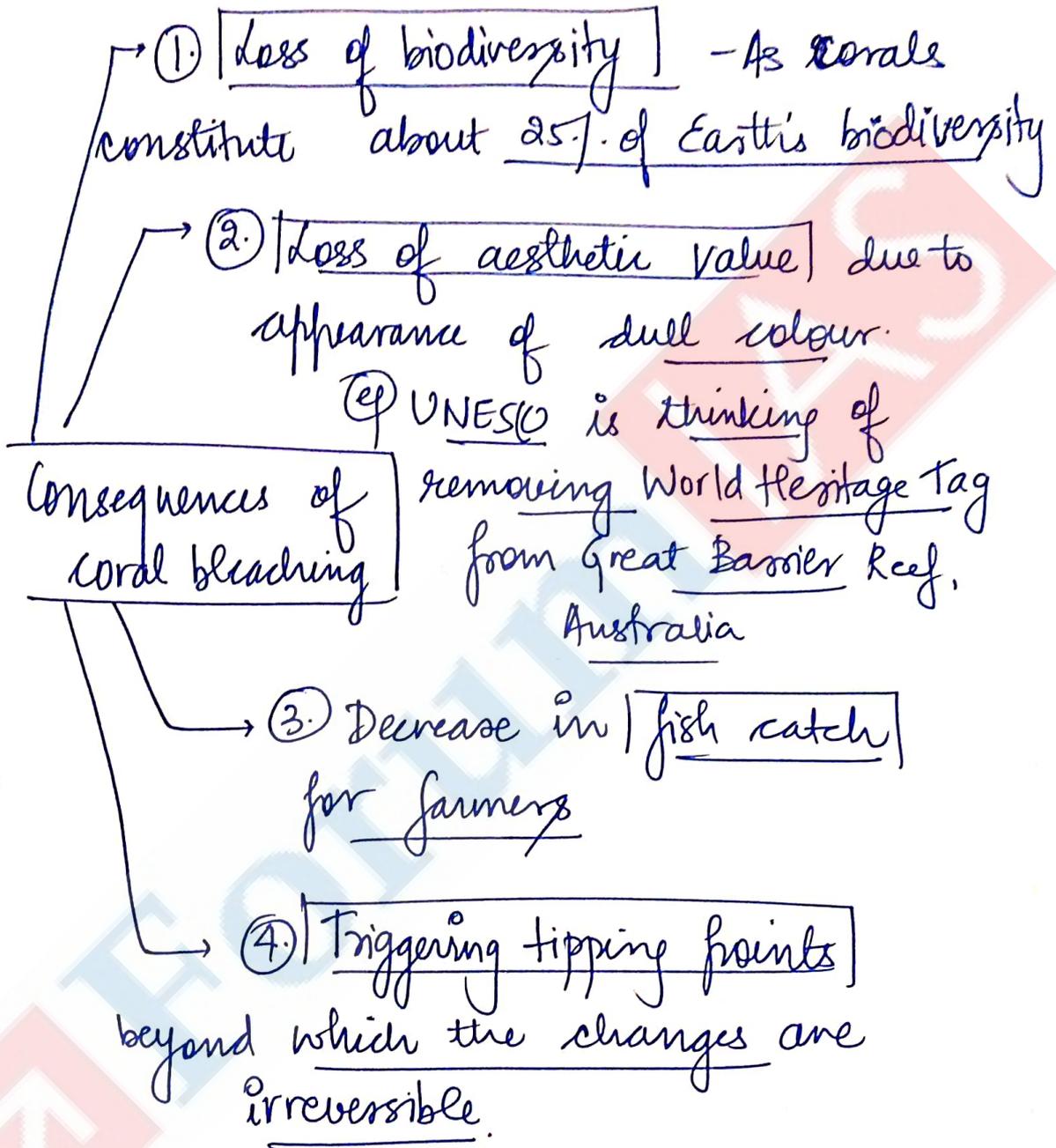
④ Coral Bleaching observed in Great Barrier Reef, Australia.

The coral bleaching is a 'biosignature' that natural conditions are undergoing changes and actions are required

Causes of coral bleaching

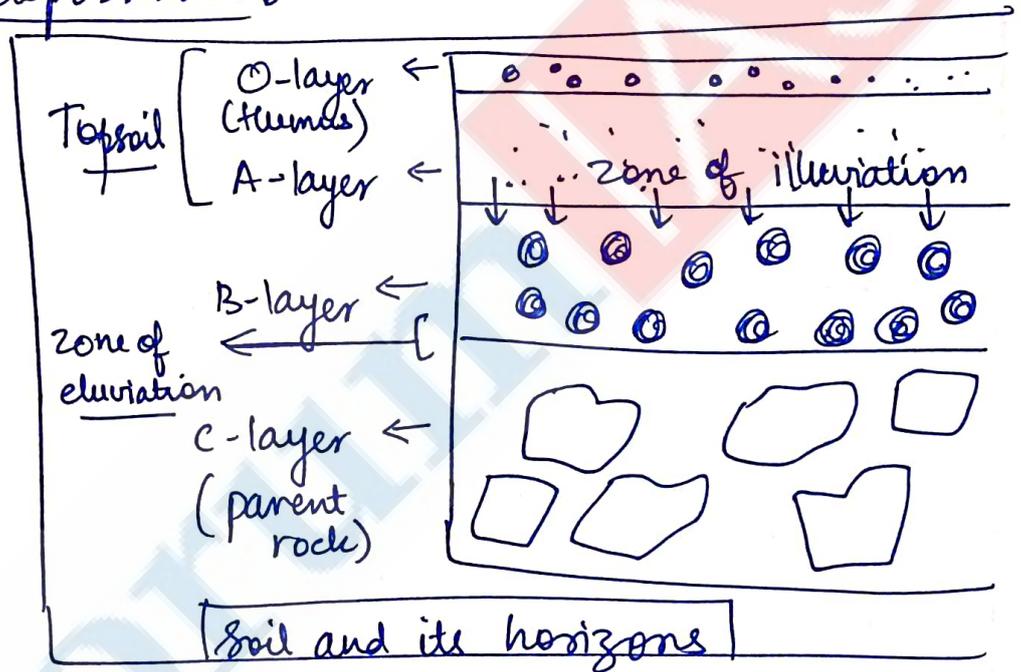


- ① Rising pollution levels of water due to chemical intake caused by erosion into sea/ocean.
- ② Change in temperatures beyond 18°C increases changes of coral bleaching.
- ③ Acidification of ocean due to rising levels of CO_2 in atmosphere and their consequent absorption by oceans causing corals CaCO_3 content to dissolve.
- ④ Instability in water disturbs the calm nature preferred by corals & thus disrupting their habitat.



Coral bleaching is a nature's way of indicating human excesses on it. Time is to work on war footing to reduce GHG emissions and preserve this heritage.

6. Soil formation and its study is known as pedology. Soil formation takes millions of years via process of erosion and deposition.



Factors influencing formation of soil

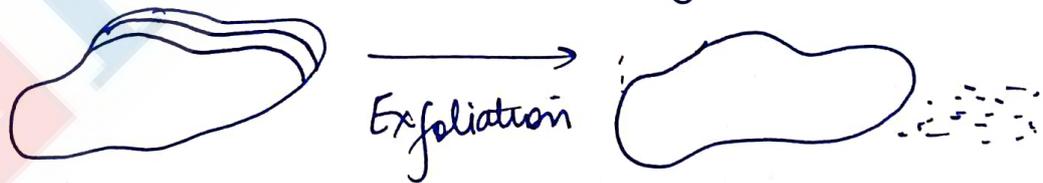
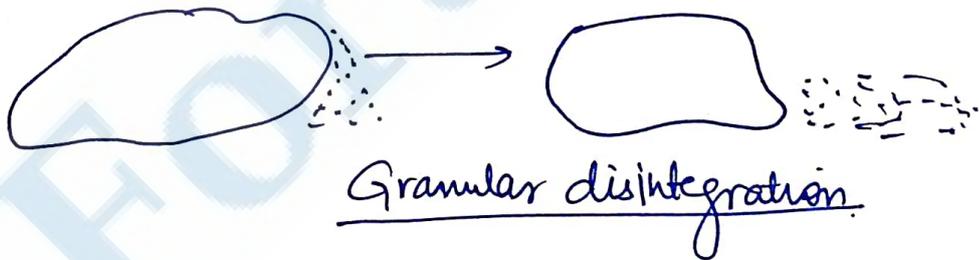
- ① Geographical factors - Temperature and pressure conditions. Warm and humid climate enhance rate of rock weathering.
- ② Type of rock structure - Highly erodible rocks give rise to faster soil formation

③ Physical agents like running water, wind and sunlight aid in soil formation.

④ Physical processes (a) Hydration, oxidation, carbonation, hydrolysis etc

⑤ Biological processes (a) by animals and plants - burrow making by rabbit.

⑥ Granular or block disintegration determines soil particle size



India has 8 major types of soil systems distributed in accordance with geographical factors.

Distribution of major soil types in India

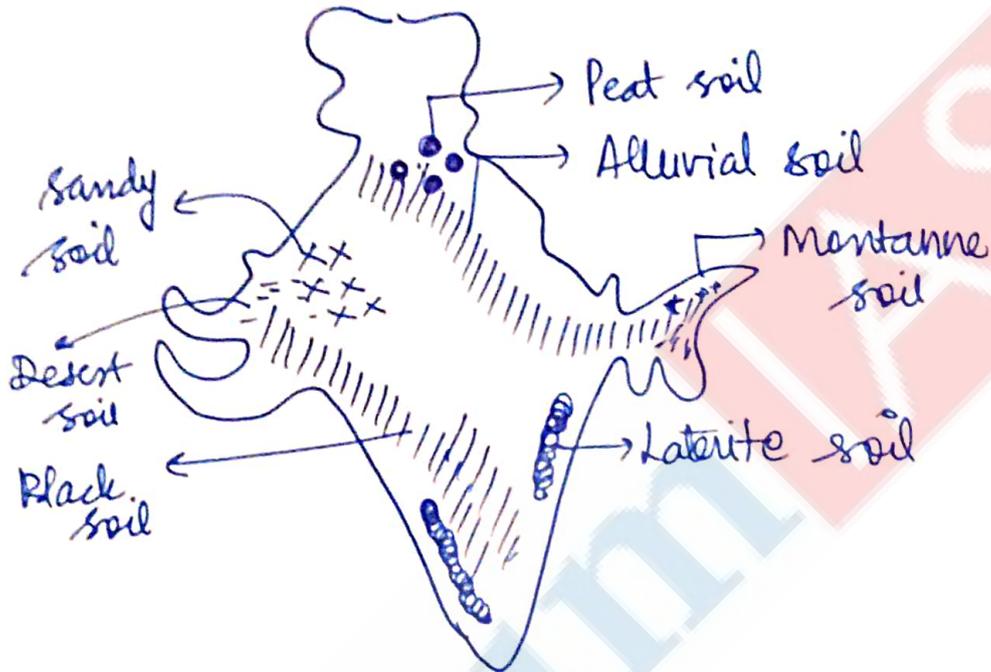


Fig: Major soil types in India

These soils are formed in accordance with temperature and rainfall pattern of the region, and support various activities.

Soil is an important component of natural resources. UNCCD has been taking steps like REDD+, 30x30 target to prevent degradation of land & soil.

7.

Recently, an 8.8 magnitude earthquake has hit Kamachatkan plateau of Russia's far east region triggering floods as well as volcanic eruptions.

Global pattern of earthquake occurrences

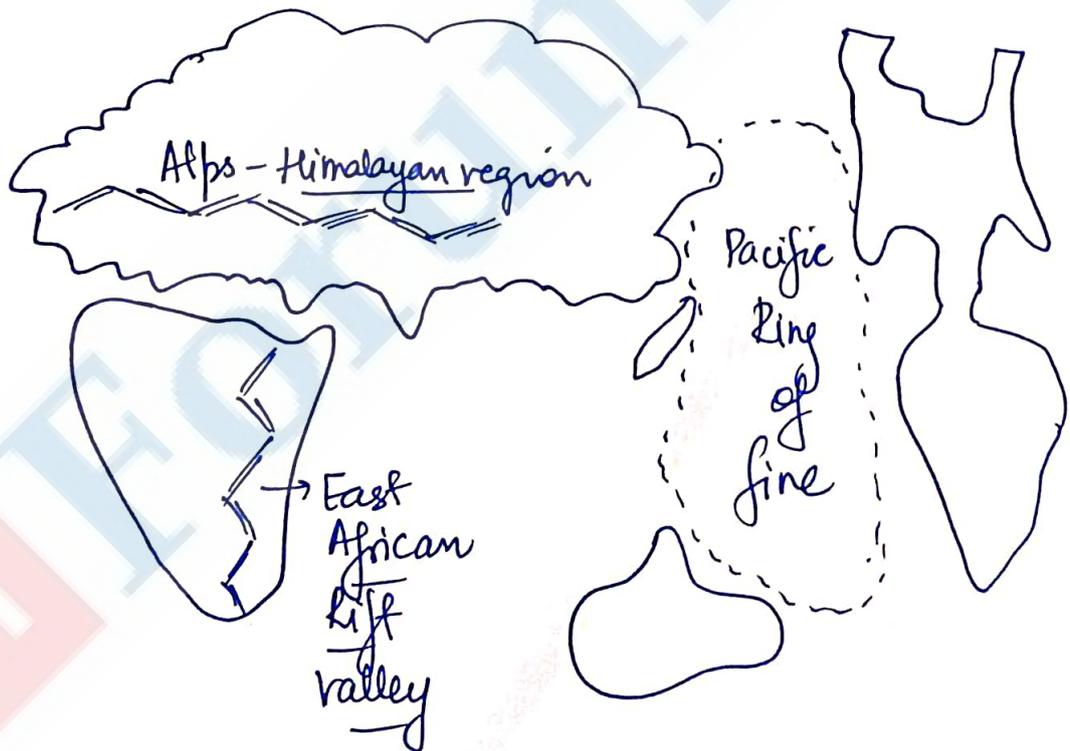


Fig: Major earthquake prone regions of the world

① Pacific ring of fire - It accounts for about 68% of total earthquakes. It is due to ~~be~~ boundary line between different tectonic plates.

② Pacific, North American, South American, Eurasian and Indo-Australian plates

② Alps-Himalayan region - It accounts for about 21% of the earthquakes. It is earthquake prone due to region of collision plates of Eurasian & Indo-Australian plates.

③ East African Rift valley - accounts for about 11% of total earthquakes. It is due to presence of fault line in the Eastern Region of African continent.

Multidimensional impact of such distribution of earthquakes

- ① Adaptation by communities (e.g. Japanese have adapted to earthquake resistant building architecture).
- ② Frequent volcanic eruptions and presence of major active volcanoes in these regions
- ③ Soil is mineral rich due to volcanic eruptions (e.g. Iron, coal etc.)
- ④ International efforts taken by global community to save against impacts of earthquakes (e.g. Inclusion in Sendai Disaster Risk Framework)

Earthquakes can't be predicted. Thus, need is to invest in earthquake-prone infrastructure & community resilience to decrease damage