

What are aquatic zones? Explain in detail. (250 words)

Introduction:

Aquatic systems are not called biomes, however they are divided into distinct life zones, with regions of relatively distinct plant and animal life. The major differences between various aquatic zones are due to salinity, levels of dissolved nutrients, water temperature, depth of sunlight penetration.

S.no.	Aquatic ecosystem	Characteristics
1.	Fresh water ecosystem	There are two types of. Fresh water ecosystem. 1. Lotic (moving water) 2. Lentic (still water). Lotic water system includes fresh water streams, springs, rivulets, creeks, brooks and rivers. Lentic water system includes pools, ponds, and lakes. They vary considerably in physical, chemical and biological features.
2	Marine ecosystem	Nearly three-quarter of earth's surface is covered by ocean with an average depth of 3,750 m and with salinity 35 ppt (parts per thousand), about 90% of which is sodium chloride.
3	Estuaries	Coastal bays, river mouths and tidal marshes form the estuaries. In estuaries, freshwater from rivers meet ocean water and the two are mixed by action of tides. Estuaries are highly productive as compared to the adjacent river or sea.
4	Coral reef	Under water ecosystem featured by reef building corals
5	Mangrove	Adapted to live in harsh coastal conditions.



Differentiate between abiotic & biotic components. Mention the abiotic factors in detail. (250words)

Introduction:

Abiotic components are non-living chemical & physical parts of the environment that affect living organisms and functioning of ecosystems.

Biotic components are the living components that influence other organisms in an environment.

Energy-

Energy from the sun is essential for maintenance of life. In the case of plants, the sun directly supplies the necessary energy.

Rainfall-

Water is essential for all living beings. Majority of biochemical reactions take place in an aqueous medium. Water helps to regulate body temperature.

Temperature-

Temperature is a critical factor of the environment which greatly influences survival of organisms. Organisms can tolerate only a certain range of temperature and humidity.

Atmosphere-

The Earth's atmosphere is responsible for creating conditions suitable for the existence of a healthy biosphere on this planet.

Substratum-

Land is covered by soil and wide variety of microbes, protozoa, fungi, and small animals (invertebrates) thrive in it. Roots of plants pierce through the soil to absorb water and nutrients.

Materials-

Organic compounds like proteins, carbohydrates, lipids, are formed from inorganic compound on decomposition. Inorganic compounds like carbon dioxide, water, sulphur, nitrates, phosphates and ions of various metals.

Latitude and altitude-

Latitude has a strong influence on an area's temperature, resulting in change of climates like polar, tropical, and temperate.



Discuss the various duties and abilities concerning the parliament of India. (250 words)

FUNCTIONS OF PARLIAMENT

LEGISLATIVE FUNCTIONS-

- It enacts legislation for the country.
- The actual task of drafting the bill is performed by the bureaucracy under the supervision of the minister concerned.
- No major bill is introduced in the Parliament without the approval of the Cabinet.
- Members other than ministers can also introduce bills, but these have no chance of being passed without the support of the government.
- Control of executive and ensuring its accountability-by debate and discussion they ensure the executive remains responsible and doesn't overstep authority.

Financial functions

- If the government introduces a new tax it has to get the approval of the Lok Sabha, and the government has to give an account of money spent on resources that it wishes to raise.
- The legislature also ensures that the government does not misspend or overspend.
- This is done through the budget and annual financial statements.

Representation

Parliament represents divergent views of members from different regional, social, economic, and religions of the country.

Debating function

Find out about 1000 rupees yearly plan -[IMPM](#)



- It is the highest form of debate in the country.
- There are no limitations on its power of discussion.
- The members are free to speak on any matter without fear.
- Parliament analyses any or every issue that faces the nation.

Constituent function

- Parliament has the power of discussing and enacting changes to the constitution.
- All constitutional amendments have to be approved by a special majority.

Judicial functions

This includes considering the proposals for the removal of the president of India, vice president and judges of High courts and supreme courts.

Electoral functions

The parliament also performs some electoral functions such as the election of the president and vice president of India.

POWERS OF RAJYA SABHA

- powers of Lok Sabha
- Make laws on matters included in the union list and Concurrent list.
- Approves proposals for taxation, budgets and Annual financial statements.
- Control executive by asking questions, Supplementary questions, resolution s, motion
- And through no-confidence



- Amends constitution
- Approve proclamation of emergency
- Elects President and vice president and removes judges of Supreme Court and High courts.
- Establishes committees, commissions and
- Consider their reports

SPECIAL POWERS OF RAJYA SABHA

If the union parliament wishes to remove a matter from the state list to either the union list or concurrent list in the interest of the nation, approval of RS is necessary.

POWERS OF LOK SABHA

Rajya Sabha cannot initiate or reject amended money bills. The Council of Ministers is responsible to the Lok Sabha therefore Rajya Sabha can criticize the government but cannot remove it.

Both houses have co-equal powers in non-money bills, constitutional amendments, impeaching the president, and removing the vice president.

Discuss anti-poverty measures and programmes being carried out in India. (250 words)

Anti-poverty measures

1. Removal of poverty has been one of the major objectives of the Indian developmental strategy.
2. The current anti-poverty strategy of the government is the Promotion of economic growth and Targeted anti-poverty programmes.
3. Official poverty estimates were about 45 per cent in the early 1950s to early eighties.
4. India's economic growth has been one of the fastest in the world.
5. It jumped from 3.5 per cent in the 1970s to 6 per cent during the '1980s and 1990s.

Find out about 1000 rupees yearly plan -[IMPM](#)



6. A higher growth rate helped the reduction of poverty.
7. There is a strong link between economic growth and poverty reduction.
8. Economic growth widens opportunities and provides the resources needed to invest in human development.
9. Growth in the agriculture sector is much below expectation.
10. This has a direct bearing on poverty as a large number of poor people live in villages and are dependent on agriculture.

Anti-poverty programmes

Mahatma Gandhi National Rural Employment Guarantee Act, 2005

To provide 100 days of wage employment to every household to ensure livelihood security in rural areas

Prime Minister Rozgar Yojana (PMRY) is another scheme which was started in 1993.

The programme aims to create self-employment opportunities for educated unemployed youth in rural areas and small towns to set up small businesses and industries.

Rural Employment Generation Programme (REGP) was launched in 1995.

The programme aims to create self-employment opportunities in rural areas and small towns.

A target for creating 25 lakh new jobs has been set for the programme under the Tenth Five Year Plan.

Swarnajayanti Gram Swarozgar Yojana (SGSY) was launched in 1999.

The aim is to bring the assisted poor families above the poverty line by organizing them into self-help groups through a mix of bank credit and government subsidies.



Pradhan Mantri Gramodaya Yojana (PMGY) was launched in 2000; additional central assistance is given to states for basic services such as primary health, primary education, rural shelter, rural drinking water and rural electrification.

Antyodaya Anna Yojana (AAY) launched in December 2000.

Aim at reducing hunger among the poorest segments of the BPL population.

Pradhan Mantri Jan-Dhan Yojana (2014) is available in which people in India are encouraged to open bank accounts.

Promoting savings habits, this scheme intends to transfer all benefits of government schemes and subsidies to account holders directly.

Each bank account holder is entitled to Rs. 1-2 lakh accidental insurance cover.

- The results of these programmes have been mixed.
- One of the major reasons for less effectiveness is the lack of proper implementation and right targeting.
- There have been a lot of overlapping schemes.
- Despite good intentions, the benefits of these schemes are not fully reached to the deserving poor.
- The major emphasis in recent years is on proper monitoring of all the poverty alleviation programmes.

Define poverty and how the poverty line is drawn and significantly analyse motives and eradication of poverty. (250 words)

Poverty means a minimum subsistence level of living rather than a reasonable level of living.

Find out about 1000 rupees yearly plan -[IMPM](#)



Poverty defining into two categories

The poor and the non-poor

There are many kinds of poor the absolutely poor, the very poor and the poor.

There are various kinds of non-poor, the middle class, the upper-middle class, the rich, the very rich and the absolutely rich.

Categorising poverty

Always poor and those who are usually poor may sometimes have a little more money (Causal workers) are grouped as the **chronic poor**.

Churning poor regularly move in and out of poverty (small farmers and seasonal workers).

Occasionally poor who are rich most of the time but may sometimes have a patch of bad luck is called **transient poor**.

Poverty line

- Poverty is measured based on income and consumption levels.
- A person is considered poor if his or her income or consumption level falls below a given minimum level necessary to fulfil basic needs.
- The poverty line may vary with the time and place.
- Each country uses an imaginary line for its existing level of development and its accepted minimum social norms.
- A minimum level of food requirement of clothing, footwear, fuel and light, educational and medical requirement etc. are determined for the poverty line in India.

Find out about 1000 rupees yearly plan -[IMPM](#)



- The present formula for food requirement while estimating the poverty line is based on the desired calorie requirement
- The calorie needs vary depending on age, sex and the type of work that a person does.
- The average calorie requirement in India is 2400 in rural areas and 2100 calories in urban areas.
- The poverty line for a person was fixed at 816 per month in rural and 1000 rupees for the urban areas for the year 2011-12.
- For a family of five members living in a rural is not less than 4080 rupees per month and 5000 rupees for urban to meet their basic requirements.
- The poverty line is estimated periodically every five years by conducting sample surveys by National Sample Survey Organisation.
- World Bank uses a uniform standard for the poverty line: Minimum availability of the equivalent of \$1.90 per person per day.
- Development is about removing the obstacles to the things that a person can do in life, such as illiteracy, ill health, lack of access to resources or lack of civil and political freedoms

Causes of the poverty

Causes of poverty are due to Landlessness, Unemployment, Size of families, Illiteracy, Poor health or malnutrition, Child labour and Helplessness.

Poverty means hunger and lack of shelter, lack of drinking water and sanitation facilities and lack of regular jobs at a minimum decent level.

It is a situation where parents are unable to send their children to school and sick people are unable to afford treatment.

One of the biggest challenges for independent India has been to bring millions of people out of poverty.



Eradication of poverty

- Eradication of poverty is always a moving target.
- We will be able to provide the minimum necessary in terms of only income to all people by the end of the next decade.
- The target will move on to many of the bigger challenges that remain: Providing health care, education and job security for all and achieving gender equality and dignity for the poor.
- These will be even bigger tasks.

What is the Global state of affairs of poverty and which are the most susceptible groups that are beneath the poverty line in India? (250 words)

Global poverty scenario

- The proportion of people living in different countries living in extreme poverty
- There has been a sustainable reduction in global poverty.
- Reduction of poverty in China and Southeast Asia countries results in rapid economic growth and massive investments in human resource development.
- In the countries of South Asia (India, Pakistan, Sri Lanka, Nepal, Bangladesh, and Bhutan) the decline has been rapid from 34 per cent in 2005 to 15.2 per cent in 2014.
- The number of poor has declined significantly from 510.4 million in 2005 to 274.5 million in 2013.
- Poverty in India is also shown a higher than the national estimates.



- In Sub-Saharan Africa, poverty declined from 51 per cent in 2005 to 40.2 per cent in 2018.
- Latin America, the ratio of poverty has also declined from 10 per cent in 2005 to 4 per cent in 2018.
- Poverty also resurfaced in some of the former socialist countries like Russia, where officially it was non-existent earlier.
- The new sustainable development goals of the United Nations propose ending poverty of all types by 2030.

Vulnerable Groups

- The proportion of people below the poverty line is not the same for all social groups and economic categories in India.
- Scheduled castes and scheduled tribe households are the most vulnerable social groups.
- The rural agricultural labour households and the urban casual labour households are the most vulnerable economic groups.
- The average number of people below the poverty line for all groups in India is 22, 43 out of 100 people belonging to scheduled tribes in rural areas are not able to meet their basic needs.
- 34 per cent of casual workers in urban and rural areas are below the poverty line.
- 29 per cent of the scheduled castes are also poor.
- The double disadvantage of being a landless casual wage labour household in the socially disadvantaged social groups of a scheduled caste or scheduled tribe population highlights the seriousness of the problem.
- Except for the scheduled tribes, all other three groups (scheduled castes, rural agricultural labours and urban casual labour households) have seen a decline in poverty in the 1990s.
- There is also inequality of income within a family.
- Women, elderly people and female infants are systematically denied equal access to resources available to the family.

Explain the importance of important battles Buxar and Plassey (250 words)

BATTLE OF BUXAR, 1764



- Mir Jafar was not able to satisfy the demands of the English, and he was forced to resign and his son in law, Mir Qasim was put on throne.
- Mir Qasim was defeated in a series of battles in 1763 and fled to Awadh where he formed an alliance with Shuja ud daula, Nawab of Awadh and Shah Alam ii, the Mughal emperor.
- English army commanded by Major Hector Munro at the battlefield of Buxar.
- Three put front against company together and was thoroughly defeated in Battle of Buxar, 22 October 1764.
- Robert Clive was made governor of Bengal; he introduced new administrative system in Bengal called Dual government in which the nominal head was Nawab and real power in hands of British. The two deputy diwans – Raja Shitab Rai and Reza Khan were appointed by the with the advice of East India company but they worked for the company rather than appointing authority

IMPORTANCE OF BUXAR

Buxar confirmed decision of Plassey. Now English are unchallengeable in North India.

TREATY OF ALLAHABAD

- The province of Awadh was returned to Shuja ud daula but he had to pay rs 50 lakhs to the English .And he was forced to maintain English troops for the defense of his state.
- Shah Alam was forced to grant diwani rights of Bengal, Bihar and Orissa to the English. District of Kara and Allahabad were given to Shah Alam and English accorded a pension of rs 26 lakh per year to him.

BATTLE OF PLASSEY (1757)



- In 1717 , under a royal Farman by the Mughal Emperor (Farrukhsiyar)The East India company was granted the freedom to import and export their goods in Bengal without paying taxes and the right to issue passes or dastaks for the movement of such goods
- In 1756 Siraj ud daula succeeded his grandfather Alivardi Khan and came in conflict with British against issue of misuse of dastaks.
- Siraj ud daula seized the English factory at Kasimbazar, marched on to Calcutta and occupied Fort William on June 20, 1756.

BATTLE OF PLASSEY, 23 JUNE 1757

- When news of capitulation of Calcutta reached Madras , the authorities there immediately de decided to direct army
- English led by Robert Clive and Watson and he came out victorious due to treachery of Mir Jafar, commander of Nawab army.
- Manik chand , Nawab officer in charge of Calcutta was bribed and he surrendered Calcutta to English.

Find out about 1000 rupees yearly plan -[IMPM](#)



- Siraj had to sign treaty of Alinagar in February 9, 1757 practically conceding all demands of English.
- Siraj ud daula was forced to flee and put to death by Mir Jafar son , Miran.
- The English proclaimed Mir Jafar the Nawab of Bengal and the company was granted undisputed right to free trade in Bengal, Bihar, Orissa.

IMPORTANCE OF PLASSEY

- Plassey put the British yoke on Bengal which could not be put off.
- Vast resources of Bengal helped the English to conquer the wars of the Deccan and extend their influence in North.
- After Plassey English Company virtually monopolized trade and commerce of Bengal.

Discuss about the mural paintings under different dynasty rulers (250 words)

1. Background

- Even after Ajanta, very few sites with paintings have survived which provide valuable evidences to reconstruct the tradition of painting.
- The sculptures too were plastered and painted and the tradition of cave excavation continued further in many places where sculpting and painting were done simultaneously.

2. Badami:

- One of the examples of later Mural tradition is Badami, Karnataka.
- It was the **capital of the western Chalukyan dynasty**, which ruled the region from 543 to 598 CE.
- With the decline of the Vakataka rule, the Chalukyas established their power in the Deccan.
- The **Chalukya king, Mangalesha, patronized** the excavations of Badami caves. He was the younger son of the Chalukya king, Pulikeshi I, and the brother of Kirtivarman-I.
- The **cave No. 4 is popularly known as Vishnu cave** and in the inscriptions patron (Mangalesha) records his Vaishnava affiliation.



Murals under Pallava, Pandava and Chola kings:

- The tradition of painting extended further down south in Tamil Nadu in the preceding centuries with regional variations during the regime of Pallava, Pandya and Chola dynasties.
- The Pallava kings, who succeeded the Chalukyas in parts of the south India, were also patrons of the arts.
- Mahendravarman (Pallava) who ruled the 7th century CE was responsible for building temples at Panamalai, Mandagapattu, and Kanchipuram.
- **The inscriptions at Mandagapattu mentions Mahendravarman I with numerous titles such as Vichitrachitta (curious minded), Chitrakarapuli (tiger among artists), Chaityakari (temple builder), which shows his interests in art activities.**

Vijayanagara Mural:

With the decline of the Chola dynasty in the 13th century, the Vijayanagara dynasty captured and brought under its control the reign from Hampi to Trichy with **Hampi serving as its capital.**

- The paintings at **Tiruparakunram, near Trichy**, done in the 14th century represent the early phase of the Vijayanagara style.
- In **Hampi** (Karnataka), the Virupaksha temple has paintings on the ceiling of its mandapa narrating vents from dynastic history and episodes from the Ramayana and Mahabharata.
- Among the important panels are the one which shows Vidyaranya, the spiritual teacher of Bukkaraya Harsha.
- In **Lepakshi**, near Hindupur, in present Andhra Pradesh, there are glorious examples of Vijayanagara paintings on the walls of the Shiva temple.
- The stylistic conventions of the proceeding centuries were adopted by artists in various centres in south India as can be seen in the paintings of the Nayaka period.
- **Nayaka paintings** in the 17th and 18th centuries are seen in Thiruparakuram, Sreerangam, and Tiruvarur (all in Tamil Nadu).



Critically analyze the Continental drift theory? (250 words)

Continental Drift

Observe the Atlantic Ocean's coastline, you'll find symmetry on either side of the coastline.

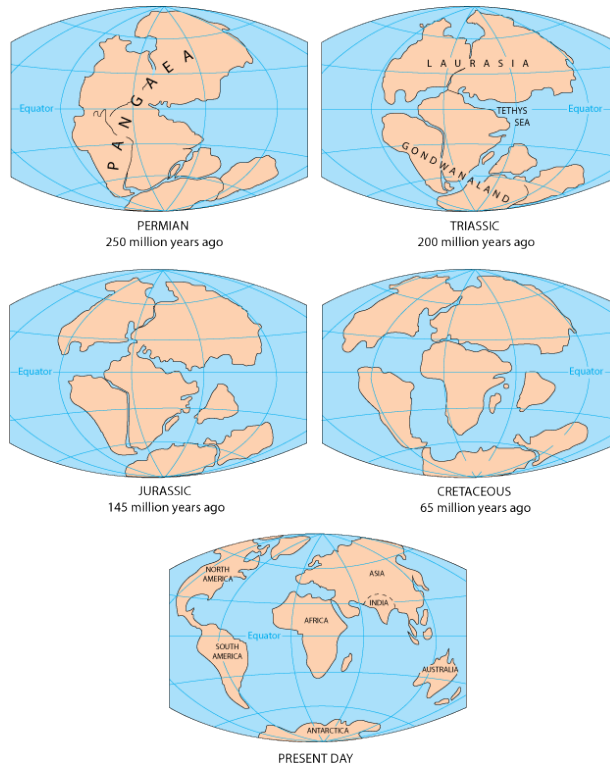
It was Abraham Ortelius, a Dutch map maker who proposed this possibility as early as 1596, and Antonio Pellegrini who drew a map which has continents together.

Alfred Wegener, a German scientist proposed the continental drift theory in 1912 which was on the distribution of Continents and oceans.

According to Wegener

- All the continents formed on a single Continental mass surrounded by a single Mega Ocean.
- The supercontinent is named PANGAEA which is earth and the Mega Ocean is named PANTHASALA which means all water.
- Wegener states around 200 million years ago Pangaea started to split, Pangea broke into two large masses i.e.
 1. Laurasia
 2. Gondwana

These two formed as North and south components of Continental mass. Laurasia and Gondwana continued to break into smaller continents.



Evidence supporting Continental drift theory

Matching of Continents (Jig- saw-Fit)

The shorelines of Africa and South America facing each other have a remarkable unmistakable match.

A map produced by computer using a computer program to find the best fit of the Atlantic Ocean margin was presented by Bullard in 1964.

Rock of the same age across the Oceans

The belt of ancient rocks of 2,000 million years from Brazil matches with those from West Africa.

The earliest marine deposits along the coastline of South America and Africa are from Jurassic Age.

Find out about 1000 rupees yearly plan -[IMPM](#)



Tillite

It is the sedimentary rock formed out of deposits of glaciers.

The Gondwana system of sediments from India is known to have its counterparts in six different landmasses of the Southern Hemisphere.

At the base, the system has little indicating extensive and prolonged glaciation. Counterparts of this succession are found in Africa, Falkland island, Madagascar, Antarctica and Australia.

The overall resemblance of Gondwana sediments shows remarkable similar histories.

The glacial Tillite provides unambiguous evidence of Palaeoclimates and also drifting continents.

Placer deposits

The occurrence of rich glacier deposits of gold on the Ghana coast and the absolute absence of source rock in the region is an amazing fact.

The gold-bearing veins are in Brazil and it is obvious that the gold deposits of Ghana are derived from the Brazil Plateau when the two continents lay side by side.

Distribution of fossils

When identical species of plants and animals adapted to living on land or in freshwater are found on either side of the marine barriers, a problem arises regarding accounting for such distribution.

The observation that Lemurs occur in India, Madagascar and Africa led to some contiguous landmass 'Lemuria' linking these three landmasses.

Mesosaurus is a small reptile adapted to shallow brackish water, the skeletons of these are only found in two localities:

1. Southern cape of South Africa
2. Iraver formations of Brazil

These localities are 4,800km apart from each other and the ocean is between them.



Force for Drifting

Wegener suggested that the movement of continents is because of pole fleeing force and tidal force.

1. Pole fleeing force-it relates to the rotation of the earth, earth has a bulge at the equator, this is because of the rotation of the earth and
2. Tidal force- it is due to the attraction of the moon and sun that develops tides in the ocean.

Wegener believed that these forces were much more intense since it was million years ago.

Discuss the conventional theory of Arthur Holmes (250 words)

Several discoveries during the World War II period added new information to geological literature.



Conventional current theory

- Arthur Holmes in 1930 suggested the possibility of Conventional currents in the earth's mantle.
- These currents are generated due to radioactive elements causing a thermal difference in the mantle portion, Holmes says there's a whole system of currents in the mantle.

Mapping of the ocean floor

Ocean configuration revealed that the ocean floor is not just a vast plain but it is full of relief.

Expeditions to map the oceanic floor in the post-World War II period provided a detailed picture of the ocean relief and indicated the existence of submerged mountains as well as trenches in the ocean; they are closely located to Continental borders.

- The mid-oceanic ridge is found to be the most active volcano in terms of volcano eruptions.
- Dating of the rocks from the oceanic crust is found to be much younger than the continental crust.
- Rocks on either side of the ridges and having equip-distant from the crest are found to be remarkably similar in terms of age and constituents.

Ocean floor Configuration

The ocean floors can be segmented into three major divisions based on the depth as well as the forms of relief.

Continental Margins

These form the transition between Continental shores and deep-sea basins. These include a continental shelf, continental slope, continental rise and deep oceanic trenches.

Of these, deep oceanic trenches are the areas which are of considerable interest so far as the distribution of oceans and continents is concerned.

Abyssal plains

These are extensive plains that lie between the continental margins and mid-oceanic ridges.

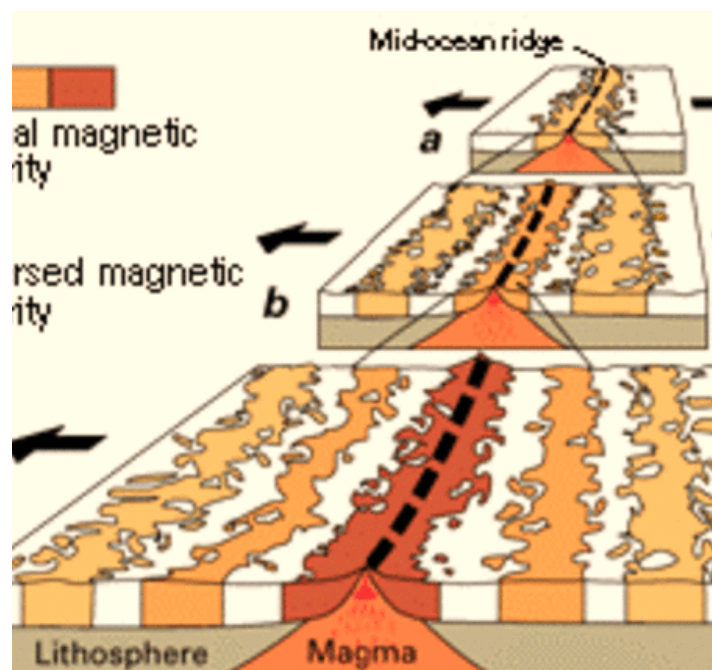
Abyssal plains are the areas where the continental sediments that move beyond the margins get deposited.

Mid-oceanic ridges

This forms an interconnected chain of mountain systems within the ocean.

It is the longest chain of mountains on earth that are submerged under the ocean

It is characterized by a central rift system at the crest, a fractionated plateau and a flank zone all along its length. The rift system at the centre is the zone of volcanoes as mid-oceanic volcanoes.



Concept of Seafloor spreading

The mapping of the ocean floor and palaeomagnetic studies of rocks from oceanic regions revealed the following facts.

- All along the mid-oceanic ridges, volcanic eruptions are common and they bring huge amounts of lava to the surface in this area.
- The rocks equidistant on either side of the crest of mid-oceanic ridges shows remarkable similarity in terms of period, chemical structure and magnetic properties, rocks closer to the crest of mid-oceanic ridges are the youngest, age of the rocks increases once you move away from the ridge.
- Ocean crest rocks are much younger than Continental crest rocks, the age of rocks in the oceanic crest is not more than 200 million years ago but continental rock formations are old as 3,200 million years.
- Sediments on the ocean floor are very thin.
- The deep trenches have deep-seated earthquake occurrences while in the mid-oceanic ranges, the quake foci have shallow depths.

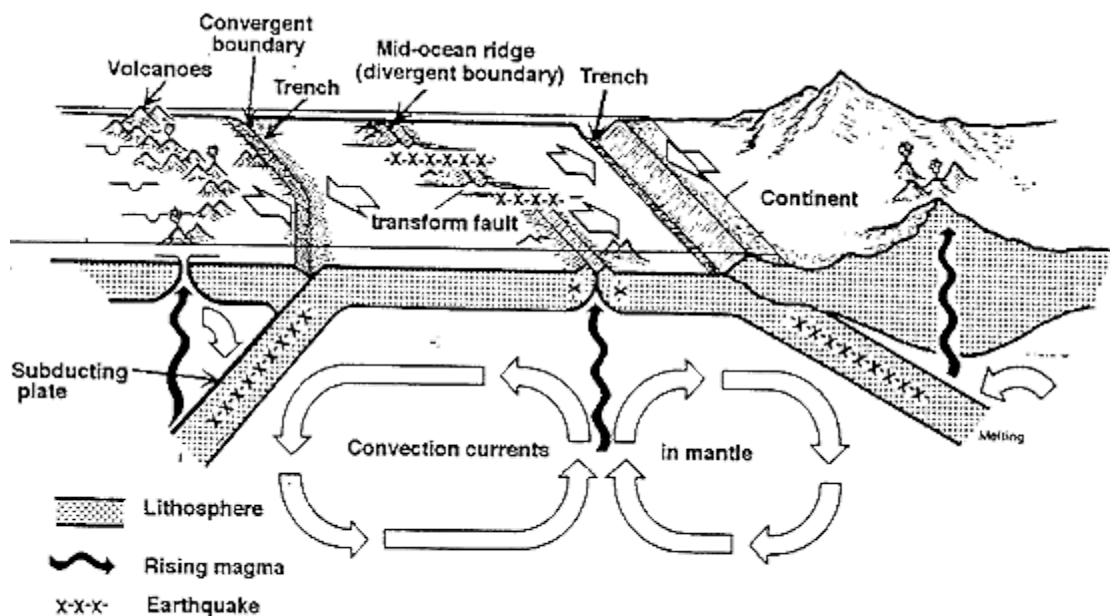


Figure 2. Sea-floor spreading. Modified from NSTA/FEMA (1988).

