

OCEANOGRAPHY

An Introduction

महासागर विज्ञान
समुद्र विज्ञान

Pre

Mars



BY - AJEET SIR

Outer Space

National
Airspace

International
Airspace

24 nm

12 nm

Land

Territorial
Sea

Contiguous
Zone

High
Seas

Sea • Baseline:

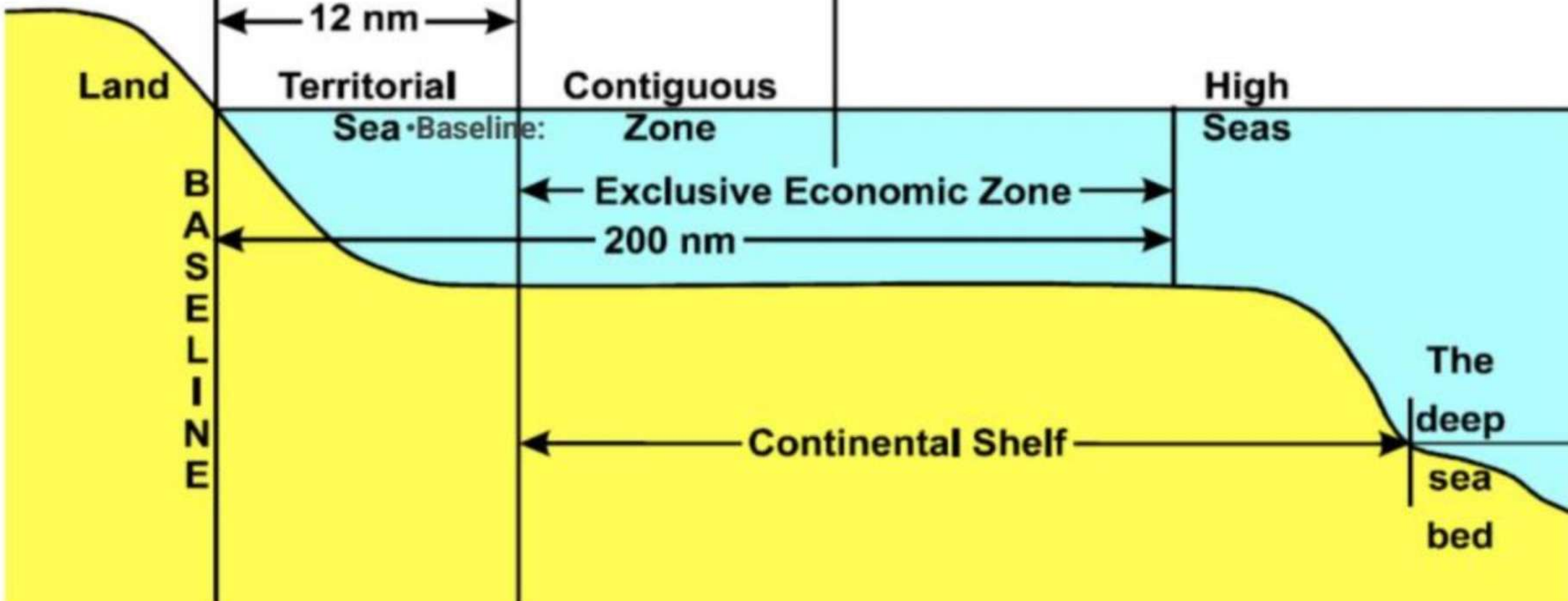
Exclusive Economic Zone

200 nm

B
A
S
E
L
I
N
E

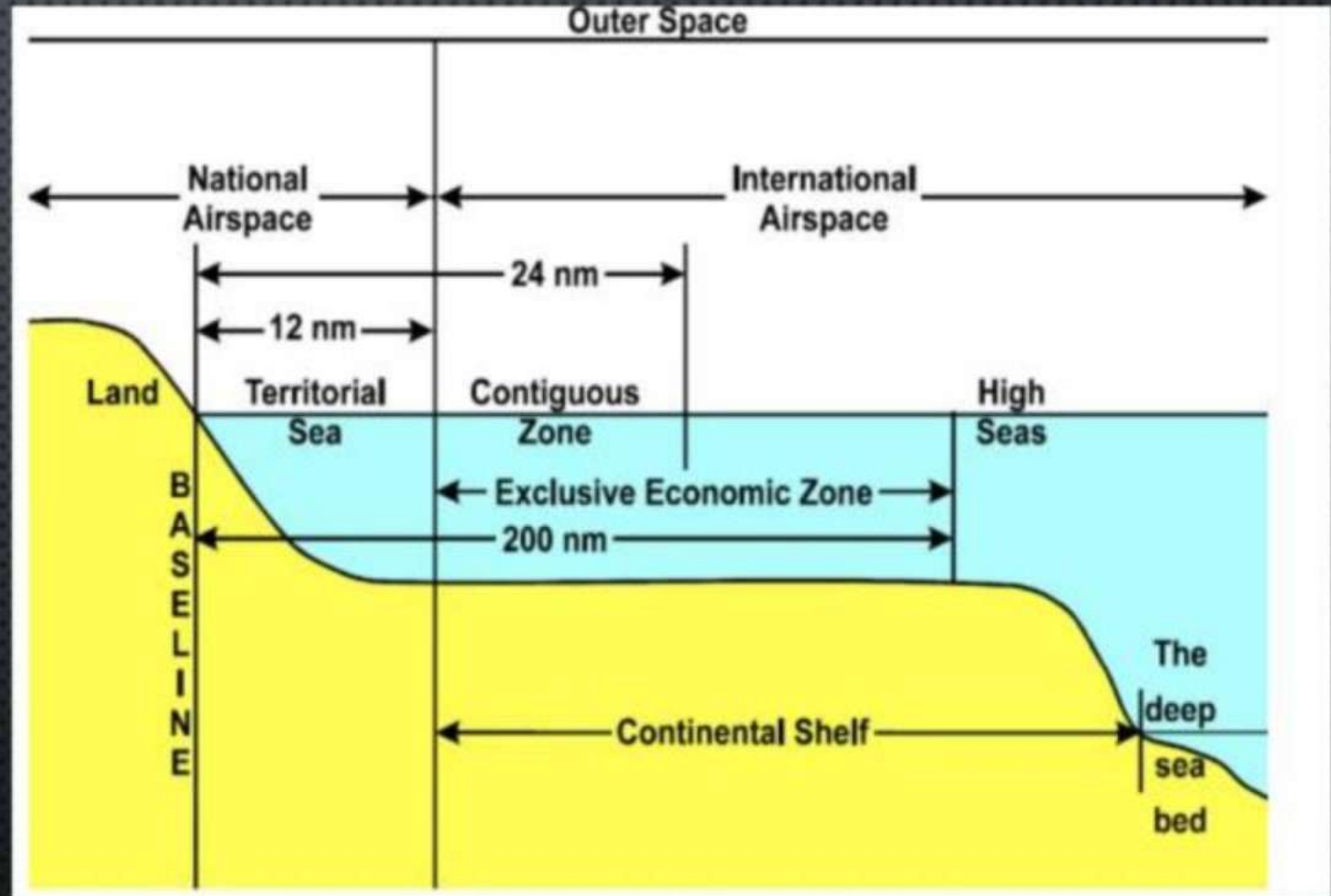
Continental Shelf

The
deep
sea
bed



Baseline

- It is the low-water line along the coast as officially recognized by the coastal state.





Internal Waters

Internal Waters

- Waters on the landward side of the baseline of the territorial sea form part of the internal waters of the State.
- **Each coastal state has full sovereignty over its internal waters** as like its land territory. **Examples** of internal waters include bays, ports, inlets, rivers and even lakes that are connected to the sea
- There is **no right of innocent passage** through internal waters

Internal Waters

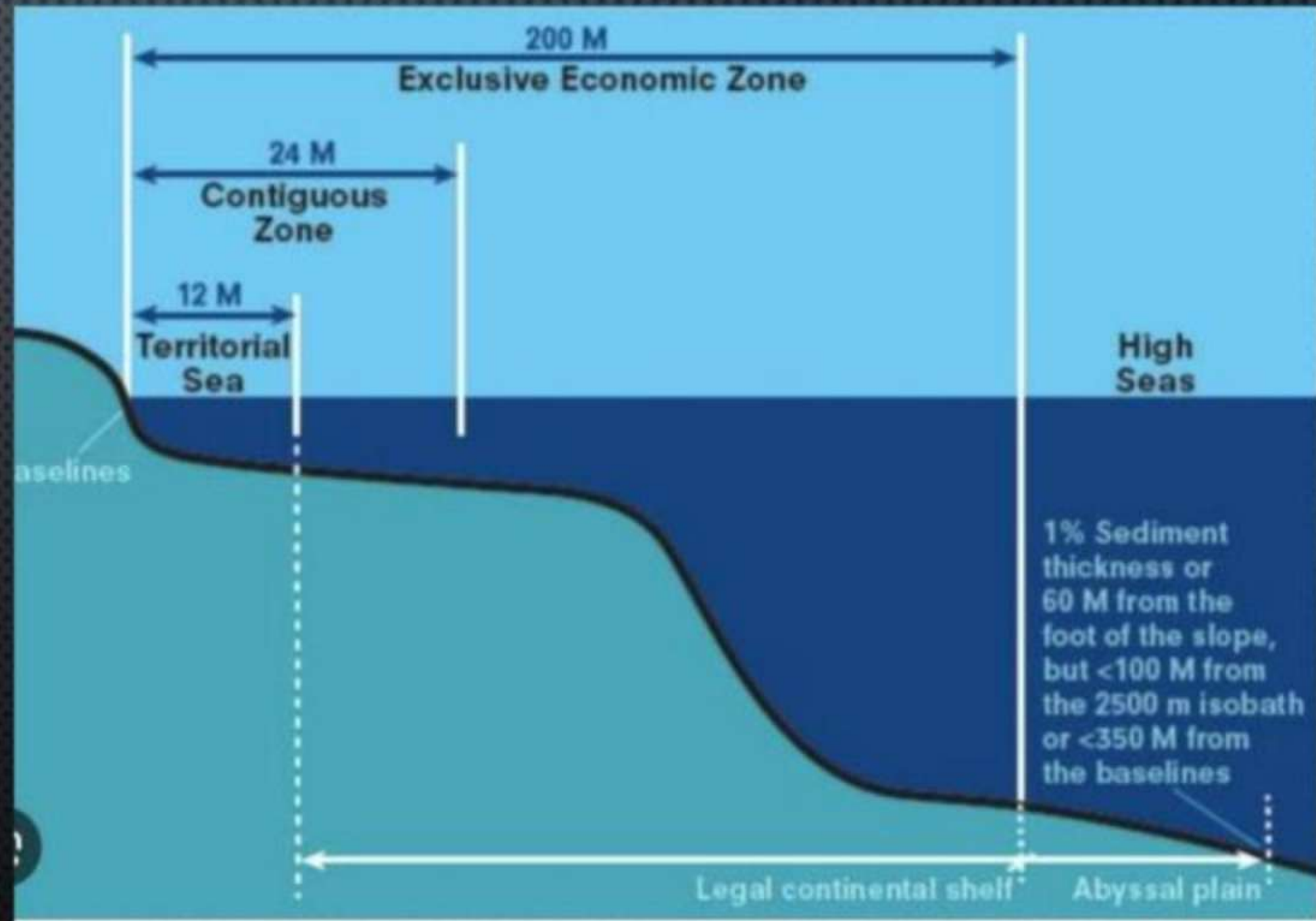
- The innocent passage refers to the passing through the waters which are not prejudicial to peace and security. However, the nations have the right to suspend the same.

UNCLOS Article 19

Meaning of innocent passage

1. Passage is innocent so long as it is not prejudicial to the peace, good order or security of the coastal State. Such passage shall take place in conformity with this Convention and with other rules of international law.
2. Passage of a foreign ship shall be considered to be prejudicial to the peace, good order or security of the coastal State if in the territorial sea it engages in any of the following activities:
 - (a) any threat or use of force against the sovereignty, territorial integrity or political independence of the coastal State, or in any other manner in violation of the principles of international law embodied in the Charter of the United Nations;

Territorial Sea



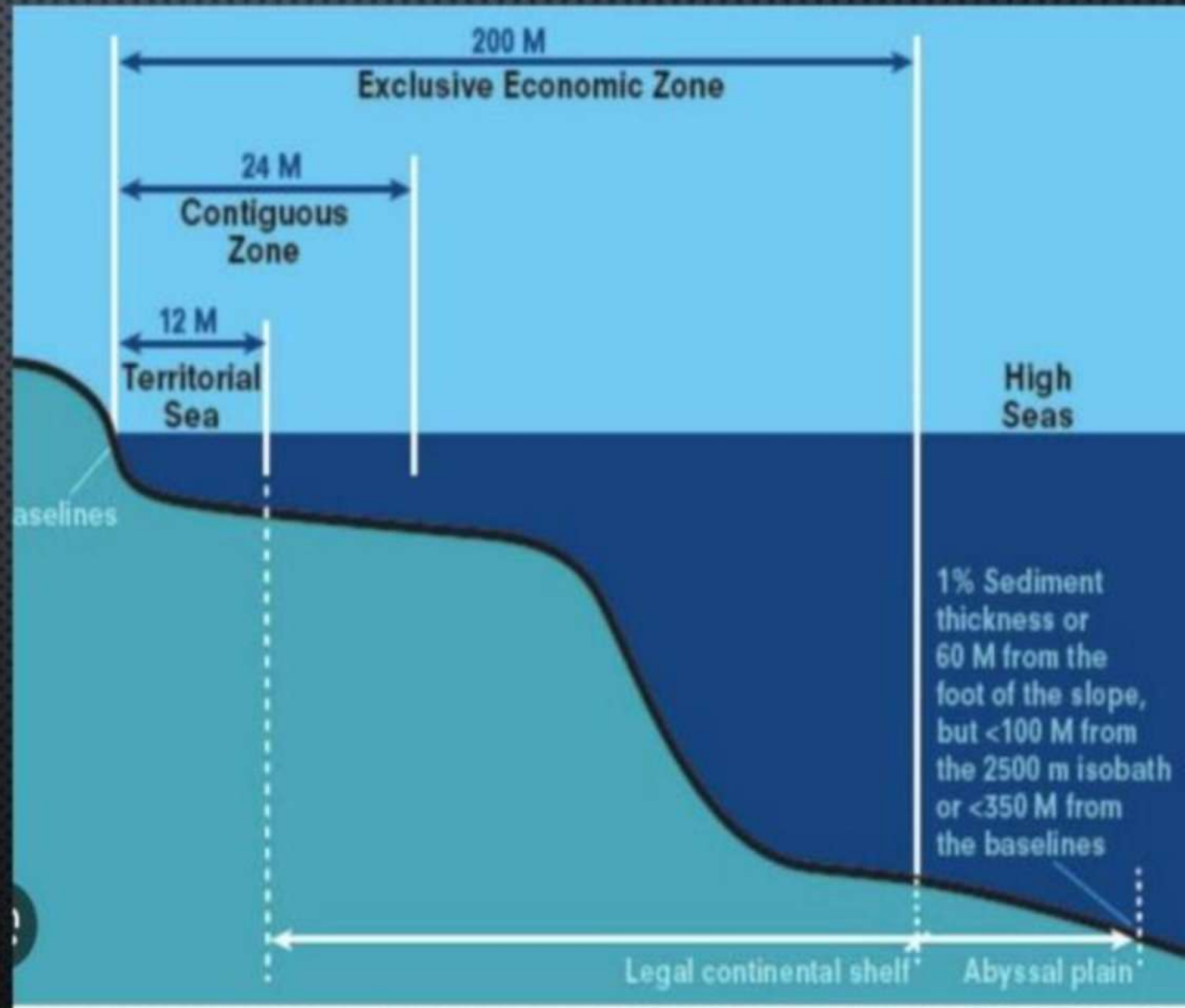
Territorial Sea

- The territorial sea **extends seaward up to 12 nautical miles (nm) from its baselines.**
 - A nautical mile is based on the circumference of the earth and is equal to one minute of latitude. It is slightly more than a land measured mile (1 nautical mile = 1.1508 land miles or 1.85 km).

Territorial Sea

- No right of overflight in the territorial sea.
- The sovereignty of a coastal State extends, beyond its land territory and internal waters
- This sovereignty extends to the airspace over the territorial sea, as well as to its bed and subsoil.
- The sovereignty over the territorial sea is exercised subject to this Convention and to other rules of international law

Contiguous Zone

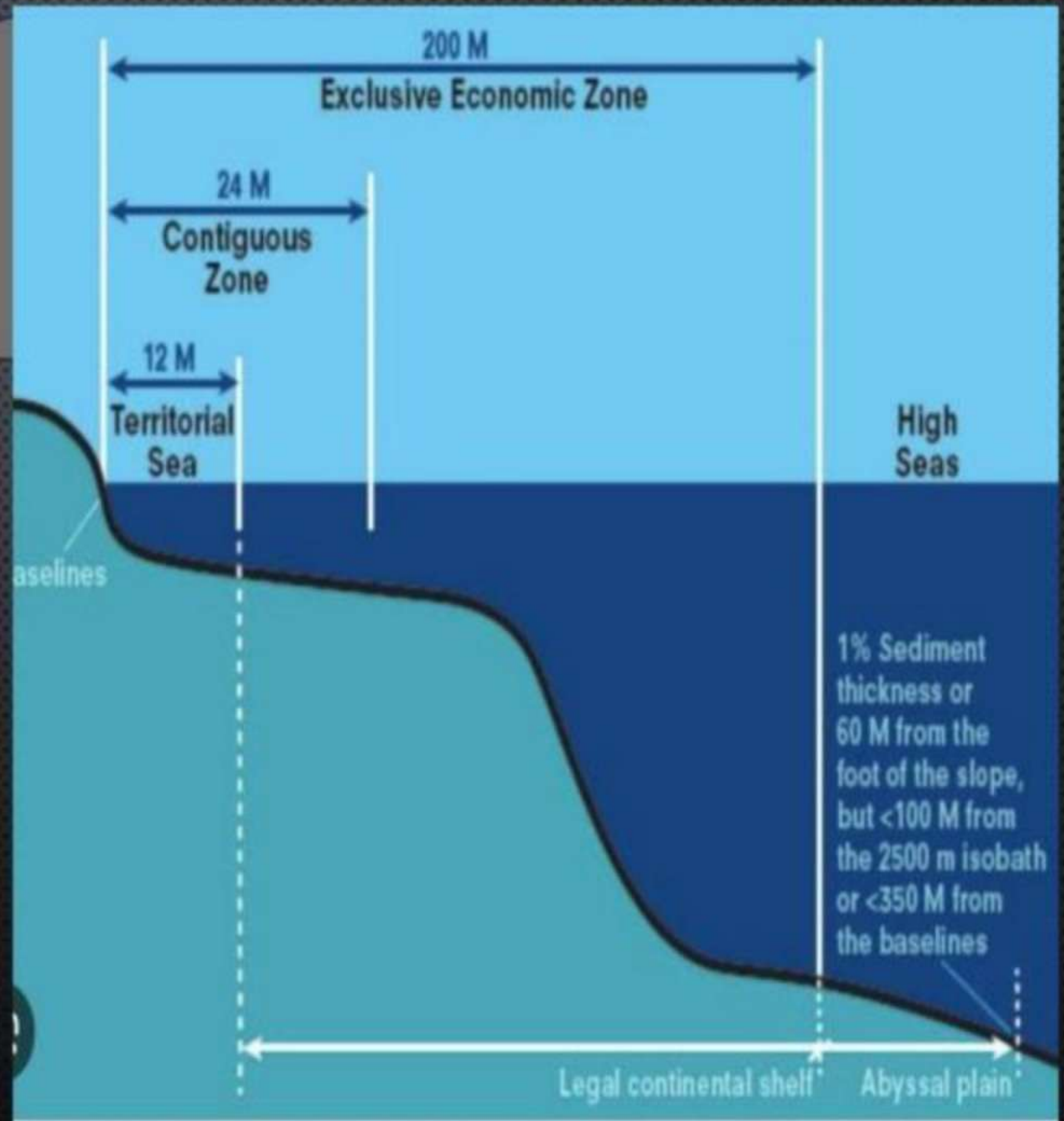




Contiguous Zone

- The contiguous zone **extends seaward up to 24 nm from its baselines.**
- It is **an intermediary zone between the territorial sea and the high seas.**
- The coastal state has the right to both prevent and punish infringement of fiscal, immigration, sanitary, and customs laws within its territory and territorial sea.
- Unlike the territorial sea, the contiguous zone **only gives jurisdiction to a state on the ocean's surface and floor.** It does not provide air and space rights

Exclusive Economic Zone



Exclusive Economic Zone

- Each coastal State may claim an EEZ beyond and adjacent to its territorial sea that extends seaward **up to 200 nm from its baselines**.
- Within its EEZ, **a coastal state has:**
 - Sovereign rights for the purpose of exploring, exploiting, conserving and managing natural resources, whether living or nonliving, of the seabed and subsoil.
 - Rights to carry out activities like the production of energy from the water, currents and wind.

Exclusive Economic Zone

- Unlike the territorial sea and the contiguous zone, the EEZ only allows for the above-mentioned resource rights. It **does not give a coastal state the right to prohibit or limit freedom of navigation or overflight**, subject to very limited exceptions.



High Seas

High Seas

- The ocean surface and the water column beyond the EEZ are referred to as the high seas.
- It is **considered as “the common heritage of all mankind”** and is beyond any national jurisdiction.
- States can conduct activities in these areas as long as they are for peaceful purposes, such as transit, marine science, and undersea exploration.

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An Introduction

महासागर विज्ञान
समुद्र विज्ञान

Pre

Mars



BY - AJEET SIR

Oceanography / महासागर विज्ञान



Branch of **Physical Geo** भौतिक भूगोल की
एक शाखा है

In which

जिसमें

We study about
different oceans, Salinity,
Motion of water, and
different Resources

पृथ्वी सतह पर उपस्थित विभिन्न
महासागर, लवणता, जल की गति तथा
संसाधन का अध्ययन किया जाता है।

It is the example
of largest water
body at the
Earth



पैसिफिक महासागर

↓
प्रथम प्रकार की
स्थलाकृति
First Type of
Topography

↓
जो पृथ्वी पर
सबसे बड़े जलीय भाग
का उदाहरण है।

Oceans महासागर

- Pacific Ocean | प्रशांत महासागर
- Atlantic Ocean | अटलांटिक महासागर
- Indian Ocean | हिंद महासागर
- Southern Ocean (दक्षिणी ध्रुव/महासागर)
- Arctic Ocean (उत्तरी महासागर)



महासागर की उत्पत्ति कैसे हुई

Information about
The origin of

Ocean

महासागर का अध्ययन क्यों

Study of ocean → why

→ महासागरीय जल के गति
की जानकारी

Information about
Movement of ocean water

→ महासागरीय
गिरल के बनावट
की जानकारी

Information

about

Ocean

Bottom

महासागरीय
जीवन की जानकारी
Information about
Marine Life

महासागरीय संसाधन
की जानकारी हेतु
Information about
Marine Resources

महासागर का
जल खारा क्यों है
What is the Reason
of Salinity of ocean
water

महासागर की उत्पत्ति | origin of ocean

→ Already discussed in class

कैल्विन का सिद्धांत
Kalvian's Theory

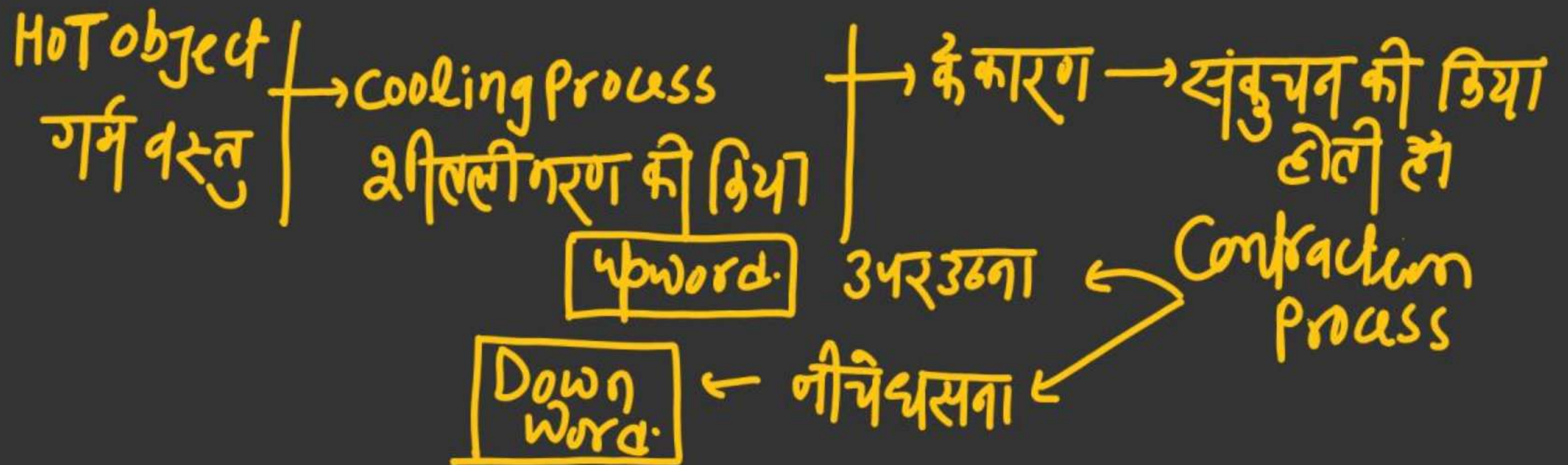
Volcanic
Eruption
Theory

ज्वालामुखी
विस्फोट का सिद्धांत

Continental
Drift
महाद्वीपीय
विस्थापन

Plate
Tectonic
Theory
प्लेट
विवर्तनिकी
सिद्धांत

केल्विन का सिद्धांत → संकुचन सिद्धांत
Kelvin's Theory Contraction Theory



Kelvin



Earth
पृथ्वी

प्रारंभिक अवस्था में अत्यंत ही गर्म थी
Earth was an example of Ring of Fire

सतह का उद्गम

उपर उठ गया

नीचे धस गया

महासागर
Ocean

वर्षा के कारण जल से
भर गया

संक्षय प्रक्रिया
Cooling Process
Condensation
Process

शीतलीकरण की क्रिया

बाहरी सतह | outer surface



महाद्वीप / continents.

महासागर
Ocean.

Volcanic Theory

ज्वालामुखी विस्फोट सिद्धांत

Vapour
जलवाष्प

निःसृत गैस
↑ Release Gases

Earth
पृथ्वी

⇒ प्रांभिक अवस्था
Primary stage

⇒ ज्वालामुखी विस्फोट
की दर ↑
The Rate of Volcanic
Eruption ↑

Volcanic Eruption → Vapour
जलवाष्प

शीतलीकरण

Cooling Process



संघनन की क्रिया।

Condensation
Process

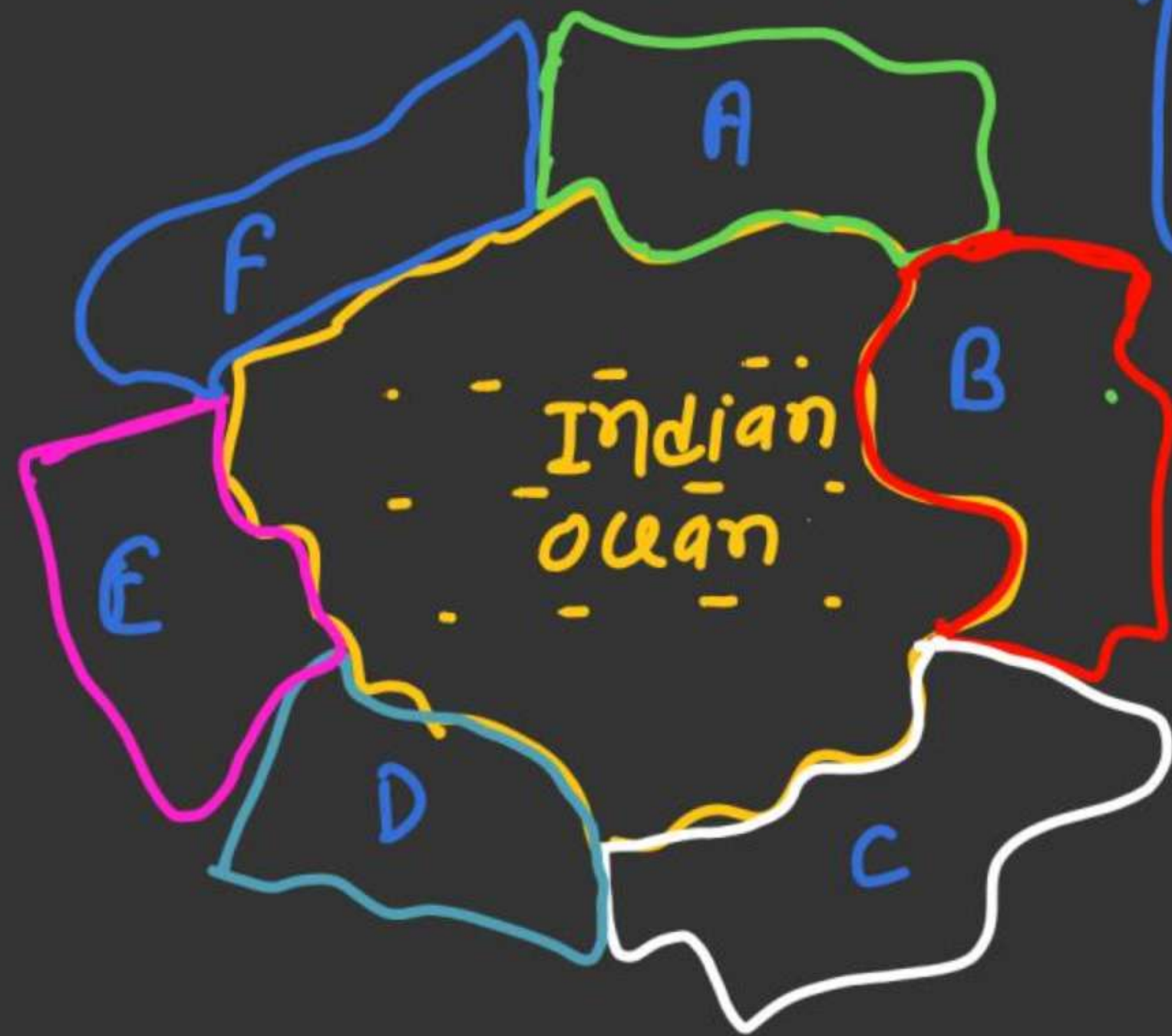
Water Logging
जलकुंति/जलजमाव



Ocean/महासागर

Rain Fall
वर्षा

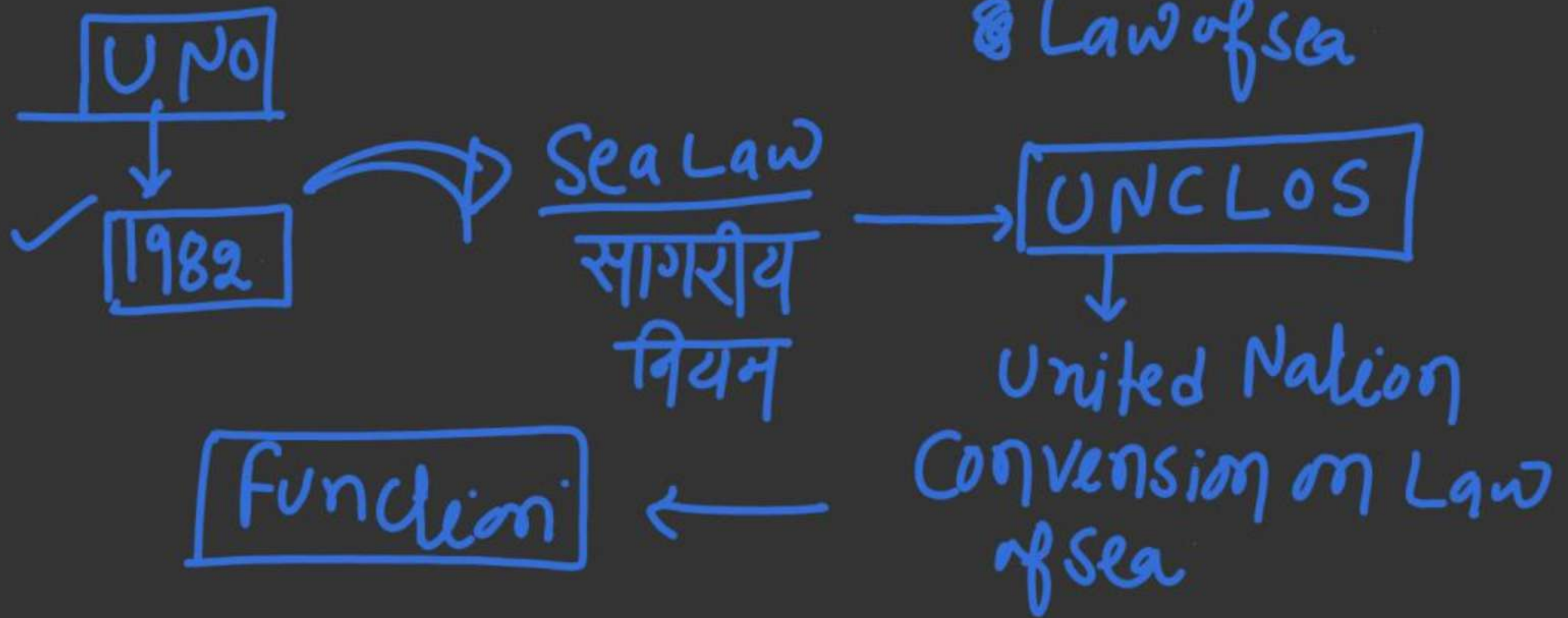




Countries → संसाधन का उपयोग
 खनन/mining करना चाहिए
 A B C D E F } Countries at The Coast of Indian Ocean

Indian Ocean | हिंद महासागर
 ↓
 कई प्रकार के संसाधन उपस्थित हैं
 Many Minerals

सागरीय नियम / महासागरीय नियम Law of Sea



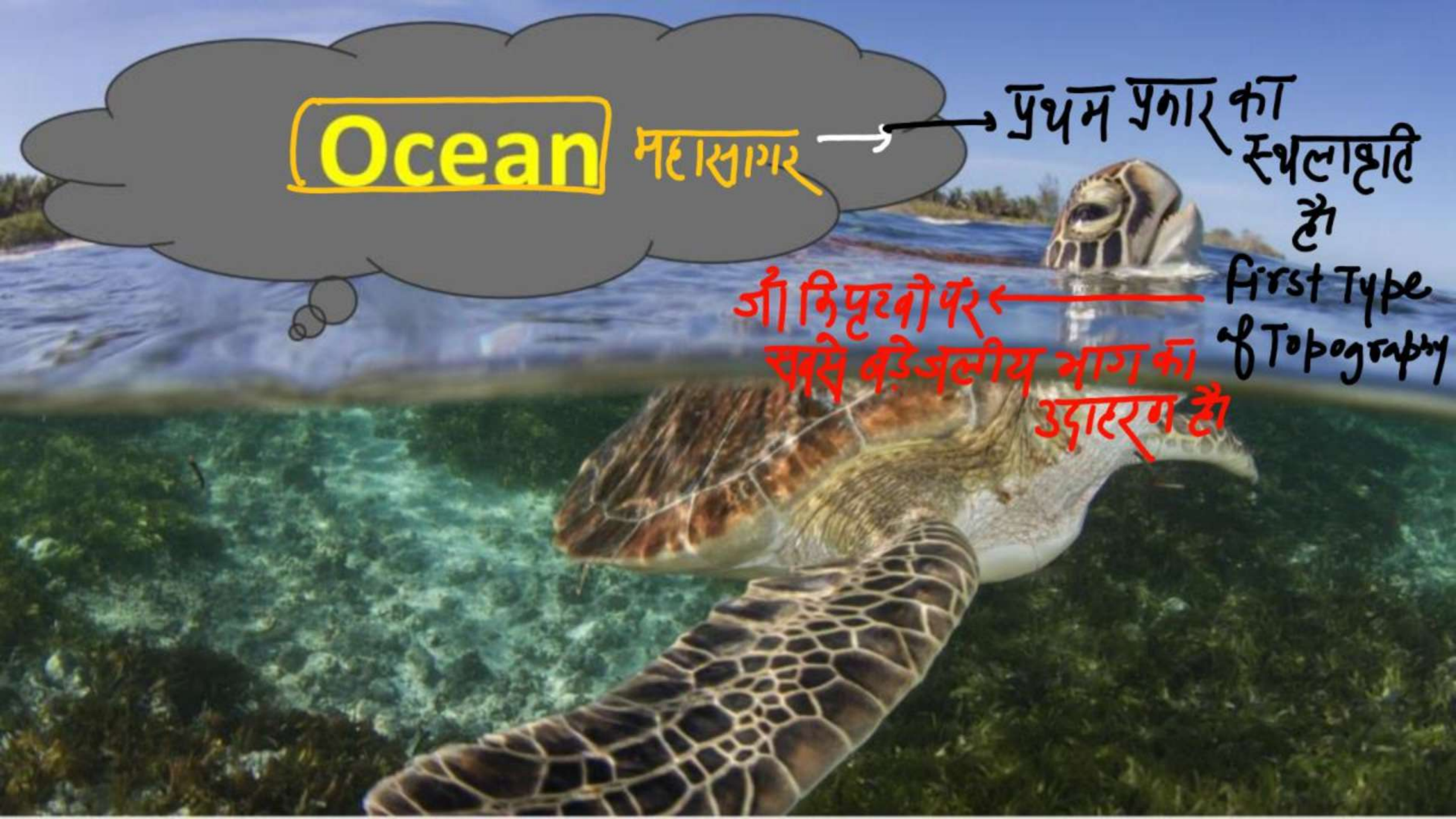
Ocean

महासागर

प्रथम प्रकार का
स्थलाकृति
है

First Type
of Topography

जो कि पृथ्वी पर
सबसे बड़े जलीय भाग का
उदाहरण है





Ocean



Ocean

Law of the Sea

सागरीय नियम





Law of the Sea

Law of the Sea

- The law of the sea is a body of international law that governs the use of the world's oceans and seas, and their resources. It is also known as maritime law or admiralty law.
- The law of the sea establishes rules and guidelines for the use of ocean and sea resources, including fisheries, shipping, and the exploitation of mineral and energy resources. It also defines the rights and responsibilities of coastal states, including their sovereignty over their territorial waters and exclusive economic zones.

Law of the Sea

UNCLOS

The United Nations Convention on the Law of the Sea (UNCLOS) is the primary international legal framework governing the law of the sea. UNCLOS was adopted in 1982 and has been ratified by over 160 countries, including most major maritime nations

UNCLOS



United Nations
Convention on the Law of the Sea

key provisions of UNCLOS

UNCLOS

कार्य

EEZ

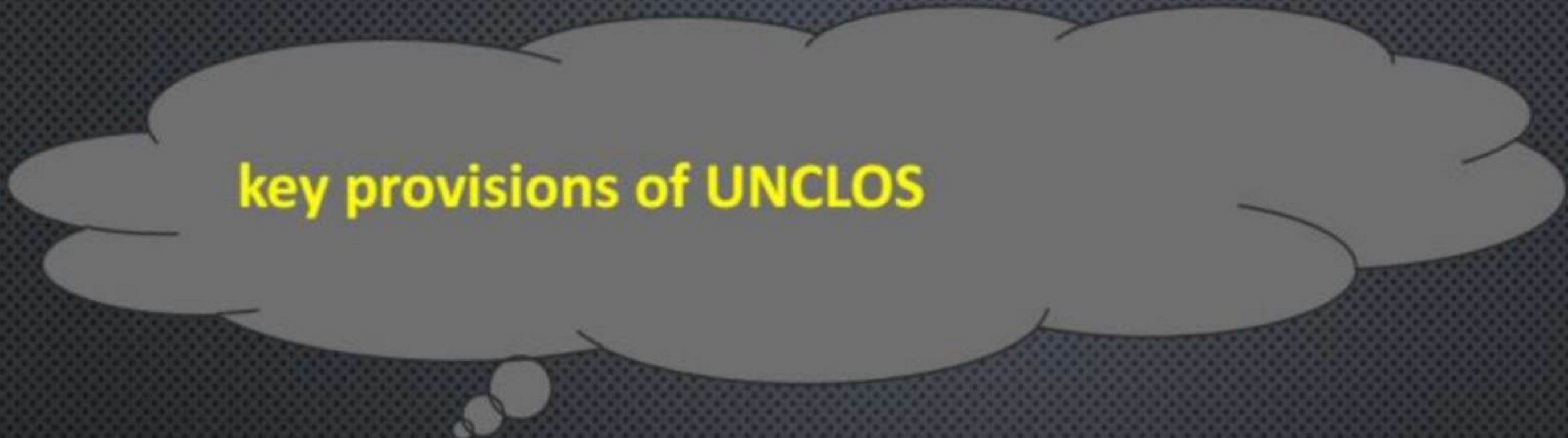
The establishment of the Exclusive Economic Zone (EEZ) for coastal states, which extends 200 nautical miles from the shore and gives states exclusive rights to explore, exploit, and manage the natural resources within that zone

key provisions of UNCLOS

International Seabed Authority

सी-वेड
अन्योन्या

- The recognition of the freedom of navigation for all states in the high seas, which are areas of the ocean beyond national jurisdiction.
- The establishment of the International Seabed Authority to regulate the exploration and exploitation of mineral resources on the seabed beyond national jurisdiction.



key provisions of UNCLOS

- The recognition of the rights of landlocked states to access and use the sea.
- The requirement for states to cooperate in the protection and conservation of the marine environment.

Law of the Sea

Definite Distance

Marine Region

एक निश्चित दूरी का UNCLOS → Oceanic Region

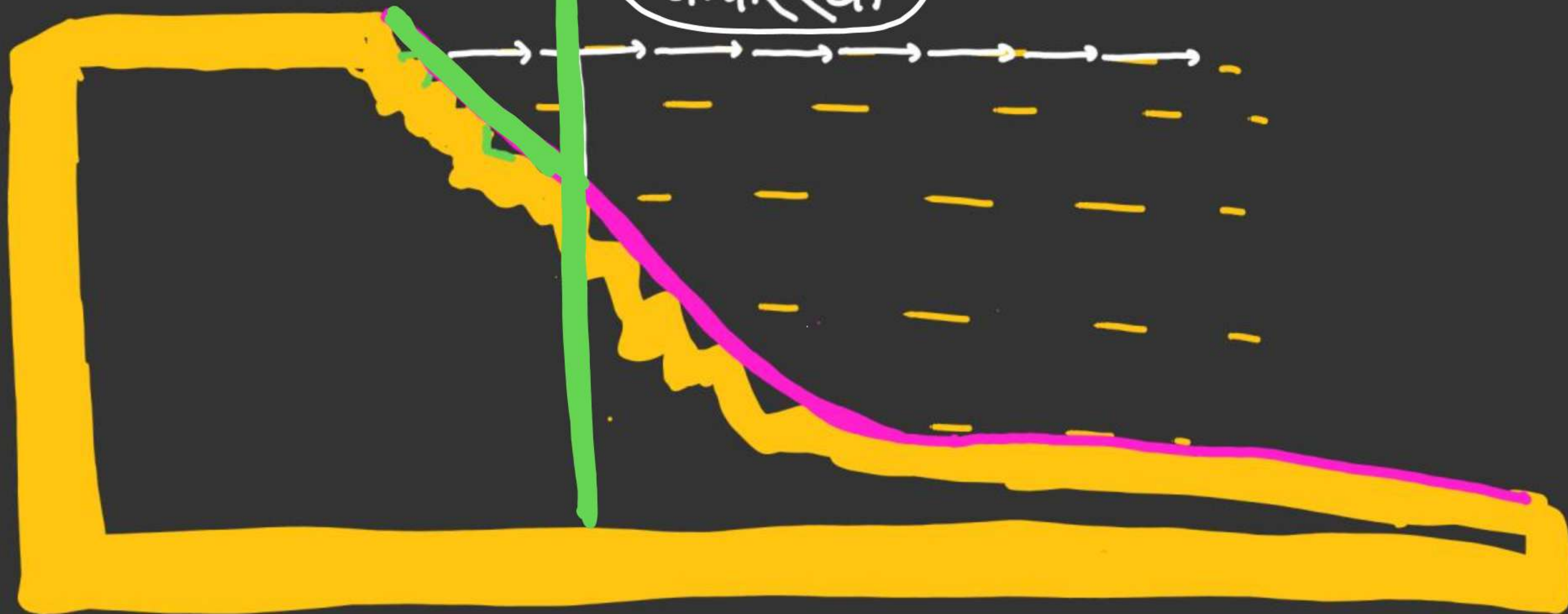
निर्धारण

महासागरीय क्षेत्र

से
→ कैसे
→ कहाँ

→ Boundary | सीमांकन

Base Line
आधार रेखा



Internal water

Baseline

200NM

24NM

12NM

Contiguous Region

EEZ
Exclusive Economic Zone

(High)
open sea
खुला सागर

आंतरिक जल

Territorial sea
प्रादेशिक

सन्नિहित क्षेत्र

अन-य
आर्थिक
क्षेत्र

આધારરેખા લાગુ A

હિત B
ક્ષેત્ર

C

Outer Space

National
Airspace

International
Airspace

24 nm

12 nm

Land

Territorial
Sea

Contiguous
Zone

High
Seas

Sea • Baseline:

Exclusive Economic Zone

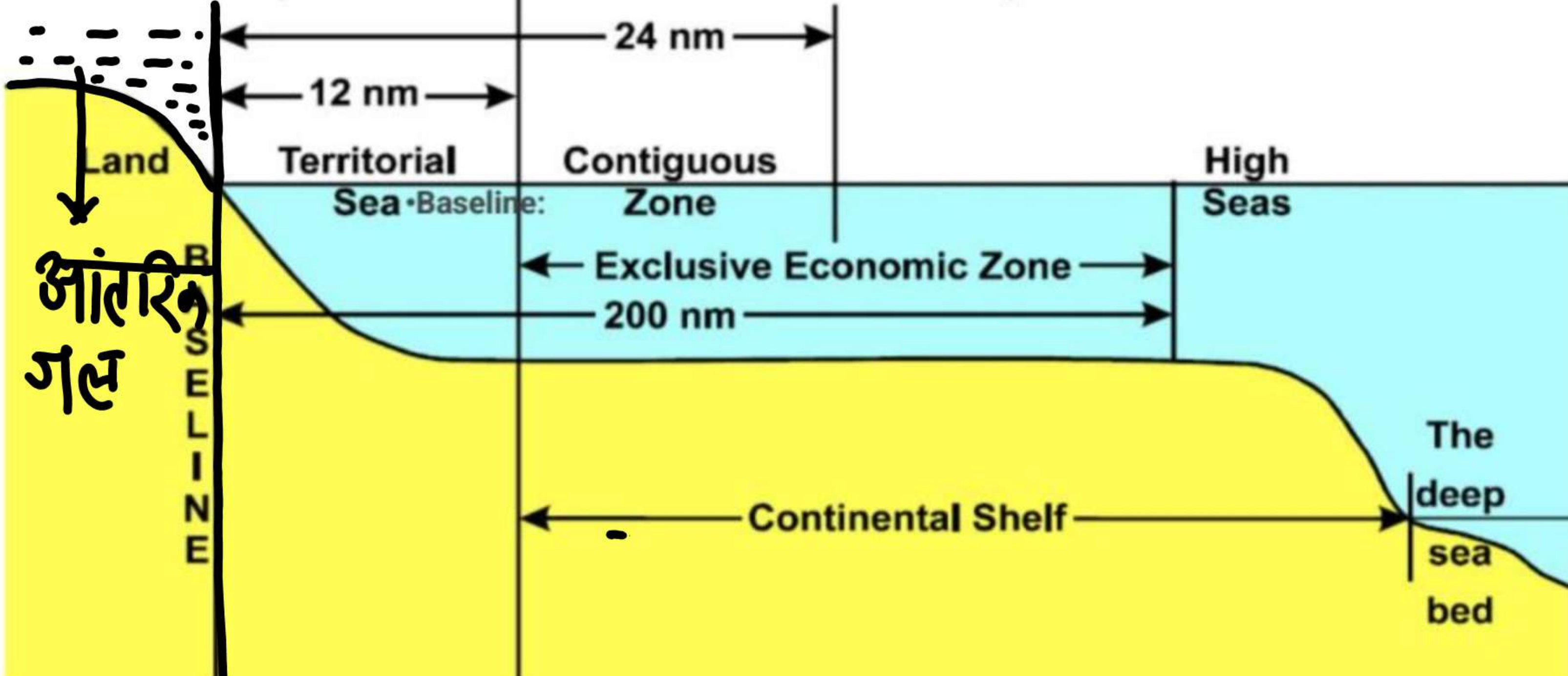
200 nm

B
S
E
L
I
N
E

Continental Shelf

The
deep
sea
bed

आंतरिक
जल

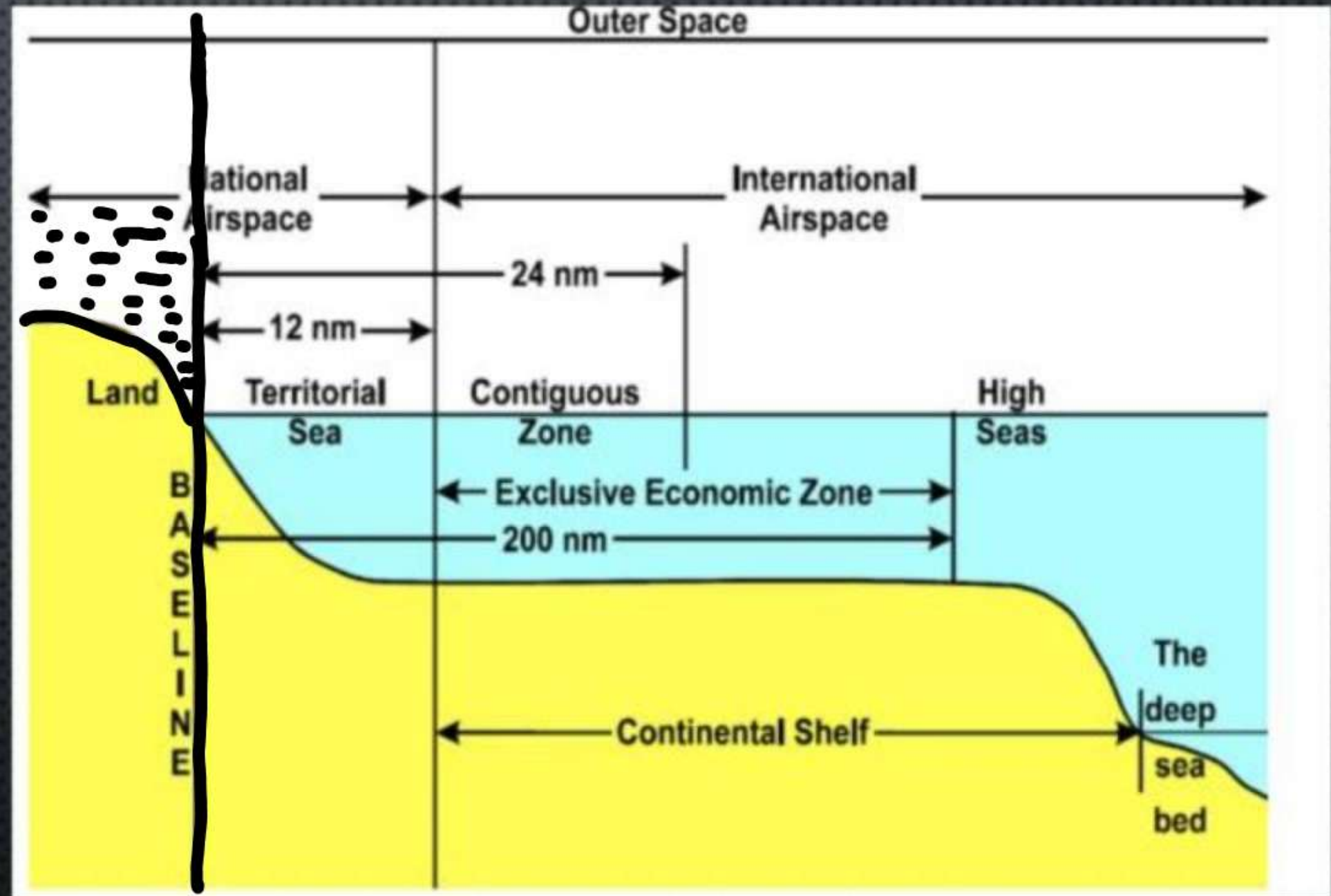


Baseline

आधाररेखा

- It is the low-water line along the coast as officially recognized by the coastal state.

UNCLOS



Internal Waters

Base Line

Resources

संसाधन

→ पूरी तरह
संख्येय
देशों का
अधिकार

Internal
Water
Administration

प्रशासन

→ पूरी तरह → संख्येय देशों

Internal Waters

- Waters on the landward side of the baseline of the territorial sea form part of the internal waters of the State.
- Each coastal state has full sovereignty over its internal waters as like its land territory. Examples of internal waters include bays, ports, inlets, rivers and even lakes that are connected to the sea
- There is no right of innocent passage through internal waters

Innocent
Passage



निर्दोष जलय
मार्ग

ocean

↳ जल परिवहन

Internal Waters

Innocent Passage | निर्दोष जलीय मार्ग

- The innocent passage refers to the passing through the waters which are not prejudicial to peace and security. However, the nations have the right to suspend the same.

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Meaning of innocent passage

1. Passage is innocent so long as it is not prejudicial to the peace, good order or security of the coastal State. Such passage shall take place in conformity with this Convention and with other rules of international law.
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Territorial Sea

प्रादेशिक सागर

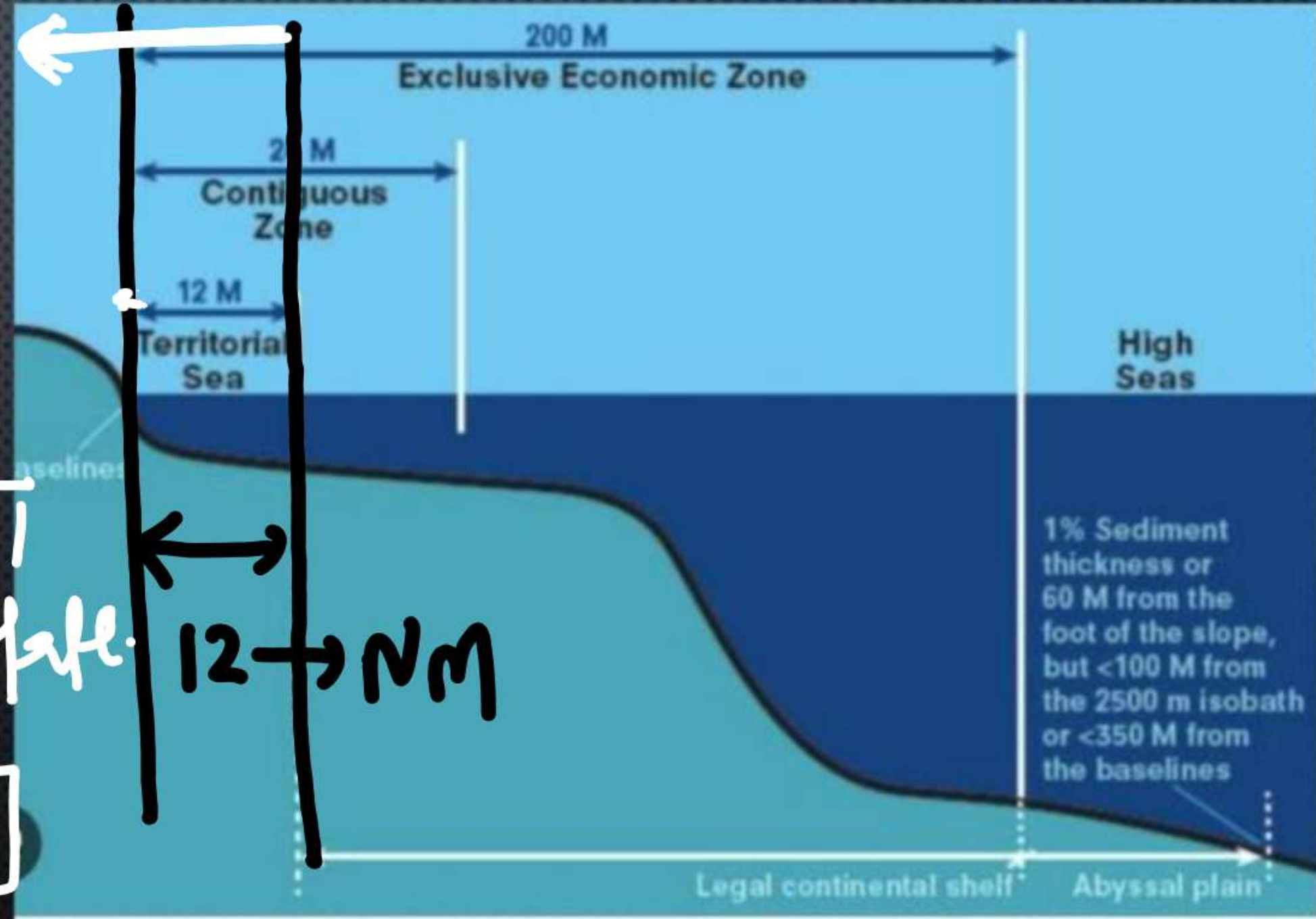
Territorial Sea
प्रादेशिक सागर

↓
Territory

तटीय प्रदेश
Coastal State

↓
सुप्रतुल

Base Line से → सागर की तरफ 12 NM



Territorial Sea

- The territorial sea **extends seaward up to 12 nautical miles (nm) from its baselines.**
 - A nautical mile is based on the circumference of the earth and is equal to one minute of latitude. It is slightly more than a land measured mile (1 nautical mile = 1.1508 land miles or 1.85 km).

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- No right of overflight in the territorial sea.
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Contiguous Zone

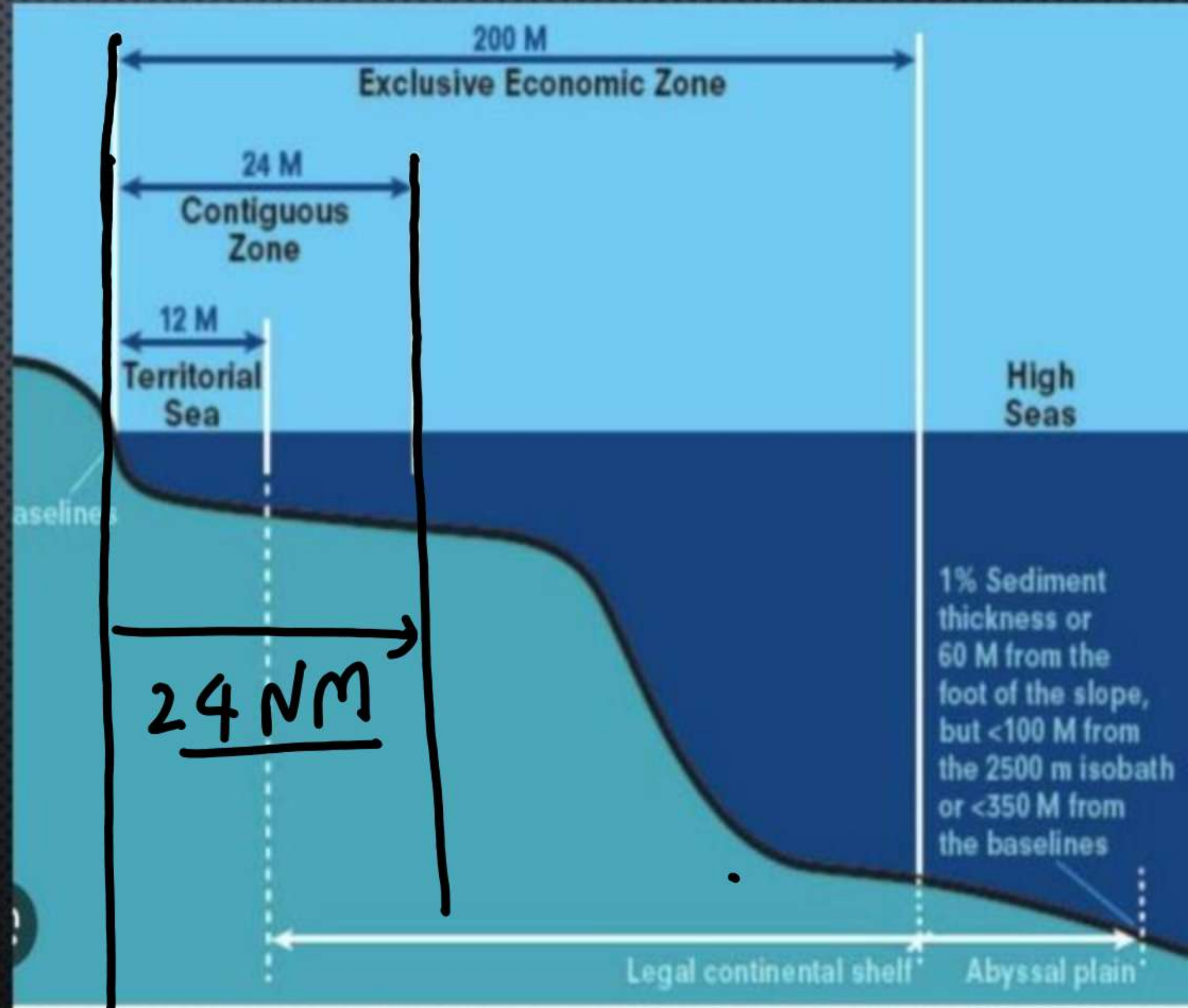
સાન્નિહિત ક્ષેત્ર

સાન્નિહિત
↓

સેલાહુઆં

સમીપ

ક્ષેત્ર



Contiguous Zone

- The contiguous zone **extends seaward up to 24 nm from its baselines.**
- It is an intermediary zone between the territorial sea and the ~~high seas~~ EEZ
- The coastal state has the right to both prevent and punish infringement of fiscal, immigration, sanitary, and customs laws within its territory and territorial sea.
- Unlike the territorial sea, the contiguous zone **only gives jurisdiction to a state on the ocean's surface and floor.** It does not provide air and space rights

Exclusive Economic Zone

अनन्य आर्थिक क्षेत्र

Resources

संसाधन → Abiotic | जैविक संसाधन

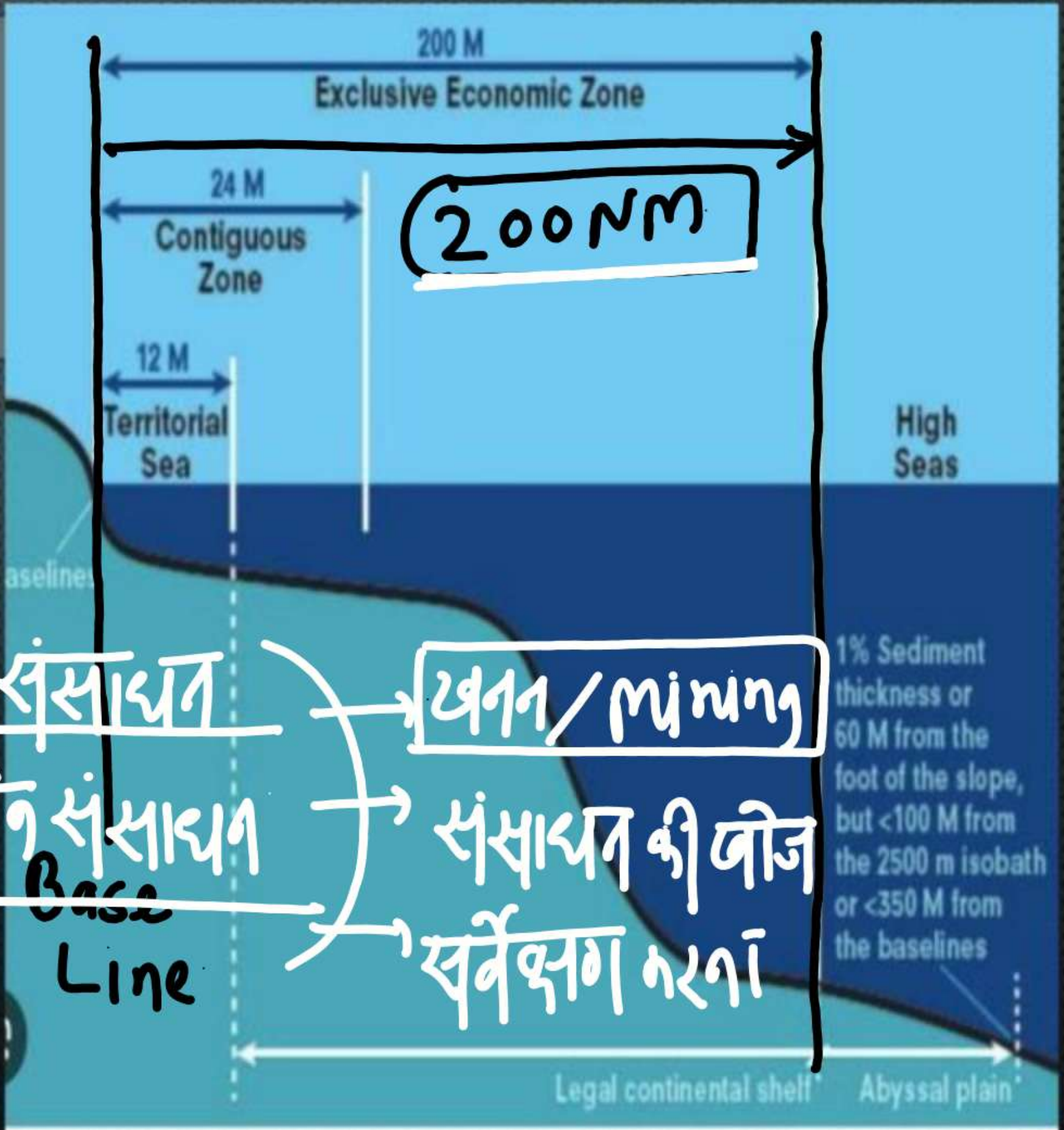
Abiotic | अजैविक संसाधन

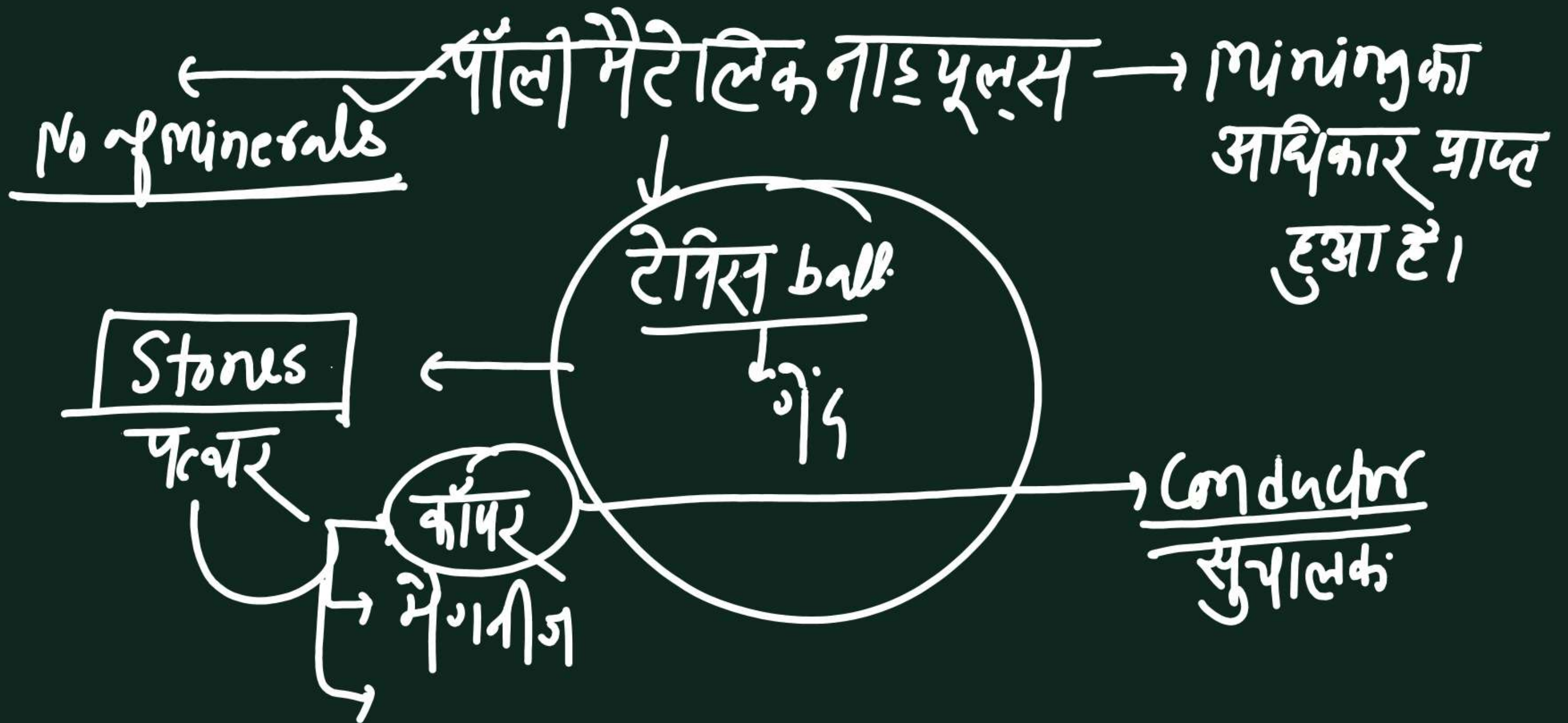
International
Sea Bed Authority

खनन / Mining

संसाधन की जाँच

सर्वेक्षण करना





✓✓ Blue Economy

नीली अर्थव्यवस्था

→ Relation

↳ Marine Resources

सागरीय संसाधन

↓
Growth
वृद्धि के लिए

✓
EEZ की स्थापना

Exclusive Economic Zone

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Exclusive Economic Zone

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High Seas

खुला सागरीय क्षेत्र → (1) 200NM के बाद का सागरीय क्षेत्र

UNCLOS

High Seas

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UNCLOS

Mains. → सागरीय प्रदेशों का सीमांकन करते हुए
यह स्पष्ट करें कि सागरीय नियम
सागरीय संसाधनों के शांतिपूर्ण उपयोग हेतु
आवश्यक हैं (250 words)

- Discuss The Law of Sea and Comment That
Why it is necessary for uses of Marine
Resources.

Ans → Intro → Law of Sea → सागरीय नियम

↓
Demand → सीमांकन / Boundary

Contiguous
संगत क्षेत्र

Internal water



Territorial
सागरीय प्रदेश

Needs of Law of Sea

सागरीय नियमों की आवश्यकता

जिसी भी
विवाद को रोकने हेतु

अविवादित रूप से
सागरीय संसाधनों का
उपयोग मानव कल्याण
हेतु करने के लिए

→ सागरीय संसाधनों के शांतिपूर्ण उपयोग हेतु

→ युद्ध की संभावना को समाप्त करना

→ सागरीय संसाधनों के विद्वहन को
नियंत्रित करने हेतु

→ सागरीय संसाधनों के संरक्षण हेतु

LIST A
Region

T.R

C.Z

EEZ

High Sea

LIST B

Distance (N.M)
More Than 200 NM

200 NM

12 NM

24 NM

