

NAROTTAM MORARJEE INSTITUTE OF SHIPPING  
MUMBAI

Examination Paper - March 2024

DIPLOMA IN SHIPPING MANAGEMENT & LOGISTICS - FIRST YEAR

Subject - Geography of Sea Transport

13.03.2024

Total 80 Marks

Time: 3 Hours.

Questions No.1 and No.2 are compulsory. Answer any 3 other questions from the balance 5.

1. On the outline of world Map, mark & name the following :

- a) Time zones of any four countries in Europe continent.
- b) Any Four Bunkering ports in Far East region.
- c) Baltic sea, Gulf of Aden, Yellow sea & Gulf of Oman.
- d) Ports - Djibouti, Durban, Piraeus & Ho Chi Minh.

2. On the outline of world Map, mark & name the following :

- a) Shipping canals - Kiel canal with seas on either sides.
- b) Show ULCC route from Muscat to Barcelona.
- c) Any Four currents with direction of flow & whether warm/cold.
- d) Magelan strait, Hormuz strait, Gibraltar strait & Palk strait.

3. a) On the outline of India map, show Inland Waterways. Describe typical cargoes carried on each of them. b) Show any 3 ports in the states of Andhra Pradesh and Karnataka.

4. Write short notes on the following :

- a) WTO b) EU c) OECD d) SAARC

5. a) Draw and describe the Time Zones.

b) What is International Date line and why it is not a straight line?

6. Draw and describe the 'SAGARMALA project' with the help of India map.

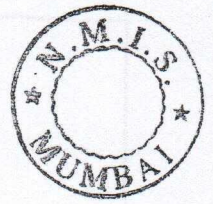
7. Write short notes on:

- i) How Crude oil is formed?
- ii) How the crude oil is classified?
- iii) Examples of Light distillates and Heavy distillates.

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NMIS. EXAM 2024

ROLL NO. \_\_\_\_\_





Q	1	2	3	4	5	6	7	8	9	10	11	12	Total
M	14	14	13	14	13								68

WRITE BELOW

Ans 3) (a) INLAND WATERWAYS

	<u>Cities/Towns</u>	<u>Rivers</u>
NW 1 -	Allahabad, Patna, Farakka	Patna (Ganga River)
NW 2 -	Sadiya, Dhubri	(Brahmaputra River)
NW 3 -	<del>Falgun</del> Connects Canals	(Canals)
NW 4 -	Talchar	(Mahanadi, Brahmani)
NW 5 -	R.G. Basin, Vijaywada, Chennai, Puduchery	(Krishna & Godavari)
NW 6 -	Lakhimpur	

Typical Cargoes carried

- NW 1 - Coal for 21 thermal power stations in UP, Bihar, Jharkhand, West Bengal, Grains, Dry Ash
- NW 2 - Petroleum Products, Tea, Rice etc
- NW 3 - Phosphates, rice, Cement etc, Containers
- NW 4 - Coal, Mangorese minerals, cement etc  
~~Oil/Petroleum~~ products, Ore
- NW 5 - Oil/Petroleum, Coal, minerals, rice, Cement, Ore etc

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Ans 3) (b) Ports in Andhra Pradesh

- Visakhapatnam
- Gongawadam
- Kakinada
- Krishnapatnam

Ports in Karnataka

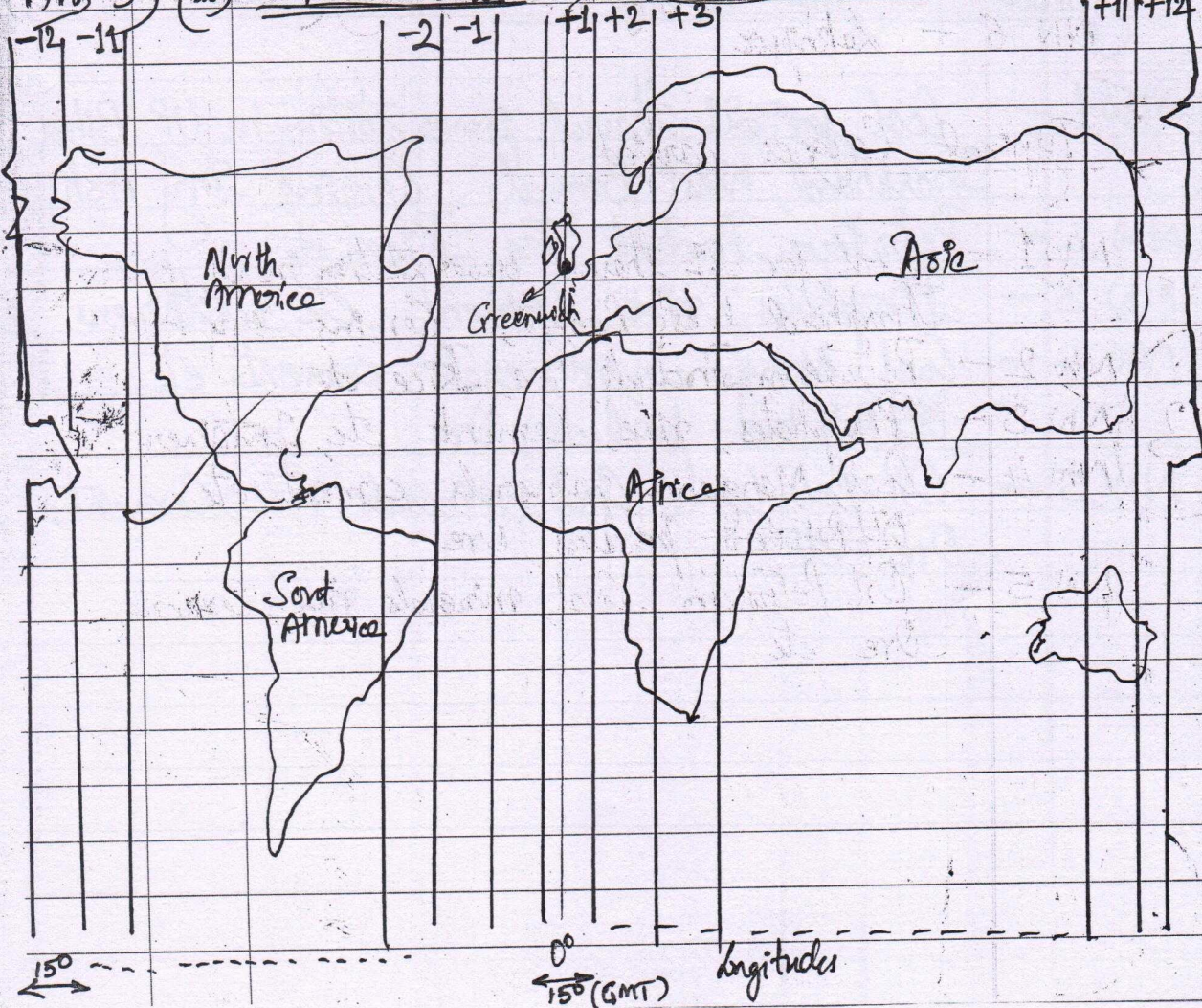
- Karwar
- Honnawara
- Malpe
- New Mangalore

Ans 5) (a)

Time Zones

Prime Meridian

IDL



→ In the ancient times, the essence of time was related to the movement of the sun and therefore, small settlements and locations referred to passage of time with respect to the Solar time. The altitude of the Sun and its elevation provided the basis of time reference in Kingdoms and Princely states. However, with Globalisation and spread of trade, new changes were introduced.

→ With trade and means of transportation, primarily being the sail ships, traders and warriors started to expand their territories and there was displacement of human settlements and it provided time references for greater areas as people could travel considerable distance on horses. Therefore, Solar time from a particular area in a greater landscape was referred to as the common time reference for all.

→ With modernisation and advent of communication, common reference of time was realized to be an issue as the local time differed considerably and a new methodology to provide common time reference and with sync to the Solar time, a new procedure had to be adopted.

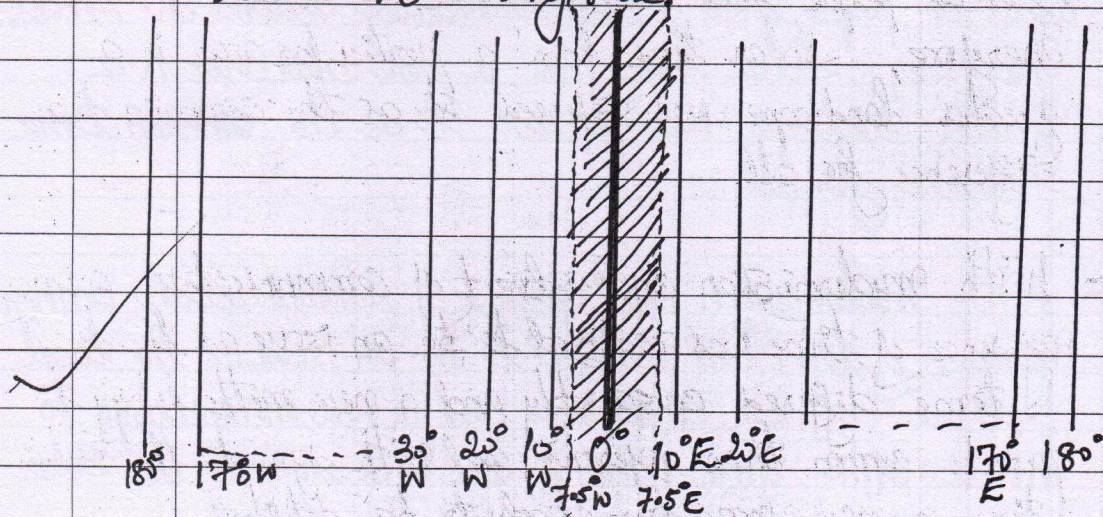
→ Therefore, concept of Time Zones came into being.

→ The Earth is an oblate spheroid and is theoretically divided into two hemispheres by the Equator ( $0^\circ$  latitude). Each hemisphere is further subdivided into latitudes which progress from  $0^\circ$  to  $90^\circ$  N in the Northern Hemisphere and  $0^\circ$  to  $90^\circ$  S in the Southern Hemisphere with  $90^\circ$  being the North and South poles respectively.

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→ Similarly, longitudinally the earth is divided into  $360^\circ$  being a sphere and these longitudinal lines emerging from the North Pole and terminating in the South Pole are called meridians.

→ The reference meridian is called the PRIME MERIDIAN that passes through the town of Greenwich in the United Kingdom. Longitudes to its East are called Eastern Longitudes and to its west are called Western Longitudes. Therefore, the longitude on the opposite side is the  $180^\circ$  longitude.



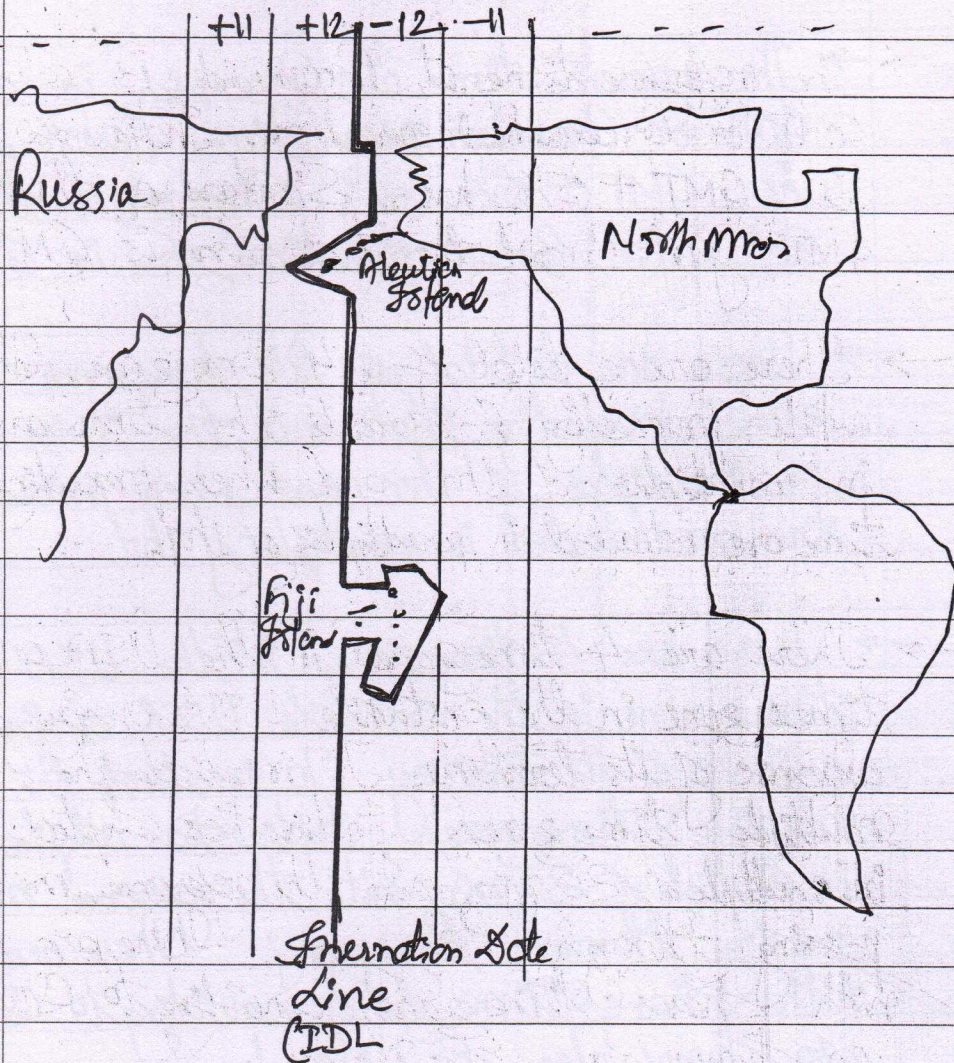
→ On either side of the Prime Meridian, with  $7\frac{1}{2}^\circ$  on E and  $7\frac{1}{2}^\circ$  W longitudes exist. The zone contained in this area or band is of  $15^\circ$ . This is called Time Zone 0.

→ Thus,  $360^\circ$  when divided by  $15^\circ$  gives 24 time zones, which when numbered westwards are (zone -1), (zone -2) ... (zone -12) and when numbered eastwards are (zone +1), (zone +2) ... (zone +12)

- India has adopted Time Zone  $+5\frac{1}{2}$  ~~hrs~~
- The reference time at Greenwich is called the GMT or Greenwich Mean Time. India's Local Time (LT) is GMT  $+5\frac{1}{2}$  hrs. Similarly on the West of GMT, for Brazil the time zone is GMT  $-3$ .
- There are a total of 24 time zone. Therefore, while proceeding Eastwards, the time are advanced in multiples of 1hr and when proceeding Westwards, time are retarded in multiples of 1hr.
- There are 4 time zones in the USA and 11 time zones in the erstwhile USSR owing to the expanse of its territory. To eradicate the issue of multiple time zones, India has adopted in multiple of 30 min, with the reference meridian passing through Prayagraj. There are nations with these time zones according to Quarters of an hour also. Eg: Nepal.
- This method of Time Zones was first adopted in 1884 after the World Meridian Conference.
- As, the axis of the Earth is tilted by  $23\frac{1}{2}^\circ$ , the nations that are in higher latitudes experience long summers or winters. Therefore, to maximise the sun exposure and gainfully utilize the sunny hours, these nations retard or advance their times by one hour from first Sunday of April to 30 Oct and this is called Daylight saving time.



## International Date Line



→ The International Date Line is the  $180^\circ$  longitude on the diametrically opposite side of the Prime Meridian. It is not a straight line.

→ The International Date Line separates time zone +12 and time zone -12.

→ It emerges from the North Pole in the Arctic Region and terminates into the South Pole at Antarctica continent.

→ As we move Eastward from the Prime Meridian, the watches are Advanced and as we move westwards, the watches are retarded.

→ When we move Eastwards and cross the International Date Line, we do not change the time but ~~then~~ we retard our calendars by a day and ~~we~~ we reduce our day or we gain time. (date)

→ When we move Westwards and cross the International Date Line, we do not change the time but we advance our calendar by a day or 24 hrs and we add a (date) or we lose time.

→ Therefore, as the day is changed at the IDL, it is called the International Date Line. The time gets added by 24 hrs or reduced by 24 hrs.

There is a gap of 24 hrs between Time Zone +12 & Time Zone -12.

→ Not a Straight Line

1.4

The International Date Line has been devised to ensure that time/day in the island territories of the adjacent nations or islands of the Island nation have a common time to the parent country.

Therefore, we see that the IDL is bent at Attention Islands of the USA, as these Islands are part of the US territory. Similarly, the IDL is again bent near Fiji Islands to accommodate the Islands as one entity of the concerned nation.

## Ans 6) SAGARMALA PROJECT

→ Sagarmala Project is the massive project to develop the maritime trade of the country by development of ports and shipping and its coastal regions.

→ The Project was first conceptualized by the Govt of India in 2005 when Shri Atal Bihari Vajpayee was the PM. Necessary impetus and direction and execution to this project was given during the current Govt's initiative by Shri Narendra Modi in 2015.

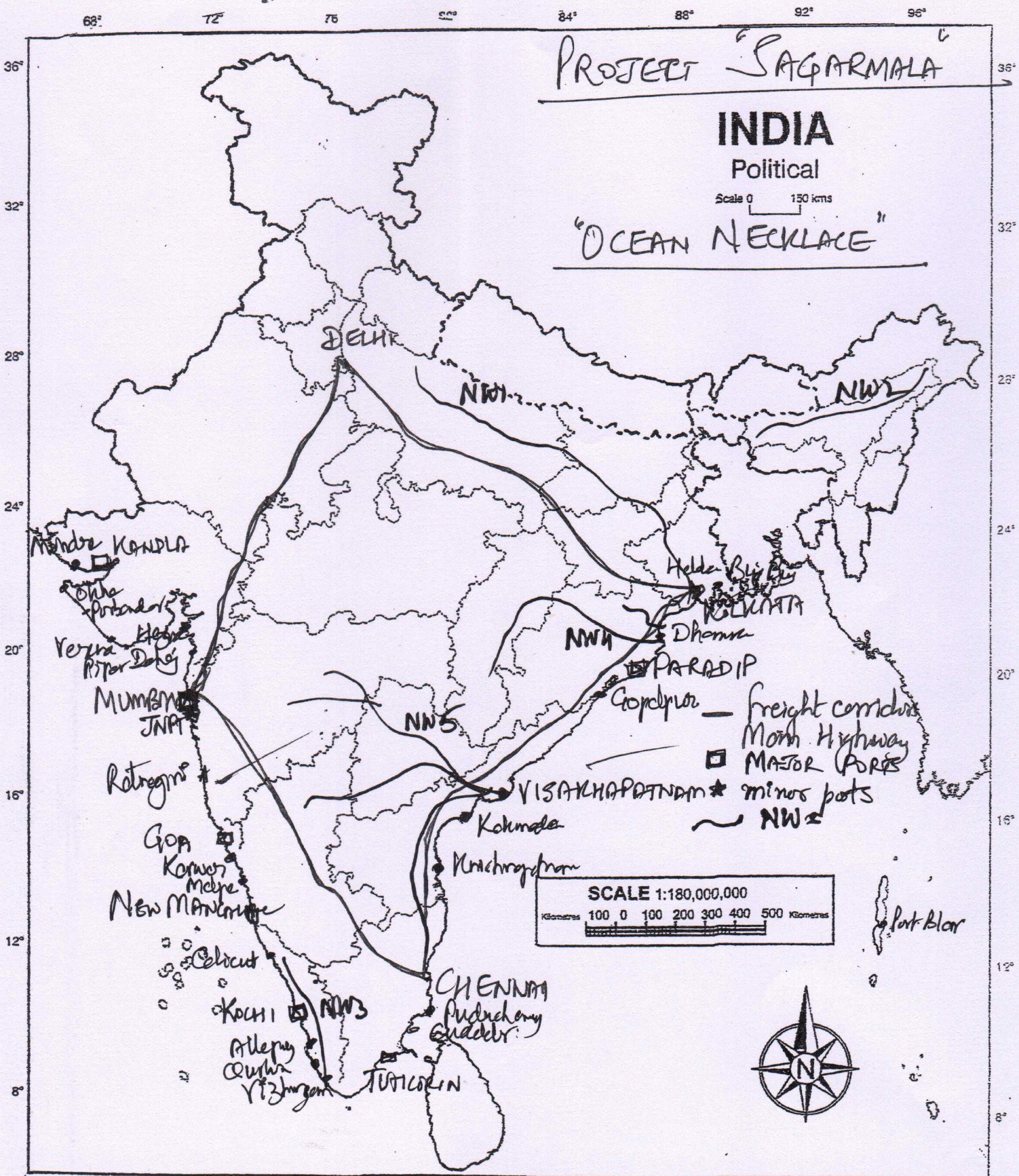
→ India has a coasting of 7516 km, which is 7<sup>th</sup> in the world. Compared to the Neetherland with 41% contribution to GDP and trade by sea route and the US with 28% trade by sea, Indian shipping industry contributes only 0.5% to the GDP.

→ The poor performance of our shipping industry and minimal contribution to the maritime trade has been due to numerous factors as there had been no required impetus given to the maritime trade and the developments and benefits that could be accrued.

→ Therefore, a Steering Committee, SCSC, Sagarmala Core Steering Committee, headed by the Cabinet Secretary of the Ministry of Shipping was constituted as per the NPP (National Perspective Plan). It had secretary level officers from other Departments, Police, Defence, Ports, Revenue, Transport, Land etc. This Steering Committee was tasked to prepare the Roadmap and plan the project.



Ans 6)



500 CR spent toward development of freight corridors  
 NW 6 also started  
 Grants allotted to INAI for development of National Waterways

WRITE BELOW

→ The Steering Committee submitted their reports and the following were identified. The Sagarmala Project is a foresighted vision and achievable target on the long term National perspective that needs to be worked upon as below:-

① All port infrastructure comprising the Cargo handling, cranes and equipment, specialized machinery, efficient gadgets needs to be upgraded to world standard.

② The Ports are to be equipped to berth/unberth bigger and deep draught vessels so that vice, vice, vice, vice can berth and load/unload.

③ The existing Port operations need to be supported by IT infrastructure and automated to be more efficient and productive.

④ New Warehouses, large CFS stations needs to be developed.

⑤ All industries connected to the shipping industry needs to be set up like shipyards, ship repair and builders yards, ship scrapping yards. These all facilities need to be created along the Indian coast along the Ports to be developed.

⑥ Govt has invested 30,000 crores to set up 12 smart cities that have integrated infrastructure and housing facilities for the persons associated with the maritime industry. For this Commercial Economic Zones (CEZs) needs to be set up near to the Port areas.

⑦ New fiscal incentives for the foreign and domestic investment needs to be provided to make the business lucrative and outrightly profit generating.

⑧ New Ports capable of handling modern deep draught vessels that can transit and approach the ports through deep channels could be identified. These ultra modern ports must ensure quick turnaround and efficient cargo handling similar to Seattle, China, Japan ports.

⑨ An efficient network of multimodal transportation network needs to be put in place that shall ensure seamless & quick transportation of cargo to the hinterland to the consumers and till the sites of production.

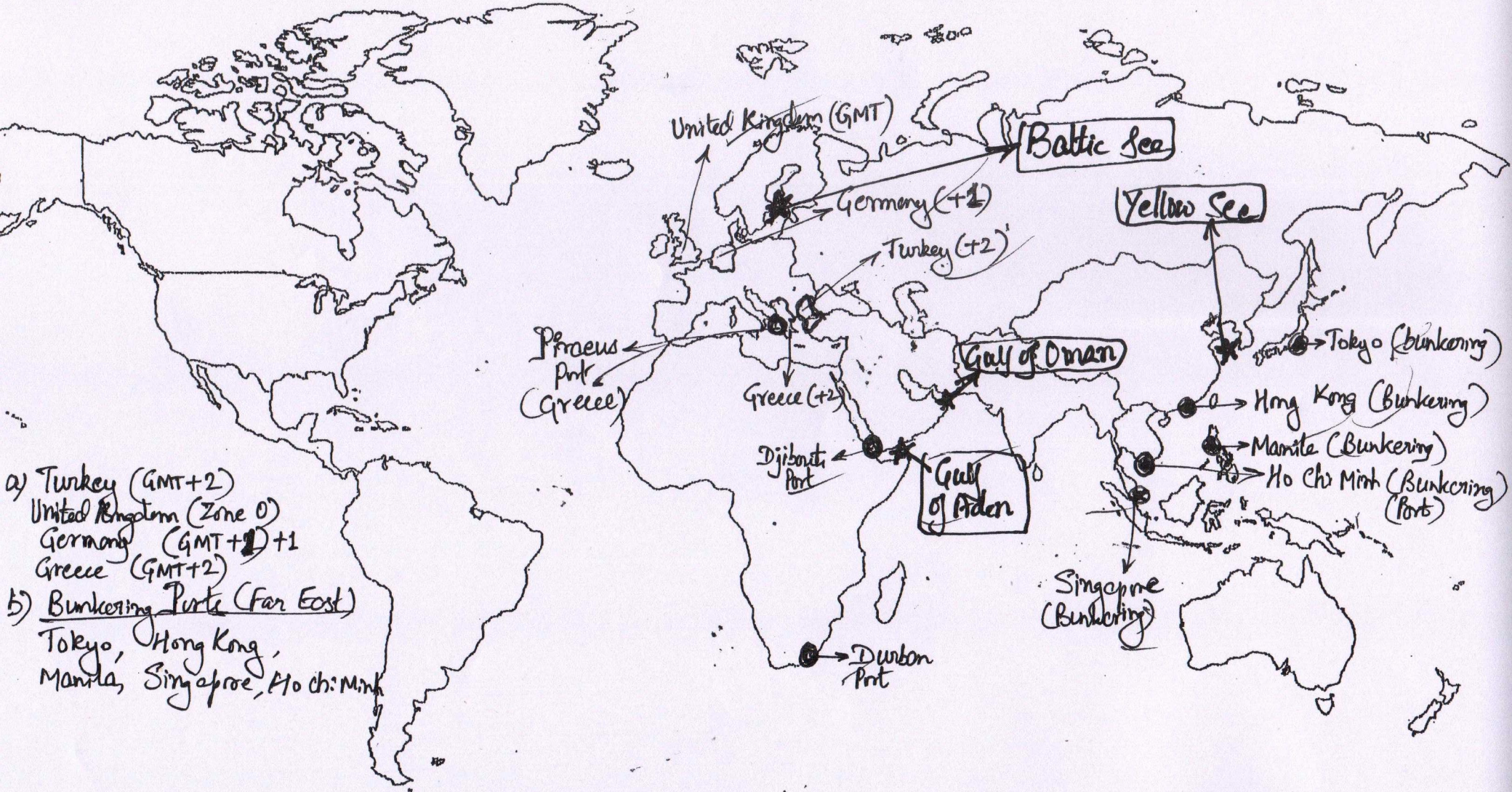
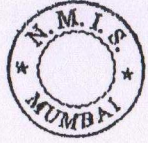
⑩ The Road and Rail networks should be robust and efficient to carry voluminous and heavy cargo and accordingly necessary wagons & trailers needs to be manufactured.

⑪ Necessary impetus to develop the coastal shipping so as to provide feeder routes for the cargo to reach minor ports needs to be provided.

⑫ The Inland Waterways needs to be developed

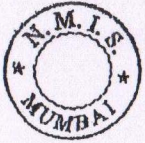
through creating of dredged waterways, navigation marks, night navigation facility, warehouses, bunkering facility, lower tides, cargo handling stations etc. This will ensure large volume of cargo to be transported in a cost-effective and efficient manner.

- ⑬ The existing network of roads and roads needs to be consolidated and developed to enhance the existing throughput of the ports.
- ⑭ The intermediate and minor ports should be utilized more efficiently to act as smaller hubs
- ⑮ Free Trade Zones (FTA) zones, should be established to generate revenue on value addition for the cargo under transportation and the ports should function as the entre ports/ free ports.
- ⑯ There has to be collective development of Ports, transportation network and Creation of new ports through region and national initiative.
- ⑰ The State Govts should be involved to a greater extent to develop the minor ports and waterways under their jurisdiction.
- ⑱ Separate and dedicated freight corridors needs to be built for quick and efficient transportation of cargo nationwide

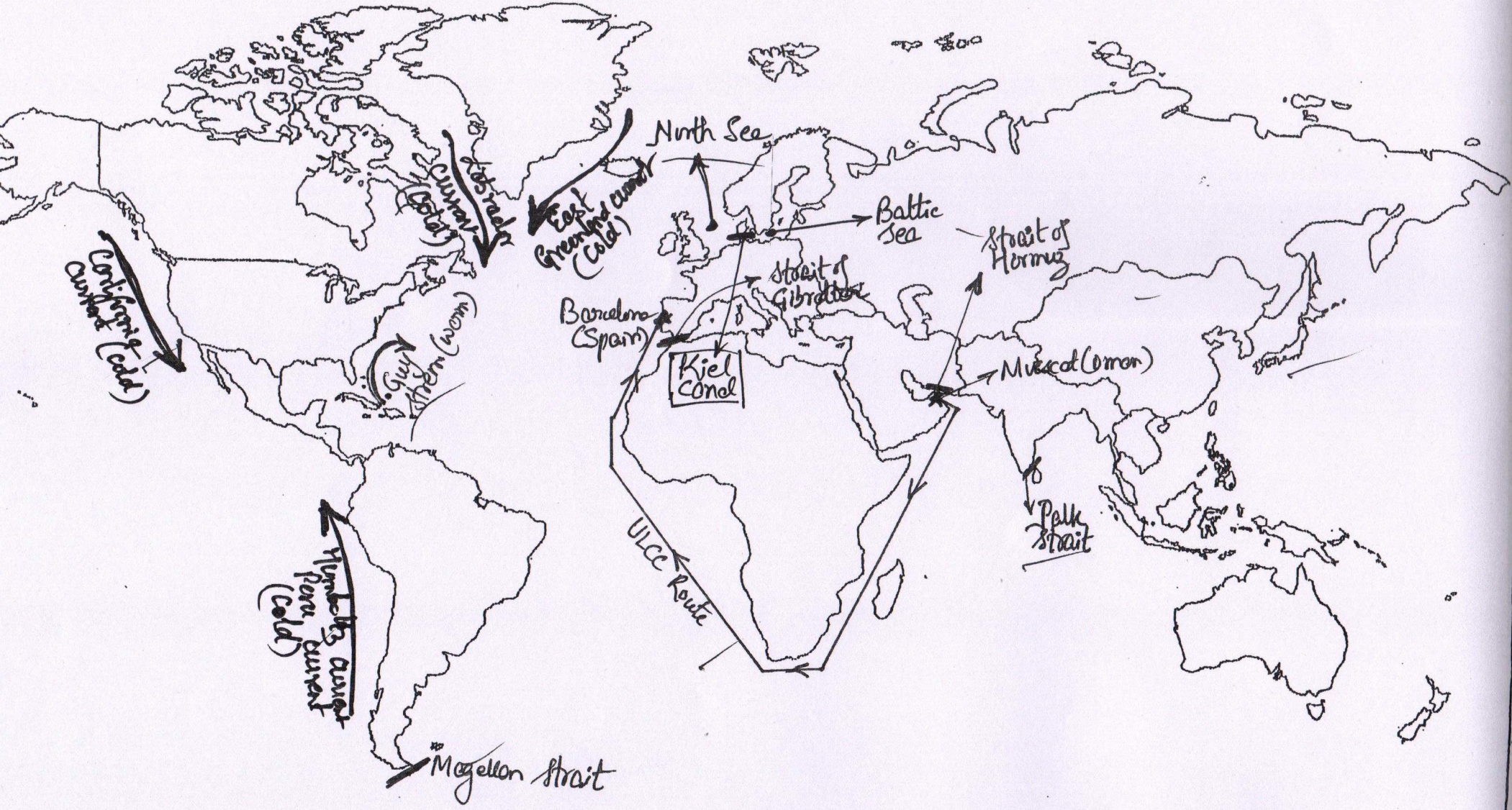


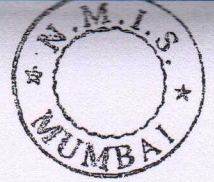
- a) Turkey (GMT+2)
- United Kingdom (Zone 0)
- Germany (GMT+1) +1
- Greece (GMT+2)
- b) Bunkering Ports (Far East)
- Tokyo, Hong Kong,
- Manila, Singapore, Ho Chi Minh





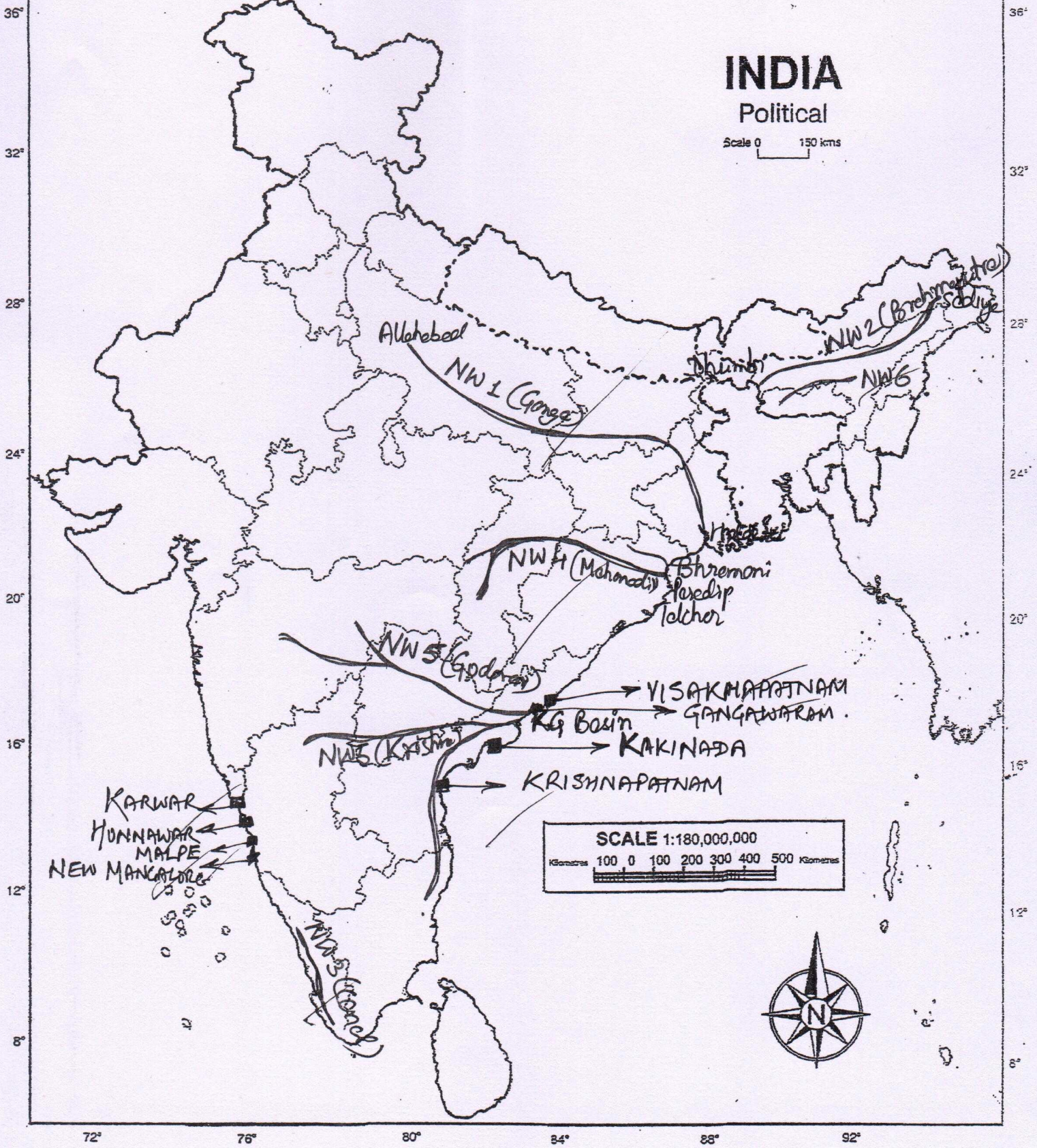
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72° 76° 80° 84° 88° 92°