

**NAROTTAM MORARJEE INSTITUTE OF SHIPPING  
MUMBAI**

**Examination Paper – March 2024**

**DIPLOMA IN SHIPPING MANAGEMENT & LOGISTICS – FIRST YEAR**

**Subject – Current Shipping Environment & Logistics**

**12.03.2024**

**Total 80 Marks**

**Time: 3 Hours.**

**NOTE: Q -1 IS COMPULSORY. ANSWER ANY FOUR QUESTIONS FROM Q NO. 2 TO Q NO. 7. ALL QUESTIONS CARRY EQUAL MARKS**

1. Write a short note on any four.
  - a) Importance of warehouses in logistics
  - b) Port Health Officer
  - c) IACS
  - d) SIRE
  - e) Recent Piracy/Houthis attacks in Red sea and Gulf of Aden
  - f) India's off shore oil Industry
2. Explain importance of IMO in shipping with its organogram and functions.
3. What are the facilities/services are required to be provided by Govt. to private port operators? Explain in detail.
4. Explain Ship Management concept – Explain role and functions of technical manager.
5. Explain importance of Shipping in overall Development of the country.
6. Write a note on Containerization in India, and role and functions of ICDs.
7. Explain in detail technological developments in shipping.

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Q	1	2	3	4	5	6	7	8	9	10	11	12	Total
M	16	12 <sup>1/2</sup>	12 <sup>1/2</sup>	13	12								66 <sup>1/2</sup>

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Ans 1

Post Health Officer

A Post Health Officer, also known as PHO is an essential element of all ports. His importance can be judged from the fact that he is the first person to board a ship and provide clearance whenever a ship from foreign shores arrives at India. ~~to test~~ His clearance is called a free pratique, and in modern times can also be obtained on Radio called 'Radio free pratique'. His authority and responsibilities have been given in Indian Ports Act, 1908, replaced by the Multimodal Transport Act.

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- The Post Health Officer is responsible to ensure that ~~health of all personnel~~ no communicable disease enters the country by way of ships. This function thus involves checking the health status, documents etc onboard.

- The advisories on any new communicable disease are given by Ministry of Health and family, and on an international level by WHO - World Health Organisation which receives this information from its members.

- There are standard diseases that need to be guarded against, such as Yellow fever, SARS, Zika virus etc for which Post Health officer ascertains the movements of crew and ports that the ship has

visited prior arrival to India. for example, for yellow fever - the ship should not have visited a country of yellow fever upto 9 days before arrival. However, this requirement can be avoided if the crew is vaccinated.

- for ships leaving India, the Port Health Officer is authorized to sign for vaccinations such as yellow fever so that when ship arrives at next port, all personnel are vaccinated and no Quarantine Penalties apply.

- PHO also issues De-ratting certificates whose validity is 6 months. In case the ship cant undertake and rodent population is low, the PHO can issue an Exemption from De-Ratting.

Overall, the PHO is a very important element in ensuring that no communicable disease enters the country through an infected person onboard. His role was realized by all during COVID when PHOs had to ensure clearances and oversee Quarantines.

(c) IACS - International Association of Classification Societies.

- Classification societies are independent, non-profit bodies directed by a committee representing Ship Owners, Shipbuilders, Engine Builders and underwriters. Their primary aim is to ensure ships are built properly and maintained in seaworthy condition.

- IACS was formed in 1968 when it was

realised that there was a need to represent interests of classification societies, ensure that certifications are ~~are~~ recognised throughout the world and coordinate activities towards ensuring safe and seagoing vessels.

- IACS is a very powerful body due to the specialisations of its members and its reputation and involvement in ensuring safety at sea

- IACS is even represented in IMO

- IACS undertakes following primary works

3 1/2 ✓

- Auditing procedures and standards of Classification Societies

- Representing interests of Classification societies on Global and International forums

- Coordinating developments in Industry towards bringing efficiency

- facilitation of developments of standards

- Research and Advisory services

- IRS - Indian Register of Shipping is a member of IACS.

- IRS became an associate member in 1991, undertook audits of its procedures and standards by IACS in 1996 and thereafter became full member in 2010

- All full members of IACS are also called 'Prominent Classification Society'

All prominent Classification Societies enjoy multiple privileges such as recognition, status and ships registered with these get preferential treatments for P+I memberships, ~~insurance costs~~ lower insurance premiums etc.

#### (d) SIRE - Ship Inspection Report Exchange

- Ship vetting is a process by which shipping users of tankers get ~~vet~~ the tankers inspected or 'vetted' for International compliances prior their use.

- Ship vetting was started by BP in 1987. This was soon followed by multiple other ~~states~~ oil majors.

- However, there was a peculiar problem that arose - All these inspections, or ship vetting, was being done by private firms on a repetitive basis leading to duplicacy of effort for both, the vetting authority and the ship.

- for example; A tanker scheduled for hiring by BP and Shell would have to undergo two inspections irrespective of time duration.

- To resolve this duplication, OCIMF - an international forum of Oil Companies developed SIRE - Ship Inspection Report exchange.

- As per the program, inspection details ~~of~~ could be shared with stakeholders to avoid duplicity.

- As per the program, the information was collected through ~~standardised~~ methods :-

VPO - Vessel Particulars Questionnaire

VIQ - Vessel Inspection Questionnaire.

- These are prepared by the ship and submitted to the inspectors ~~for~~ prior to inspection

- The Inspector could thereafter render his report - all of which are in electronic form.

- The details, as per the programme are uploaded to a central repository which gets populated and

holds information of various ships, including inspection reports

- The reports contain all the positive and negative notings, details of any Technical Holders, ~~etc~~ deficiencies etc
- These reports are available to other stakeholders to make informed decisions.
- The reports also contain the period for which further inspection would not be required for that particular ship.

Overall, SIRE is an OCIMF (Oil Companies International Maritime Forum) initiative to database all information received during ship vetting and making it available to other possible users of the tankers towards efficiency and avoiding duplicity.

#### (e) Recent Piracy/Houthi Attacks in the Red Sea.

In October 2023, ~~the~~ Hamas, ~~the~~ ~~terrorist organization~~ ~~under the~~ ~~is~~ had attacked Israel. This led to a war between Hamas and state of Israel. Hamas was supported by multiple countries, covertly or overtly, including the Iran backed Houthis which otherwise operate in Yemen. As war escalated, US supported Israel and accordingly, the tensions increased in entire area with more US deployments from its Asia Pacific fleet joining the CMC - Combined Maritime forces operating in middle east (headquartered in Bahrain).

- It is well known that Bab Al Mandeb (which

lies between Yemen and Somalia) is an international chokepoint.

- With govt support, Houthis have acquired arms and knowledge on the ultimate Beneficial Owners of Ships operating in the region.

- As an example, An Israeli Businessman could own a company (or majority stake) in a company in UK. This company would own a ship, and have it registered in UK or in a flag of convenience. However, in case of any damage to the ship, the loss would be of the company and through the company, loss would be suffered by the Israeli Businessman.

- Thus to hurt the Israelis, and supporters of Israel, Houthis attacked ~~ships~~ opportune ships.

- As Houthis attacked ships, the Pirates who till now had been restrained, got opportunities to become active in the region trying to benefit from the confusion.

- They were partially successful because the Naval forces were concentrating on the Houthis.

- This increased risk of attack as well as piracy in the region, leading to higher insurance, and when things were active, suspension of services by ships.

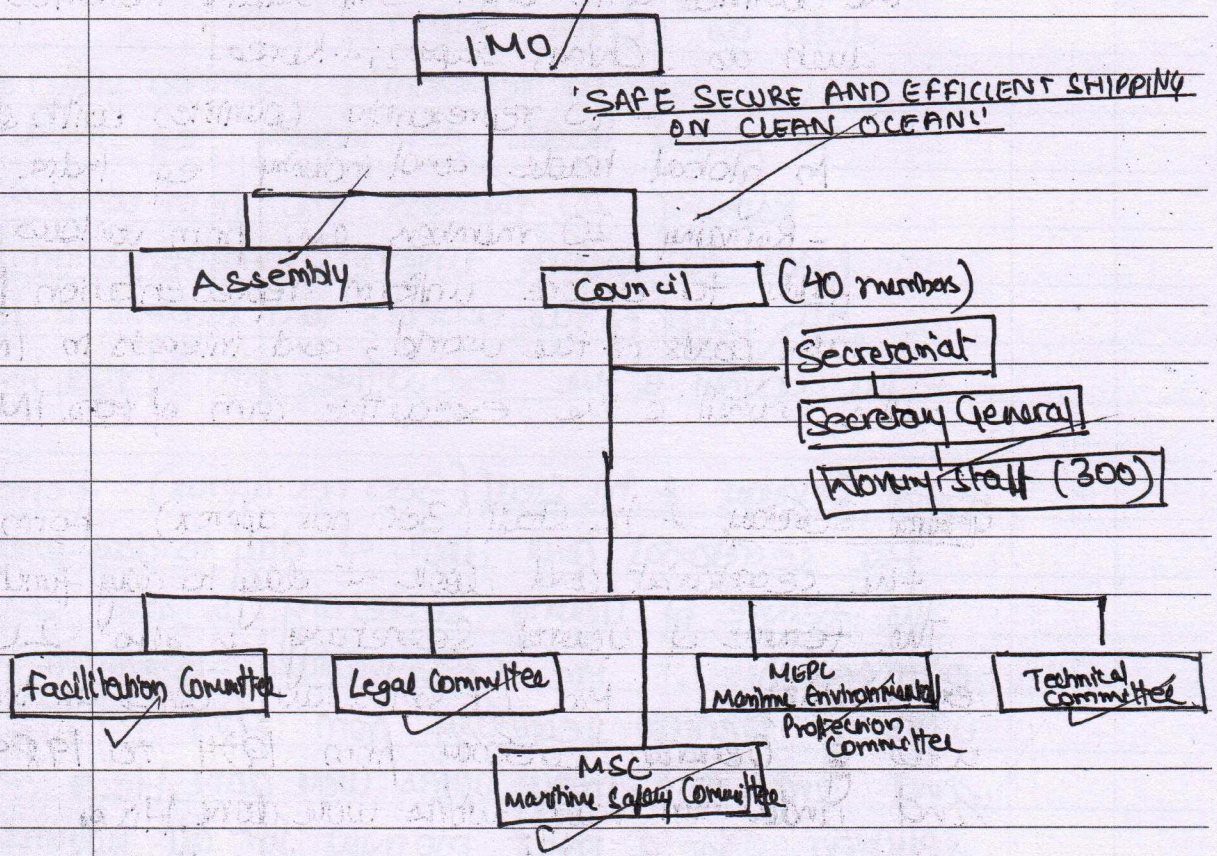
- ~~As~~ India has also contributed in limiting the risk in the area by deploying 12 ships in Arabian sea and adjoining areas.

- An Indian ship, INS Sumitra was recently in news for foiling attacks and capturing pirates who had boarded a Sri Lankan ship.

Ans 2. IMO and its functions

- IMO - International Maritime Organisation, is a UN agency responsible for setting standards for the maritime industry. - Its headquarters is in Geneva.
- Post World War, an Inter Governmental Maritime consultative group was formed in 1949. It started operations in 1959 and was rechristened as IMO in 1982.

IMO ORGANOGRAM POST RECHUFFLING OF 2013.



- Assembly - Assembly is the highest Governing and decision making body
- It comprises representatives from all member states, observers, and international Organisations - such as IACS etc.
- Assembly meets once in two years.



- During the meeting, Council, Secretary general are elected

- Budgets, works, passing of codes or decisions on various strategic issues with large scale implications are taken during such meetings.

### Council

- The council is elected for a 2 year term by the assembly

- It consists of 40 members; 10 representing the countries with largest ship building industries such as China, Japan, S. Korea

- 10 representing countries with stakes in global trade and industry eg India

- Remaining 20 members are from various fields to ensure uniform representation from all parts of the world, and interests in industry

- The council is the executive arm of the IMO

General Secretary & his staff (300 nos approx) form the secretariat and do all day to day functioning.

The tenure of General Secretary is also 2 years (extendable). Mr. C.P. Srivastava, ~~was~~ an Indian, was General Secretary from 1979 to 1989 and under him many works were done. His selection is a proud moment for all Indians associated with the industry.

- The motto of IMO is "Safe Secure and Efficient Shipping on Clean Oceans".

- Towards achieving this, IMO promulgates Codes - which are not mandatory and

IMO 21

BIMCO - 1406

1985 - CONTOF

Amended the

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Conventions — which ~~are~~ become mandatory for implementation after being ratified.

- Due to number of stakeholders, progress of work was very slow. IMO adopted 'TACIT ACCEPTANCE' procedure in which, until adequate no of states have concurred or refused acceptance, a convention/code is considered adopted after a period of time, generally 6 months.

To undertake work, IMO has 5 ~~committees~~ <sup>Committees</sup> as depicted in the organogram. All the committees meet once a year with exception of the Maritime Safety Committee which meets twice a year.

These 5 committees are supported by multiple sub committees, ~~some of which are as follows~~ and some of functions of sub committees are as follows:-

(i) Safety of Navigation	Although by name it can be understood that sub-committees
(ii) Safety of Communications	
(iii) Search and Rescue	deals with safety would work under MSC, with
(iv) Containers and Cargo handling	
(v) Prevention of Air Pollution	environmental protection under MEPC etc,
(vi) Prevention of Water Pollution	
(vii) Safety of Design	However, for specific works these may report to other
(viii) Suppression of Unlawful acts	
(ix) Implementation of IMO Instruments	Committees also.
(x) Ship Design and Construction etc	

Ans 4

## SHIP MANAGEMENT

- Owners of ships are most concerned about profits and ensuring that their ships meet all compliance requirements to operate freely. They are thus looking to reduce various costs and overheads, such as manning, bunkering, reduction in office staff, insurance premiums etc, for which they
- ~~There is~~ also may not be very well prepared.
- There is also a new breed of ownership slowly increasing in the industry of bankers and financial institutions with no prior experience of shipping.
- Thus, such requirements are well suited to be offloaded to firms that could specialise in these tasks.

Shipping management - is the professional supply of management services and professionals duly supported by shore based supervision by a company different from the ownership.

This is a very vast all encompassing description, that includes most functions, if not all, of running ships from owner perspective. It is thus considered an umbrella term, ~~for~~ ~~3~~ and ~~is~~ covers three different types of managements

- (1) Manning management - which deals with employment of appropriate manpower onboard in accordance with owners and compliance requirements; and ~~man~~ monitoring their performance and management.

(ii) Technical Management - It deals with all technical requirements (explained ~~below~~ below)

(iii) Commercial Management - Which deals with commercial aspects such as chartering, crew, charter parties, freight collection, commodity for cargo, ~~and~~ negotiability etc. ~~Thus~~ Many shipowners prefer to keep commercial management with themselves.

Ship management is thus a way to reduce cost while deriving maximum value from the ship. Owners can employ management companies based on individual business needs; ~~costs~~ and also use their services only for those parts where they need management. For example, a company may hire a management company only for manning management, and sometimes maybe only for bunkers management.

The selection of ~~man~~ Ship Management company is very important to ensure long term value creation. Selection would thus be based on

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- ← Companies reputation
  - Services company provides and in what parts of the world. Ideally the company should have world wide presence. However, as that is not possible having a good network of reliable associates is essential
  - Owner should visit the company to see first hand its functioning
  - Affiliations and certifications to verify compliances
  - Ability to handle/~~to~~ manage the ship owned by the owner
  - A good set of Professionals, both at sea and shore
- Basically, owner should verify and satisfy himself with ~~some~~

companies ability to safely, reliably, sustainably and efficiently run the ship or functions.

- The companies get remunerated for the services they provide.

Technical Management includes various functions such as:-

- Ship repair
- Preventive maintenance and ~~and~~
- Budgeting for spares and having reliable network to ensure leverage in negotiations to bring down cost
- Monitoring ship performance and taking steps to improve them
- Schedules for inspections
- surveys and ~~and~~ vetting preparations
- Ensuring all compliances
- Safety of man and equipment
- Maintaining budgets
- Preparing and scheduling dry-docking
- Bunkers management
- Studying and recommending upgrades
- Recommending changes to procedures
- Studying new compliance requirements and meeting them
- Provisioning of stores
- Provisioning of vitals
- Setting a culture of safety etc.
- Sewage /sullage management etc.

As a Technical manager, it is an important task to monitor all parameters and ensure safe, reliable and cost effective functioning of all elements of the ship.  This would include predictions of maintenance, spare inventory management, purchase

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of spares with best possible deals and in time to ensure no disruptions in operations. In case of contingencies, have procedures and framework to make ship operational with minimal cost and in minimum time.

An important aspect is Compliances and validity of certificates. Any slippages in these are very costly for the shipowner and must be always kept in mind.

A ship earns when it sails. The aim of all management has to bring maximum returns to the owner safely, securely, reliably and sustainably.

Ans 4 Importance of Shipping in Overall development of a country.

Shipping as an industry is of prime importance to trade, as most of mercantile trade is undertaken by sea. Shipping is also a global industry and has many secondary and tertiary benefits, because of which promotion of shipping is not considered only from a commercial aspect but its impact on a social scale also.

Some of the important factors, where Shipping impacts development of a country are as follows:-

### - Ports as Gateway to the world.

- Ports - Ports serve hinterland. They provide connectivity and connect hinterland to the world.

This has direct impact on industry as well as merchants in the hinterland

- As an employment avenue, Ports during construction, for connectivity establishment through building of roads and railways and during operations provide employment to an entire spectrum of population.

The uneducated can ~~become~~ pick up manual jobs, the semi-skilled with minor modifications as well as skilled can get white collar jobs.

- Deeper Ports bring bigger vessels and improve infrastructure.

### - Technical Expertise in Industry

- Ships are using cutting edge technology. From engines, to auxillaries, from metal specifications and metallurgy to supply chain systems, Ships use technology. ~~to ships~~ This technology is slowly absorbed at ports etc and by merchants to provide services to ships.

There are tertiary effects also - such as use of high tensile steel in ships hull would encourage production by local / domestic companies.

~~to as give~~ Once such capability is established, they can be easily used for other purposes leading to overall development.

Take for example Containers - a very simple regularly used utilisation method in the shipping industry. The acceptance of containers

propels development - such as cranes, brings standardisation of transportation in the industry, etc; benefits of which are reaped not only by the industry but by the entire society. Foods that were earlier not accessible can be transported ~~to~~ through reefers etc.

- ~~the~~ Development of Industry encourages more and more economic growth with obvious societal impact. As society grows, their requirements and needs based on Maslow's hierarchy of needs also grows ~~and~~ catalysing Environmental conservation. An underdeveloped society has neither the time or money, nor the will to protect environment. ~~with~~

- ~~the~~ ~~societies~~ There are various examples in history where Shipping has led to overall development. For example - Mumbai, Kolkata and Chennai - in India itself have been major metropolitan cities - a development caused by bringing in of shipping industry and by virtue of them becoming major ports. ~~The first~~ ~~trains~~ ~~was~~ ~~run~~ ~~from~~ Trains were first run by British to, sadly, transfer goods and wealth through these ports.

- ~~It~~ ~~can~~ ~~thus~~ ~~be~~ ~~inferred~~, and as seen from history, the trade, technology, conveniences and opportunities provided by shipping leads to overall development of a country. Britain was able to rule the world, because of its merchant marine, aptly supported by its maritime forces.

India has had a rich history, with 'Lothal' being the oldest dry dock (functioning as far back as 2400 BC) and showcasing the



Knowledge, expertise and skill of the community. India as a country needs to acknowledge and feel proud of the rich maritime history, because of which Cholas from Vijaynagar reached Malay peninsula, and Gujarati traders could trade with Africa making India as a much sought after, prosperous country called 'golden sparrow' in earlier times.

However, it is important that in current scenario of Globalisation, Shipping needs focus and governmental support. This is especially true for Shipbuilding and Ship Repair Industry. The ~~india~~ shipbuilding industry ~~China~~ is foundation of shipping, but governmental neglect has degraded it over a period of time.

- Japan revived its industry post World War-II to support its growth
- China ~~revived its ship~~ build its shipbuilding industry by partnering with major Japanese firms in 1990's and is now ~~an~~ the biggest ship maker. Cheap labour of Asia has helped it become shipbuilder to the world with massive benefits. Even the government earns a lot due to such large scale industry further catalysing developments.

~~Thus, it can be said that development of shipping~~  
~~Shipping~~

Thus, it can be said that shipping plays a very important role in development of a country. It not only earns direct revenue from operations, but also supports industries - directly or indirectly, improves standards of living, improves trade and opens new markets for own industry, connects its hinterland to the world and provides opportunities of growth etc; all leading to overall development of the country.

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Ans 2 facilities / services required to be provided by Govt to Private Port Operators.

(a) Approvals and Clearances. A thorough study is required to ascertain areas which would be ~~best~~ suitable to build ports, considering various requirements. These would include hinterland, proximity to sea routes, requirements of capital dredging, proximity to industry etc. This is time-consuming and expensive. A private operator who undertakes such an exercise, or in some cases, ~~identifies~~ agrees to build ports in locations identified themselves by the government gets stuck due to want of clearances and approvals. These include clearances on land use, environmental clearances etc. The problem becomes more complex as some clearances come from central govt, and some from state. The government must devise a way to give clearances. It may be a TACIT way when clearance is assumed if not received in a fixed time duration.

(b) Availability of finance Ports are large complexes, that need heavy investments. ~~once~~ They have huge building costs, costs of capital dredging, cost of equipment such as cranes etc. Most private players cannot afford these amounts. Moreover, if a loan is taken, there is a very long lead time before the port can break even and give

returns. The government sees an ~~entire~~ enterprise and social value to a port but to the operator, it is commercial returns that are important. Loans of such type are either not available or expensive. The Govt should find a way to provide capital.

(c) Basic necessities such as water, electricity etc

These are necessary to run the ports and essential for any commercial interest.  
and PHO

(d) Customs and Immigration for any port to function. Customs and immigration facilities are essential. Even when a port is established, ~~the~~ these departments take time to set up and appoint personnel. ~~Govt should~~ This is time wasted as no transaction can happen without these. Govt should find a way to ensure their appointment before a port is ready to commence operations so that they can be integrated into ops and Govt recommend changes later.

(e) Security Security is essential to any business. The Govt should ensure a generally reliable secure environment absent of curfews etc. The private operator can hire guards separately.

(f) Connectivity A port serves the hinterland. It is essential that the port is well connected

to the hinterland by road and rail. There are  
govt responsibilities and need to be addressed.  
The Gati Shakti project is a step in the  
right direction. ~~is~~