

EXAMINER'S REPORT FOR PUBLICATION

QUESTION 1

The combination of the different transport modes results in different transport systems. Identify and explain each transport system, giving examples.

Reference for the Answer: LMT Book pp.20-22.

The basic intermodal systems to be identified and described in the answer are:

- Sea + Road / Rail / Inland Waterways | Fishyback (container). In this example, reference can be made to the landbridge, microbridge, and mini-landbridge.
- Sea + Air + Road
- Inland Waterways + Road / Rail (container).
- Sea + Rail (wagons + small block trains).
- Sea + Road | Fishyback (lorries, trailers, semi-trailers + other ro-ro units + cars + heavy machinery and equipment such as bulldozers, excavators, cranes, and other oversized vehicles).
- Road + Rail (containers or other cargo that can be lifted from one mode on to the other).
- Road + Air | Birdyback.
- Roadrailer.
- Piggyback | Ferroutage | Trailer on Flat Car.

QUESTION 2

Answer BOTH parts of the question.

a) Describe the factors shipping companies consider when choosing a port.

b) Analyse the factors shipping companies consider when choosing a terminal within a port.

Reference for the Answer: LMT Book pp.47-49.

a) Identify and detail the factors shipping companies consider when choosing a port.

Factors influencing port choice are:

- Geographical location of the port in relation to shipping route resulting in minimum deviation.
- The location of the port relatively to the foreland, i.e. need to minimise steaming distance for the vessels.
- The location of the port relatively to the competitive hinterland.
- Port connectivity of feeder services for collection and cargo distribution.

- The availability of road + rail infrastructure allowing the seamless entry and exit of goods.
- The availability of terminals in the port for the cargo handled.
- The suitability of the port for their vessels (air draft + draft + including tidal limitations)
- Port costs (pilotage, mooring, towage, et cetera) + port procedures for vessel and cargo entry and exit.
- The role of the port as logistics centre and the support of dry ports, distriparks, freight villages for the execution of logistics activities related to the cargo and transport equipment. Role of the port as an industrial manufacturing hub. Presence of export processing zones, free trade zones.
- Labour problems | Labour unrest + Working hours.
- Number of days a port is closed. Number of days a port is closed due to bad weather.
- Level of port competition. Cargo volumes served by the port.
- The safety conditions of the port.
- Security conditions of the port.
- Geopolitical landscape of the port. Port not located in a war zone. Port does not belong to a sanctioned country.
- Ancillary services such as ship repair, surveys, bunkering facilities.
- Regulatory framework concerning the provisions of port services.

b) Identify and detail the factors shipping companies consider when choosing a terminal within a port.

Factors influencing terminal choice are:

- Location of the terminal within the port.
- Whether the terminal is constrained by tides or not for mooring purposes.
- Level of terminal congestion.
- The dimension of the quay length and the number of ships the terminal can accommodate simultaneously.
- The maximum ship sizes the terminal can handle (length).
- The existence or not of terminal draft restrictions for loaded vessels.
- Terminal handling charges.
- Service level including cargo handling rates, priorities given to the shipping line for berthing (berth scheduling policy) and/or cargo operations, terminal procedures.
- The number of gantry cranes allocated for cargo operations.
- The availability of quay and yards' cargo handling equipment.
- Availability of equipment in case of equipment breakdowns.

- Terminal yard capacity.
- The free time offered by terminals for the cargo to be there without incurring into demurrage.
- Terminal working hours.
- Terminal efficiency.
- Integration of shipping lines IT system with terminal IT system for vessel and cargo visibility purposes.
- Terminal security.
- Rail and road infrastructures (ACCEPTED BUT IT IS MORE A PORT PLANNING ISSUE FROM WHICH TERMINALS BENEFIT)

QUESTION 3

Identity and describe the different operators of multi-modal transport.

Reference for the Answer: LMT Book pp.86-94.

The following considerations are expected to be made:

- Definition of multimodal transport operator
- The following multimodal transport operator can be identified:
 - 1) Vessel Operating MTO (VO-MTO) or Direct Operator or Shipping lines. Define what a Vessel Operating MTO is. Identify core activities; type of services offered.
 - 2) Non-Vessel Operating MTO (NVO-MTO) or Indirect Operator. Define what a Non-Vessel Operating MTO. Identify the players that can be Non-Vessel Operating MTOs. These include: 3PLs, freight forwarders, port operators, warehouse operators, groupage operators and consolidators. For each of them identify core activities; type of services offered.
 - 3) Multimodal Transport Integrators. Define what Multimodal Transport Integrators are. Identify core activities; type of services offered.
 - 4) Airlines. Define what an airline is. Identify what are the core activities; type of services offered in what concerns freight.
 - 5) Hauliers. Define hauliers. Identify what are the core activities; type of services offered.
 - 6) Rail Operators. Define hauliers. Identify what are the core activities; type of services offered.
 - 7) Express parcel/courier services. Define what parcel/courier services are. Identify what are the core activities; type of services offered.

QUESTION 4

Shipping companies must consider several pricing factors when defining their transport pricing policy. Explain the physical and geographical pricing factors.

Reference for the Answer: LMT Book pp.125-127.

The following considerations on physical pricing factors are expected to be made:

- Nature of cargo for instance, if it is classified as dangerous under the IMDG Code, a reefer cargo, perishable cargo, out-of-gauge cargo or project cargo.
- Shipment weight, volume, density, stowability, ease of handling, liability.
- If it requires special equipment, for instance a reefer container or a high cube.
- Shipping mode FCL vs LCL or FTL vs LTL.
- Consolidation and cross docking activities.
- Any instructions leading to accessorial fees, for instance security.

The following considerations on geographical pricing factors are expected to be made:

- Balanced vs unbalanced (thin) trade.
- Distance freight travels; regional vs international.
- Besides distance, the points origin and destination areas of cargo, as well as ports of loading and discharging can also affect freight rates.
- Delivery speed, Fuel fluctuations.
- Interfaces operation costs including ports, dry ports, airports, and canal transits.
- Direct call vs hub & spoke (feeder costs).
- Geopolitical issues
- Number of transport modes involved
- Regulatory aspects at custom levels

QUESTION 5

Answer BOTH parts of the question.

Warehousing is one of the key components of supply chain management, whatever the distribution system used.

- a) Identify and detail the functions carried out in a warehouse environment.**
- b) Explain the importance of the warehouse layout in performing the previously identified functions.**

Reference for the Answer: LMT Book pp.142-144.

a) Identify and detail the functions carried out in a warehouse environment.

The following considerations on warehouse functions are expected to be made:

- Cargo reception.
- Sorting.
- Unpacking, packing, and repacking.
- Storage. Reference can be made to FIFO and LIFO inventory management methods.
- Retrieval or picking. Reference can be made to the types of picking for instance, single order picking, batch picking, multi-batch order picking, wave picking, zone picking, cluster picking.
- Accumulation or consolidation.
- Outward delivery.

b) Explain the importance of the warehouse layout in performing the previously identified functions.

- The following considerations on warehouse layout are expected to be made:
- Contributes to an optimised and efficient warehouse space utilisation. Results in more storage
- Allows better inventory management, inventory flow, stores more inventory without costly expansions.
- Allows improved productivity; increased speed of warehouse throughput
- Determines the equipment being used.
- Flexibility at stock level because of seasonality.
- Better segregation.
- Keeps employees safe, Complies with regulations.
- Improves order fulfilment rates, minimises travel times, provide easy access to stored goods.
- Reduces errors, stock losses.
- Faster order processing and increased productivity, ultimately helping you meet customer demands more efficiently.
- Better tracking and tracing of goods.

QUESTION 6

Answer BOTH parts of the question.

a) Describe the conventions in force directly impacting cargo movement by multimodal transport.

b) Explain the different liability regimes of the carriage of goods conventions.

Reference for the Answer: LMT Book pp.193-204.

a) Describe the conventions in force directly impacting cargo movement by multimodal transport.

Three types of Conventions can be identified.

- Conventions related to the carriage of cargo
- Conventions related to the related to cargo nature
- Conventions related to safety and security

Conventions related to the carriage of cargo

- Hague Rules 1924
- Hague-Visby Rules 1968 and Protocols
- Hamburg Rules (The United Nations Convention on the Carriage of Goods by Sea 1978)
- Rotterdam Rules
- Convention on the Contract for the International Carriage of Goods by Road (CMR)
- Uniform Rules concerning Contracts for International Carriage of Goods by Rail (CIM) (Appendix B of COTIF)
- Warsaw Convention of 1929 and Protocols.
- United Nations Conference on a Convention on International Multimodal Transport

Conventions related to the related to cargo nature

- International Maritime Dangerous Goods Code (IMDG Code)
- European agreement relating to the international transport of dangerous goods by road (ADR)
- Regulations concerning the International Carriage of Dangerous. Goods by Rail (RID).
- Carriage of perishable goods - the ATP Convention

Conventions related to safety and security

- International Convention for Safe Containers (CSC)
- The SOLAS Container weight verification requirement
- International Ship and Port Facility Security Code (ISPS Code)

b) Explain the different liability regimes of the carriage of goods conventions.

The liability regimes are as follow:

- i. *Hague Rules 1924*
 - £100 per package or unit.
 - time limit on legal action one year.
- ii. *Hague-Visby Rules 1968 and Protocols*
 - 666.67 SDRs per package or unit or 2 SDRs per kg, whichever amount is higher.
 - time limit on legal action 1 year but by mutual consent this may be extended.
- iii. *Hamburg Rules (The United Nations Convention on the Carriage of Goods by Sea 1978)*
 - 835 SDRs per package or 2.5 SDRs per kg.
 - In the case of delay in delivery of the goods, the compensation is limited to an amount equivalent to two and a half times the freight payable for the goods delayed, but not exceeding the total freight payable under the contract of carriage of goods by sea.
 - time limit on legal action 2 years.
- iv. *Convention on the Contract for the International Carriage of Goods by Road (CMR)*
 - 8.33 SRDs per Kg.
 - In the case of delay if the claimant proves that damage has resulted therefrom the carrier shall pay compensation for such damage not exceeding the carriage charges.
 - time limit on legal action 1 year extended to three years if wilful misconduct is alleged.
- v. *Uniform Rules concerning Contracts for International Carriage of Goods by Rail (CIM) (Appendix B of COTIF) based on 2016 update.*
 - 17.00 SRDs per Kg.
 - If loss or damage results from the transit period being exceeded, the carrier must pay compensation not exceeding four times the carriage charge.
 - In case of partial loss of the goods, the compensation provided shall not exceed four times (initially three times) the carriage charge in respect of that part of the consignment which has not been lost.
 - time limit on legal action 1 year extended to two years if wilful misconduct is alleged against the railway.
- vi. *Warsaw Convention of 1929 and protocols / Montreal Convention of 1999.*
 - Originally 17.00 SDRs; 19.00 SDRs (2009); 22.00 SRDs (2019) per Kg
 - In the case of destruction, loss, damage or delay of part of the cargo, or of any object contained therein, the weight to be taken into consideration in determining the amount to which the carrier's liability is limited shall be only the total weight of the package or packages concerned.
 - Time limit on legal action 2 years.

QUESTION 7

Security of ships, ports and terminals has been emphasised over the last years. Identify and describe the Code governing the security of ship and port/terminal facilities.

Reference for the Answer: LMT Book pp.234-235.

The following considerations on the ISPS Code are expected:

- Definition of the ISPS Code
- To whom the Code applies
- Responsibilities of Governments
- Responsibilities of ships and shipping companies
- Responsibilities of ports
- Reference to security levels

QUESTION 8

Analyse the key factors multi-modal operators must consider in service planning.

Reference for the Answer: LMT Book pp.247-249.

Operators are expected to consider with the following the key factors in service planning:

- i. Owning versus leasing equipment*
 - Owning or leasing ships, aircrafts, containers, trucks
 - Chartering ships, aircrafts
- ii. Equipment utilisation*
 - Service triangulation
 - Direct vs. Indirect Services (feeder services | relay services | interlining services)
 - Distribution patterns
- iii. Provision and operation of containers*
 - Container lifecycle
 - Container service life cycle
 - Size of container fleet
 - Owning vs leasing containers
- iv. Inland transport*
 - Rail operations | Block trains
 - Road operations
 - Inland waterways (quite often is considered part of inland transport)