



UNIVERSITI KUALA LUMPUR
Malaysian Institute of Marine Engineering Technology

FINAL EXAMINATION
JULY 2025 SEMESTER SESSION (7-WEEK)

SUBJECT CODE : LOD11503
SUBJECT TITLE : SHIPPING ECONOMICS
PROGRAMME NAME : DIPLOMA IN MARITIME MANAGEMENT
(FOR MPU: PROGRAMME LEVEL)
TIME / DURATION : 09.00 AM - 12.00 PM
(3 HOURS)
DATE : 17 SEPTEMBER 2025

INSTRUCTIONS TO CANDIDATES

1. Please read **CAREFULLY** the instructions given in the question paper.
2. This question paper has information printed on both sides of the paper.
3. This question paper consists of **TWO (2)** sections; Section A and Section B.
4. Answer **ALL** question in Section A, and **THREE (3)** questions **ONLY** in Section B.
5. Please write your answers on the OMR sheet for Section A and answer booklet provided for Section B.
6. Answer **ALL** questions in English language **ONLY**.

THERE ARE 11 PAGES OF QUESTIONS, EXCLUDING THIS COVER PAGE.

SECTION A (TOTAL: 25 MARKS)**INSTRUCTION: ANSWER ALL QUESTIONS.****Please use the OMR sheet provided.**

1. Define "shipping economics" according to Stopford (2009).
 - A. The study of social science focused on the production, distribution, and consumption of goods and services.
 - B. The study of economic principles applied to the maritime transport industry.
 - C. The study of global trade flows and the rate of tax imposed in a country.
 - D. The study of offshore and onshore productivity.

2. Enumerate the four different types of shipping.
 - A. Liner, Tramp, Tanker, and Bulk.
 - B. Liner, Tramp, Specialized, and Industrial.
 - C. Coastal, International, Inland, and Freight.
 - D. Container, General Cargo, Liquid, and Dry.

3. Identify one of the benefits of Industrial Shipping listed in the slides.
 - A. Reduced freight market volatility.
 - B. High reliance on external shipping services.
 - C. Fixed schedules and routes.
 - D. Operates on the spot market.

4. Name a type of cargo that Liner Shipping primarily carries.
 - A. Bulk commodities like crude oil and iron ore.
 - B. Liquefied Natural Gas (LNG).
 - C. Containerized cargo.
 - D. Chemicals and gases

5. State a key reason why understanding shipping economics is important.
 - A. It helps companies reduce their reliance on technology.
 - B. It allows companies to operate without considering freight rate dynamics.
 - C. It only applies to the liner shipping sector.
 - D. It is crucial for effective decision-making in fleet planning and risk management.

6. What is the impact on seaborne trade when GDP expands?
 - A. Lower trade and reduced shipping demand.
 - B. More exports/imports and more shipping.
 - C. Shipping demand remains predictable.
 - D. There is no impact on seaborne trade.

7. Which are the three key characteristics of derived demand?
 - A. It is direct, dependent on technology, and insensitive to economic cycles.
 - B. It is direct, dependent on trade and industry, and sensitive to economic cycles.
 - C. It is not direct, dependent on consumer preference, and insensitive to economic cycles.
 - D. It is not direct, dependent on trade and industry, and sensitive to economic cycles.

8. The demand for seaborne trade is most closely associated with which macroeconomic indicator?
 - A. World industrial production and GDP.
 - B. The price of freight.
 - C. The number of global shipping companies.
 - D. The Global inflation rates.

9. In order to clarify why shipping is a derived demand, which statement is the most illustrative?
 - A. Shipping companies compete on price and service.
 - B. A cargo ship is needed only because there is a need to transport goods.
 - C. The number of new ships built is driven by shipyard capacity.
 - D. Shipping is subject to international regulations.

10. A shipping market where a 15% price increase leads to only a 5% decrease in bookings can be classified as having what type of demand?
- A. Elastic.
 - B. Unit Elastic.
 - C. Inelastic.
 - D. Perfectly Elastic.
11. If a ship carries 20,000 tonnes of cargo 5,000 nautical miles, how do you convert this into the Tonne-Mile metric?
- A. $20,000 + 5,000$
 - B. $20,000 - 5,000$
 - C. $20,000 / 5,000$
 - D. $20,000 \times 5,000$
12. Which scenario best illustrates a situation of elastic demand for shipping?
- A. A major oil company continues to ship oil despite a 50% increase in rates.
 - B. A manufacturer of low-cost apparel decides to move production closer to its market after a significant rise in freight rates.
 - C. A luxury car company ships its cars by sea despite high freight costs.
 - D. A shipping company's bookings remain unchanged after a small price drop
13. If a 5% decrease in the price of a shipping service results in a 1% increase in quantity demanded, what would you estimate the Price Elasticity of Demand to be?
- A. -5.0
 - B. -0.2
 - C. -0.5
 - D. -1.0

14. A shipping company's bookings increase from 1,200 to 1,320 per month after they reduce their prices by 5%. What is the Price Elasticity of Demand (E_d)?
- A. -2.0
 - B. 2.0
 - C. -1.0
 - D. -0.5
15. A shipping company decreases its freight rate from \$1,000 to \$900 per container. As a result, the number of bookings increases from 2,500 to 2,800 per month. What is the Price Elasticity of Demand (E_d) for this service?
- A. -0.83
 - B. -1.0
 - C. -1.2
 - D. -2.0
16. Name the key productivity trend in shipping that involves the development of vessels carrying over 20,000 TEUs.
- A. Port and Terminal Automation.
 - B. Digitalization and Network Optimization.
 - C. Vessel Size and Economies of Scale.
 - D. Fuel Efficiency and Design.
17. Identify the type of elasticity that describes the shipping industry's response to sustained price trends and profitability expectations.
- A. Short-run elasticity of supply.
 - B. Inelastic supply.
 - C. Unitary elastic supply.
 - D. Long-run elasticity of supply.

18. What is the formula for ship-days.
- A. Ship-Days = Number of Vessels x Operational Days per Year
 - B. Ship-Days = Fleet Capacity x Distance
 - C. Ship-Days = Total Fleet Capacity x Utilization Rate
 - D. Ship-Days = Number of Vessels x Number of Voyages
19. Defend the statement that the supply of shipping is relatively inelastic in the short run.
- A. Because new ships can be built very quickly.
 - B. Because it is influenced by operational decisions like slow steaming.
 - C. Because ships cannot be built or scrapped quickly.
 - D. Because the charter market is highly flexible.
20. Which of the following factors would you discriminate as a short-run rather than a long-run supply factor?
- A. Scrapping and vessel retirement.
 - B. New shipbuilding orders.
 - C. Technological advancements.
 - D. Port congestion.
21. Construct a scenario where an increase in freight rates has a limited effect on short-run supply.
- A. A 10% rise in freight rates may only lead to a 2% increase in supply.
 - B. A 10% rise in freight rates leads to a 20% increase in supply.
 - C. A 10% rise in freight rates leads to a 10% increase in supply.
 - D. A 10% rise in freight rates leads to a decrease in supply.
22. If a fleet's total capacity is 3,600,000 DWT and only 60% is utilized, estimate the effective capacity.
- A. 2,160,000 DWT
 - B. 3,000,000 DWT
 - C. 1,600,000 DWT
 - D. 4,200,000 DWT

23. Convert a bulk fleet's capacity into tonne-miles. A tanker fleet has a total capacity of 600 million DWT and travels an average of 15,000 miles per year. What is the total supply in tonne-miles?
- A. 9,000 billion tonne-miles
 - B. 90,000 billion tonne-miles
 - C. 6,000 million tonne-miles
 - D. 15,000 billion tonne-miles
24. A shipping company has 20 vessels, each operating 320 days per year. Estimate the total ship-days' supply.
- A. 6,400 ship-days
 - B. 3,200 ship-days
 - C. 640 ship-days
 - D. 32,000 ship-days
25. Predict how the long-term trend of building Ultra Large Container Vessels (ULCVs) will affect effective supply.
- A. It will decrease effective supply due to longer port times.
 - B. It will increase effective supply by allowing a single ship to carry significantly more cargo.
 - C. It will have no impact on effective supply.
 - D. It will lead to a decrease in the overall size of the global fleet.

SECTION B (TOTAL: 75 MARKS)**INSTRUCTION: ANSWER THREE (3) QUESTIONS ONLY.****Please use the answer booklet provided.****QUESTION 1**

A competitive shipping market is a market structure where many shipping companies compete freely to offer maritime transport services. A perfectly competitive shipping market is one in which numerous shipowners provide a homogeneous service, and no single player can influence freight rates. Prices are determined purely by supply and demand.

(a) Answer the following questions:

i. Define Dry Cargo sector.

(2 Marks)

ii. List **THREE (3)** types of Dry Cargo.

(3 Marks)

(b) Explain **FIVE (5)** key features of a competitive shipping market.

(10 Marks)

(c) *Ocean Move Shipping is one of several companies operating in a highly competitive dry cargo shipping market. The company has observed that merely offering low freight rates is no longer sufficient to secure long-term customer contracts. As a result, the management team has been tasked with re-evaluating its competitive strategy to remain relevant and profitable in the current market environment.*

Interpret **FOUR (4)** strategies of non-price competition that Ocean Move Shipping could apply to gain a competitive edge in this highly competitive market.

Support your answer with relevant examples.

(10 Marks)

QUESTION 2

In a competitive shipping market, the interaction of supply and demand plays a central role in determining freight rates. Freight rates fluctuate based on the balance between the volume of global trade (demand) and the availability of shipping capacity (supply).

(a) List **FIVE (5)** Supply-Side factors that influencing the modelling of dry cargo market.

(5 Marks)

(b) Identify **FOUR (4)** types of Interrelated Markets of "The Stopford Model". Support your answer with example.

(10 Marks)

(c) Illustrate the dry cargo shipping market by drawing both the demand and supply curves based on the data below. Clearly mark the point of equilibrium on your graph.

Freight Rate (USD/ton)	Quantity Demanded (million tons)	Quantity Supplied (million tons)
10	80	20
20	70	30
30	60	40
40	50	50
50	40	60
60	30	70
70	20	80

(10 Marks)

QUESTION 3

The tanker market is not a single, monolithic entity but is highly segmented, primarily based on the type of cargo and the size of the vessels. The market structure is often characterized as being close to a perfectly competitive market, particularly for crude oil tankers.

(a) List **FOUR (4)** types of chartering method. Support your answer with example.

(5 Marks)

(b) Differentiate the **TWO (2)** types of models used for the tanker market, which is econometric, and statistical/financial models. Support your answer with example.

(10 Marks)

(c) Illustrate the structure of the tanker market by describing its **THREE (3)** types of market segmentation.

(10 Marks)

QUESTION 4

The tanker and dry cargo markets, while transporting different types of goods, are both fundamentally driven by global economic forces. These forces lead them to share certain long-term characteristics. Both markets are influenced by global trade growth, fleet supply (including newbuilds and scrapping), and broader geopolitical and regulatory shifts.

(a) Answer the following questions:

i. Define the purpose of modelling.

(2 Marks)

ii. List **THREE (3)** freight rate indicator.

(3 Marks)

(b) Explain briefly Econometric Model for modelling the tanker market.

(10 Marks)

(c) Examine the use of the supply and demand equilibrium model in predicting tanker freight rates.

(10 Marks)

END OF FINAL EXAMINATION QUESTION

