



UNIVERSITI KUALA LUMPUR
Malaysian Institute of Marine Engineering Technology

FINAL EXAMINATION
OCTOBER 2025 SEMESTER SESSION

SUBJECT CODE	: LND10402
SUBJECT TITLE	: SHIP TECHNOLOGY
PROGRAMME NAME (FOR MPU: PROGRAMME LEVEL)	: DIPLOMA OF ENGINEERING TECHNOLOGY (NAVAL ARCHITECTURE AND SHIPBUILDING)
TIME / DURATION	: 2.00 PM - 4.00 PM (2 HOURS)
DATE	: 28 JANUARY 2026

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 **TWO (2)** questions **ONLY** in Section B.
5. Please write you answers on the OMR answer script for Section A, and on the answer booklet provided in Section B.
6. Answer **ALL** questions in English language **ONLY**.
7. Answer should be written in blue or black ink except for sketching, graphics and illustration.

THERE ARE 3 PAGES OF QUESTIONS, EXCLUDING THIS COVER PAGE.

SECTION A (Total: 60 marks)**INSTRUCTION: Answer ALL questions.****Please use the answer booklet provided.****Question 1**

- a) If a strong wind is blowing, it will be difficult to maneuver such a ship in a harbour. Therefore, strong wind will delay the berthing and sailing of these ships.

- i. Define the term "wind". (2 marks)
- ii. State **FOUR (4)** impacts of wind on maritime activities. (8 marks)

- b) Large waves can damage vessel hulls, cause cargo to topple into the ocean and put the lives of crew members in a harm's way.

- i. Define the term "wave". (2 marks)
- ii. State **FOUR (4)** impacts of wave on maritime activities. (8 marks)

Question 2

- a) The principal dimensions are the length between perpendiculars, the moulded breadth known also as beam, the draught and the depth. The classic way of defining the hull surface is by plane sections. The transverse sections are called stations, horizontal are waterlines and the longitudinal are buttocks. Sketch a ship showing the correct label of the followings:

- i. LoA (Length overall). (2 marks)
- ii. LBP (Length between perpendiculars) (2 marks)
- iii. Stern (2 marks)
- iv. Bow (2 marks)
- v. Starboard (2 marks)

- b) A ship's framing system is made up of longitudinal and transverse framing members that stiffen the ship's interior and prevent the shell plating from collapsing. The main types of ship framing systems are transverse and longitudinal with longitudinal framing being more efficient for larger ships. A longitudinal framing system primarily consists of longitudinal members that run parallel to the length of the structure. A transverse framing system consists of transverse members that run perpendicular to the length of the structure. Sketch and label the **FIVE (5)** structural members of a longitudinal framing system. (10 marks)

Question 3

- a) Ship support systems are the various subsystems and equipment on a ship that ensure its safe and efficient operation. State and describe **FOUR (4)** of these systems. (10 marks)
- b) This cargo is very dangerous and highly flammable. This cargo is very unstable when carrying in bulk-quantity thus it is easily-vapourised in temperature and pressure fluctuation. The cargo to be carried must be in a liquid form. To ensure the cargo to be in liquid form during transportation, the storage or cargo holds must be equipped with extremely low temperature and high-pressure conditions.
- i. By referring to the special cargo condition stated in above statement, state correctly the appropriate type of merchant cargo vessel transporting this special cargo. (5 marks)
 - ii. Sketch this type of cargo vessel and label correctly the cargo holds. (5 marks)

SECTION B (Total: 40 marks)

INSTRUCTION: Answer only TWO (2) questions.

Question 4

- a) Describe the **FIVE (5)** basic facilities of a shipyard. (10 marks)

- b) Describe the **FIVE (5)** types of launching method in modular construction method in shipbuilding. (10 marks)

Question 5

- a) State the **FIVE (5)** impact of sea currents on maritime activities. (10 marks)

- b) State the **FIVE (5)** impacts of iceberg on maritime activities. (10 marks)

Question 6

- a) Define the meaning of shipyard. (2 marks)

- b) Discuss the basic requirements to be considered for building a modern shipyard from scratch or modifying an existing shipyards. (8 marks)

- c) With the aid of typical shipyard layout, propose a new modern shipyard from scratch or modifying existing shipyards. The facilities arrangement shown in shipyard layout must be based on the production flow. (10 marks)

END OF EXAMINATION PAPER

