



UNIVERSITI KUALA LUMPUR
MALAYSIAN INSTITUTE OF MARINE ENGINEERING TECHNOLOGY

FINAL EXAMINATION
MARCH 2025 SEMESTER

COURSE CODE : LDD21303
COURSE TITLE : MARINE ENGINEERING SYSTEM
PROGRAMME NAME : DIPLOMA OF ENGINEERING TECHNOLOGY IN SHIP
CONSTRUCTION AND MAINTENANCE
DATE : 23 JUNE 2025
TIME : 9:00AM - 12:00PM
DURATION : 3 HOURS

INSTRUCTIONS TO CANDIDATES

1. Please read the instructions given in the question paper **CAREFULLY**.
2. This question paper is printed on both sides of the paper.
3. This question paper consist of **TWO** sections.
4. Section A consist total of 60 marks. Answer **ALL** questions.
5. Section B consist of three questions. Answer **TWO (2)** questions only.
6. Please write your answer on the answer booklet provided.
7. Please answer all questions in English only.
8. Refer to the attached Formula/ Appendices. *Tick if applicable*

THERE ARE 3 PAGES OF QUESTIONS INCLUDING THIS PAGE

SECTION A (Total: 60 marks)

Answer ALL questions.

Please use the answer booklet provided.

Question 1

Define a refrigerant and describe ten (10) of the desirable properties of a refrigerant.

(20 marks)

Question 2

Determine the effects and solutions if the refrigerant is undercharged or overcharged in a refrigeration system.

(20 marks)

Question 3

Determine and explain the eight main components that comprise a compression refrigeration system.

(20 marks)

SECTION B (Total: 40 marks)

Answer TWO (2) questions only.

Please use the answer booklet provided.

Question 1

Determine the five principles of refrigeration and illustrate a basic refrigeration cycle's air conditioning.

(20 marks)

Question 2

Determine four uses for refrigeration, and then state four advantages and four disadvantages of the vapor compression refrigeration system over the air refrigeration system.

(20 marks)

Question 3

Explain briefly the refrigeration working cycle from cycles 1-2 until cycle 4-1, and then illustrate with labels the refrigeration working cycle.

(20 marks)

END OF EXAMINATION PAPER