CONFIDENTIAL

UNIVERSITI KUALA LUMPUR
Malaysian Institute of Marine Engineering Technology

FINAL EXAMINATION

JULY 2025 SEMESTER SESSION

SUBJECT CODE	:	**LMB31003 / LMB31803**
SUBJECT TITLE	:	**MARINE AUXILIARIES 2**
PROGRAMME NAME (FOR MPU: PROGRAMME LEVEL)	:	**BACHELOR OF MARINE ENGINEERING TECHNOLOGY WITH HONOURS**
TIME / DURATION	:	**09.00 AM - 12.00 PM (2 HOURS 30 MINUTES)**
DATE	:	**24 DECEMBER 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 **ONE (1)** section ONLY.
4. Consists of FIVE (5) questions. Answer **FOUR (4)** questions ONLY.
5. Please write your answers on this answer booklet provided.
6. Answer **ALL** questions in English language **ONLY**.

THERE ARE 2 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

INSTRUCTION: Answer FOUR (4) questions only.

Please use the answer booklet provided.

Question 1 (CLO2)

With reference to ship sewage system:

a) Explain THREE (3) main components of a sewage system.

(6 marks)

b) Discuss TWO (2) differences between Sewage Retention System and Sewage Treatment Plant

(10 marks)

c) Sketch and label typical ship sewage treatment plant.

(9 marks)

Question 2 (CLO2)

With reference to shipboard refrigeration system:

a) Sketch and label pressure-enthalpy diagram

(5 marks)

b) Discuss your sketch in (a)

(12 marks)

c) State FOUR (4) common problem and its effect for refrigeration system

(8 marks)

Question 3 (CLO2)

With reference to shipboard air compressor:

a) State FOUR (4) function of compressed air.

(4 marks)

b) Explain FOUR (4) effect of high oil and water content in compressed air system

(8 marks)

c) Sketch and label FOUR (4) horizontal model of an air receiver

(5 marks)

d) Explain FOUR (4) things to be done during visual inspection of an air receiver

(8 marks)

Question 4 (CLO2)

With reference to fuel and lubricating oil analysis:

a) Explain FIVE (5) methods of testing the fuel and lubricating oil.

(10 marks)

b) Discuss TWO (2) common methods used to address the Water in Oil problem onboard ship

(5 marks)

c) Discuss TWO (2) common methods used to address the Solid in Oil problem onboard ship

(5 marks)

d) Discuss the consequences of having solid particles in main engine lubrication oil.

(5 marks)

Question 5 (CLO2)

With reference to shipboard Fresh Water Generator (FWG):

a) Explain the distillation method of an FWG.

(2 marks)

b) Sketch a process flow diagram of a FWG and label FIVE (5) of its components.

(18 marks)

c) Explain TWO (2) reason for the need of distilled water post treatment.

(5 marks)

END OF QUESTION