



UNIVERSITI KUALA LUMPUR
Malaysian Institute of Marine Engineering Technology

FINAL EXAMINATION
FEBRUARY 2025 SEMESTER SESSION

SUBJECT CODE : LMD13302

SUBJECT TITLE : INTRODUCTION TO MARINE ENGINEERING

PROGRAMME NAME : DIPLOMA OF ENGINEERING TECHNOLOGY IN
(FOR MPU: PROGRAMME LEVEL) MARINE ENGINEERING

TIME / DURATION : 2.00 PM - 4.30 PM
(2 HOURS 30 MINUTES)

DATE : 28 JUNE 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 **TWO (2)** questions **ONLY** in Section B.
5. Please write your answers on this answer booklet provided.
6. Answer **ALL** questions in English language **ONLY**.

THERE ARE 4 PAGES OF QUESTIONS, INCLUDING THIS PAGE.

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

With reference to ship engineering watch:

- (a) Define the watchkeeping system. (4 marks)
- (b) Explain FOUR (4) responsibilities of a watchkeeper during engineering watch. (12 marks)
- (c) An emergency situation on a ship must be handled with confidence and calmness. State the action to be taken when the engine room is flooding. (4 marks)

Question 2

With reference to ship machineries:

- (a) State FOUR (4) convention under International Maritime Organization (IMO) (4 marks)
- (b) Explain THREE (3) major areas onboard ship. (6 marks)
- (c) Describe the functions of machinery in the engine room listed below: (10 marks)
- i.) Generators
 - ii.) Freshwater Generator
 - iii.) Fuel Purification Systems
 - iv.) Air Compressors
 - v.) Boilers

Question 3

With reference to shipboard auxiliaries' machinery:

- (a) Define the function of pump onboard ship. (2 marks)
- (b) State FOUR (4) system that consists of a pump. (4 marks)
- (c) Sketch and label components of a single action reciprocating pump during:
i.) Suction stroke
ii.) Discharge stroke (14 marks)

SECTION B (Total: 40 marks)**INSTRUCTION: Answer ONLY TWO (2) questions.****Please use the answer booklet provided.****Question 4**

With reference to the shipboard air compressor:

- (a) State FOUR (4) systems that used compressed air (4 marks)
- (b) Sketch and label a single stage air compressor during:
i.) Suction stroke
ii.) Discharge stroke (10 marks)
- (c) Explain the working principle of air compressor in (b) (6 marks)

Question 5

With reference to fire fighting and safety system onboard ships:

- (a) Describe hazard. (2 marks)
- (b) Hazards in the engine room can simply break down into four categories. State examples of hazards in the FOUR (4) categories. (8 marks)
- (c) Explain FOUR (4) causes of engine room fire. (10 marks)

Question 6

With reference to ship propulsion and arrangements:

(a) Describe a ship propulsion system.

(4 marks)

(b) Define THREE (3) different speed of diesel engine.

(6 Marks)

(c) Identify the parts of propeller in Figure 6 (c) below.

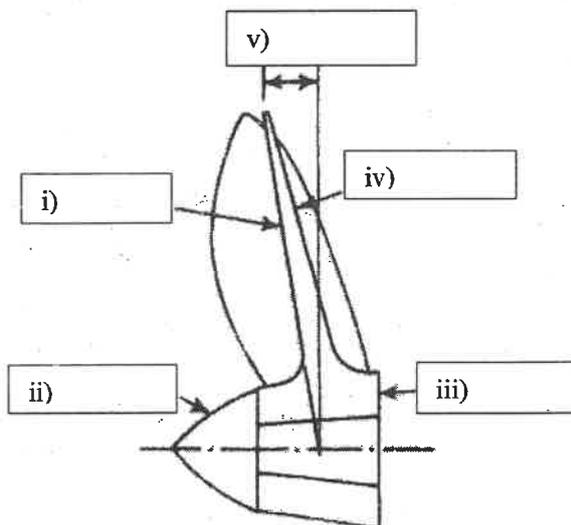


Figure 6 (c)

(5 Marks)

(d) Label the typical arrangement of a 4-stroke engine in figure 6 (d) below.

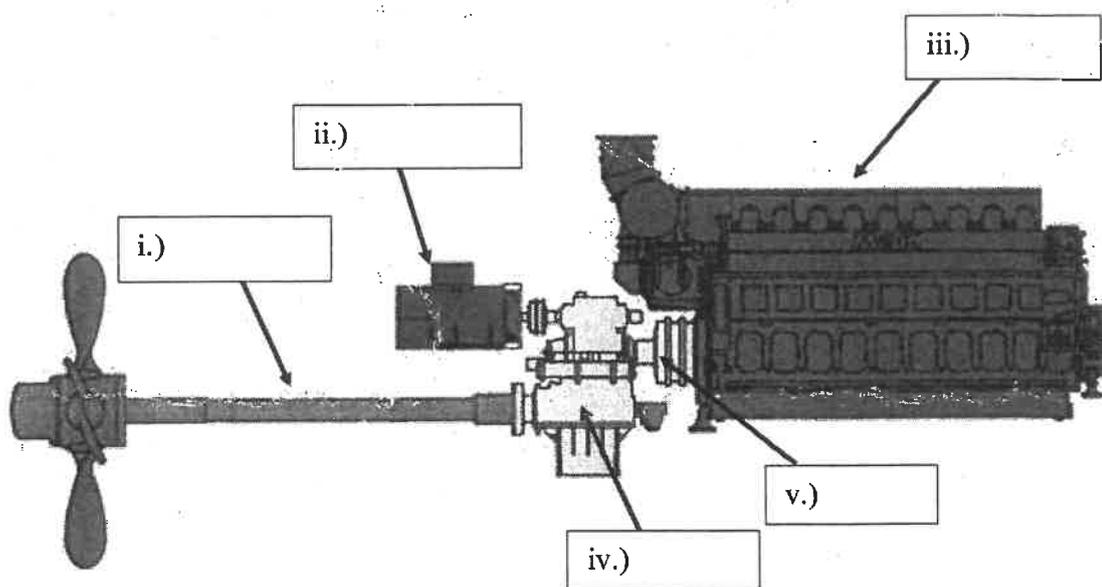


Figure 6 (d)

(5 marks)

END OF EXAMINATION PAPER

