UNIVERSITI KUALA LUMPUR
Malaysian Institute of Marine Engineering Technology

FINAL EXAMINATION

OCTOBER 2025 SEMESTER SESSION

SUBJECT CODE	:	**LOD20603** / LOD21903
SUBJECT TITLE	:	**CARGO HANDLING**
PROGRAMME NAME (FOR MPU: PROGRAMME LEVEL)	:	**DIPLOMA IN MARITIME MANAGEMENT**
TIME / DURATION	:	**09.00 AM - 11.00 AM (2 HOURS)**
DATE	:	**23 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)** section, 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 answer script and answer booklet provided.
6. Answer **ALL** questions in English language ONLY.

THERE ARE 7 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

SECTION A (Total: 25 marks)

INSTRUCTION: Answer ALL questions.
Please use the objective answer sheet provided.

1. What is the main difference between timber and logs in maritime cargo terms?

   A. Timber is freshly cut while logs are fully processed
   B. Timber is processed wood while logs are fresh from the jungle
   C. Logs are used for furniture while timber is not
   D. Timber can float but logs cannot

2. The purpose of using lashing for timber deck cargoes is _____.

   A. to prevent movement and damage to the cargo
   B. to increase the weight of the timber
   C. to improve cargo appearance
   D. to reduce loading time

3. Which of the following is a type of tanker vessel?

   A. Product Tanker C. Container Vessel
   B. Bulk Carrier D. Reefer Vessel

4. _____ are the three (3) common methods of tank cleaning on tanker ships.

   I. Bottom washing
   II. Water washing
   III. Crude oil washing
   IV. Steam distillation

   A. I, III, IV only C. II, III, IV only
   B. I, II, IV only D. I, II, III only

5. Product tanker is _____.

   A. a tanker designed to carry ship fresh water or food
   B. a tanker designed to carry petroleum products, kerosene, and diesel
   C. a tanker designed for bulk cargo like coal, grain and iron ore
   D. a tanker for transporting container

6. Which of the following are the advantages of using a livestock carrier?

I. Efficient transport
II. Customized vessel design
III. Reduced animal stress
IV. Faster vessel turnaround

A. I and III only
B. I, II, III only
C. II and IV only
D. I, II, IV only

7. Why does crude oil washing use the cargo itself to clean the tank?

A. To save water
B. To reduce tank weight
C. To avoid degradation of the crude oil
D. To increase loading speed

8. _____ can help prevent animal stress during loading, unloading, or transit.

A. Ensuring proper ventilation, gentle handling, and minimizing noise
B. Using loud alarms during movement
C. Loading all animals at once
D. Keeping animals in confined, dark spaces

9. Which method is commonly used for loading and unloading livestock?

A. Ramps
B. Cranes
C. Conveyor belts
D. Ship-to-ship transfer

10. MARPOL require tankers of 5,000 DWT and above, to have double hulls because of _____.

A. to reduce risk of oil spills in case of collision or grounding
B. to increase cargo capacity
C. to make the vessel faster and safer
D. to reduce fuel consumption

11. Why is adequate ventilation and temperature control required during the transit of livestock cargoes?

A. To ensure animal welfare and prevent heat stress
B. To reduce loading time
C. To increase the ship's speed
D. To stabilise the vessel

12. Before loading perishable goods into a refrigerated container, it is essential to _____ the container.

A. Pre-cooling
B. Self-heating
C. Keep warm
D. Pre-heat

13. This system is specifically designed to prevent fire and explosions by reducing the presence of oxygen in tanker cargo tanks during transportation.

A. Fire Monitoring System
B. Alarm System
C. Inert Gas System
D. Radar Sensor System

14. Which of the following types of vessels is most suitable for carrying timber deck cargoes?

A. Product Tanker
B. Ro-ro Ship
C. Bulk Carrier
D. LPG Carrier

15. Which safety measure is used to prevent overfilling of cargo tanks on a tanker?

A. Loadicator
B. Inert Gas System
C. Navigation radar
D. High Level Alarm

16. Why do oil and gas workers wear coveralls in striking colors?

A. To ensure high visibility and improve safety on board
B. For fashion purposes
C. To reduce heat absorption
D. To indicate rank among crew

17. During the loading, sailing, or unloading processes of tanker ships, a common potential hazard that may occur is _____.

A. slips and falls
B. cargo theft
C. ship grounding due to fog
D. cargo spillage

18. What distinguishes perishable goods from non-perishable goods?

A. Perishable goods can last indefinitely
B. Non-perishable goods must be refrigerated
C. Perishable goods are always frozen
D. Perishable goods spoil quickly while non-perishable goods have a longer shelf life

19. Choose the type of vessel that is commonly used to transport livestock cargoes.

A. Ro-Ro vessel
B. Bulk carrier
C. Livestock carrier
D. Container vessel

20. Which one is the main processes involves in tanker loading and unloading operations?

A. Pre-loading > Mooring > Loading > Unloading > Disconnection > Connection > Emergency shutdown
B. Pre-loading > Connection > Mooring > Monitoring > Emergency Shutdown > Disconnection
C. Pre-loading > Mooring > Connection > Monitoring > Emergency Shutdown > Disconnection
D. Pre-loading > Mooring > Connection > Disconnection > Emergency Shutdown > Monitoring

21. The equipment used to safely transfer liquid cargo to and from a tanker, reducing spillage and ensuring efficient loading and unloading, is called a _____.

A. shore crane
B. conveyor
C. loading arm
D. floating crane

22. Which of the following is a common type of refrigerated (reefer) cargo?

A. Electronic devices
B. Panda
C. Machinery parts
D. Frozen Meat

23. Identify the main components for refrigeration plant.

I. Condenser
II. Compressor
III. Evaporator
IV. Generator

A. I, III, IV only
B. I, II, III only
C. II and III only
D. All of above

24. The safe maximum distance allowed between lashings over timber deck cargoes is _____.

A. not exceeding 3 meters apart
B. not exceeding 2 meters apart
C. 5 meters
D. 2.5 meters

25. The Loadicator and High-Level Alarm are installed on tanker vessels primarily to _____.

A. loadicator monitors weather; High Level Alarm controls pump speed
B. loadicator measures tank temperature; High Level Alarm alerts for fire
C. loadicator navigates the ship; High Level Alarm measures cargo density
D. loadicator calculates cargo weight and stability; High Level Alarm prevents tank overfilling

SECTION B (Total: 75 marks)

INSTRUCTION: Answer THREE (3) questions only.
Please use the answer booklet provided.

Question 1

Hatch covers are essential components on cargo ships, designed to seal the cargo holds and protect goods from weather and seawater. Proper operation and maintenance are crucial to ensure watertight integrity and cargo safety.
Based on the above statement,

a) Discuss **THREE (3)** types of vessel hatch cover.

(15 marks)

b) Illustrate the structure of a hatch and highlighting the key components.

(10 marks)

Question 2

Stowage is important to ensure the safety of the vessel, cargo, and crew during loading, voyage, and unloading operations. To achieve safe stowage, proper guidelines must be followed to prevent damage and maintain stability. Key personnel responsible for monitoring and implementing safe stowage include the chief officer and the junior cargo officer.
Based on the above statement,

a) In a table, differentiate the duties and responsibilities of the Chief Officer and Junior Cargo Officer.

(25 marks)

Question 3

Cargo sweat, caused by condensation when warm, moist air contacts cooler cargo surfaces, can lead to significant cargo damage, especially for moisture-sensitive goods. The use of dunnage is important in stowage as it provides ventilation, absorbs moisture, and cushions the cargo, helping to prevent physical and moisture-related damage during transport.
Based on the above statement,

a) Describe in table, the phenomenon of cargo sweat in maritime shipping including causes, effects, and preventive measure.

(15 marks)

b) Identify **FIVE (5)** types of dunnage.

(10 marks)

Question 4

Bulk cargoes play a crucial role in the maritime industry. To ensure safe transportation, there are established guidelines such as the International Grain Code, which provides standards for stability and loading procedures. Additionally, specific methods are implemented to prevent cargo from shifting during the voyage, which could affect the vessel's stability and safety.
Based on the explanation above,

a) Explain the content in the International Grain Code (IGC Code).

(10 marks)

b) Illustrate **TWO (2)** methods used to avoid grain shift during voyage.

(10 marks)

c) List **FIVE (5)** types of hazards during loading or unloading grains.

(5 marks)

END OF EXAMINATION PAPER