



UNIVERSITI KUALA LUMPUR
MALAYSIAN INSTITUTE OF MARINE ENGINEERING TECHNOLOGY

FINAL EXAMINATION
JANUARY 2017 SEMESTER

COURSE CODE : LOB20102
COURSE NAME : CARGO HANDLING SYSTEM
PROGRAMME NAME : BACHELOR OF MARITIME OPERATIONS (HONS)
(FOR MPU: PROGRAMME LEVEL)
DATE : 03/07/2017 MON
TIME : 2.00 PM - 04.00 PM
DURATION : 2 HOURS

INSTRUCTIONS TO CANDIDATES

1. Please read **CAREFULLY** the instructions given in the question paper.
 2. This question paper has information printed on both sides.
 3. This question paper consists of **TWO (2)** sections; Section A and Section B. Answer **ALL** questions in Section A and **THREE (3)** questions from Section B.
 4. Please write yours answers on the answer booklet provided.
 5. Write your answers only in **BLACK** or **BLUE** ink.
 6. Answer all questions in English.
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THERE ARE 3 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

SECTION A (Total: 40 marks)

INSTRUCTION: Answer ALL questions.
Please use the answer booklet provided.

Question 1

By using a suitable example, **briefly explain** the terms below.

- (a) Port Security Plan (5 marks)
- (b) Ship Security Officer (5 marks)
- (c) Company Security Officer (5 marks)
- (d) Port Facility Security Officer (5 marks)

Question 2

- (a) Such cargoes as timber and refrigerated (reefer) and livestock could be discussed to fill a book in their own right. However, the outline of such products falls within the scope of this text which is meant to provide the Cargo Officer with the means to make an educated judgment as to the rights and wrongs of the stowage of these cargo types. In terms of refrigeration plant, **explain** the criteria of qualities for a good insulation material. (a) (10 marks)
- (b) Derricks, cranes and winches, together with their associated fittings should be regularly overhauled and inspected under a planned maintenance schedule, appropriate to the ship. **Briefly explain** the derricks, cranes and winches during cargo handling operations. (10 marks)

SECTION B (Total: 60 marks)

INSTRUCTION: Answer 3 (THREE) questions ONLY.

Please use the answer booklet provided.

Question 3

- (a) Governments are very concerned with the shipment of cargo, as it may bring security risks to a country. Therefore, many governments have enacted rules and regulations, administered by a customs agency, to the handling of cargo to minimize risks of terrorism and other crime. By using a suitable example, **describe TWO (2) types of tank cleaning methods** regards to International Maritime Organization (IMO).

(10 marks)

- (b) Modern Ro-Ro shipping has experienced some painful losses over the years, the most notable being the Herald of Free Enterprise (1987) the Estonia (1994) and more recently the Tricolour (2003) with 2800 cars, and the Hyundai No. 105 (2004) with more than 4000 vehicles on board. With regards to the related safety issues, **examine** the Improvement features for the Ro-Ro vessel.

(10 marks)

Question 4

- (a) Lift-on/lift-off or LoLo are cargo vessel that are equipped with cranes to load and unload cargo. In other words it's a self-sufficient cargo vessel which can load and unload cargo without the help of external crane devices. In terms of safety cargo handling system, **analyse** the features of Lift on/Lift off regards to cargo handling system.

(10 marks)

- (b) The International Maritime Solid Bulk Cargoes Code (**IMSBC Code**), and amendments to **SOLAS chapter VI** to make the Code mandatory, were adopted by the Maritime Safety Committee (**MSC**), 85th session, in 2008. In terms of **Bulk Carrier Safety**, **evaluate** the **Additional Safety Measures for Bulk Carriers**.

(10 marks)

Question 5

- (a) Roll-on/roll-off (RoRo) ships are vessels designed to carry wheeled cargo, such as cars, trucks, semi-trailer trucks, trailers, and railroad cars, that are driven on and off the ship on their own wheels or using a platform vehicle, such as a self-propelled modular transporter. This is in contrast to lift-on/lift-off (LoLo) vessels, which use a crane to load and unload cargo. In terms of cargo handling systems, **make comparison** between these types of vessels.

(10 mark)

- (b) The **IMDG Code** is the recognized code of practice for the carriage of hazardous cargoes and is covered by four volumes, plus a supplement. On the other hand, Packages of 'dangerous goods' must be transported in accordance with the provisions of the **IMDG Code**. With regards to **IMDG Code**, **explain** the terms "**marking of dangerous goods**".

(10 marks)

Question 6

- (a) A vessel has a load draught in SW of 6.4 m. **Analyse by using calculation** the maximum load draught in DW of RD 1.010 where W is Representative of the ship's displacement, TPC is Tonnes per centimeter, FWA is Fresh water allowance, FW is Fresh water and SW is Salt water. The ship's FWA is 75 mm.

(10 marks)

- (b) The **ISPS Code** is a set of measures to enhance the security of ships and port facilities. It was developed in response of the perceived threats to ships and port facilities after the 9/11 attacks. The **ISPS Code** is part of the Safety of Life at Sea Convention (SOLAS) and compliance is mandatory for the 148 Contracting Parties to SOLAS. Consequently, **compare** level 2 and level 3 in **ISPS Code**.

(10 marks)

END OF QUESTION