



**UNIVERSITI KUALA LUMPUR**  
**MALAYSIAN INSTITUTE OF MARINE ENGINEERING TECHNOLOGY**

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**FINAL EXAMINATION**  
**JANUARY 2017 SEMESTER**

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**COURSE CODE** : LOB40203  
**COURSE NAME** : SEAPORT & TERMINAL OPERATIONS  
**PROGRAMME NAME** : BACHELOR OF MARITIME OPERATIONS (HONS)  
(FOR MPU: PROGRAMME LEVEL)  
**DATE** : 05/07/2017 WED  
**TIME** : 2.00 PM - 05.00 PM  
**DURATION** : 3 HOURS

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**INSTRUCTIONS TO CANDIDATES**

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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 **FIVE (5)** questions. Answer **FOUR (4)** questions only.
  4. Please write your 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.**

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## SECTION A (Total: 100 marks)

**INSTRUCTION: Answer FOUR questions ONLY.**

**Please use the answer sheet provided.**

**Question 1**

Ports are a component of freight distribution as they offer a maritime or land interface for export and import activities. They are points of convergence of inland and coastal transportation systems, defining a port's hinterland.

- (a) Describe two primary service options of global freight flows  
(7 marks)
- (b) Explain two alternatives for intermodal water routing for transportation flows  
(8 marks)
- (c) Discuss the services and facilities at port that is an advantage to be port of call for the region  
(10 marks)

**Question 2**

Sustainability is key to preserving the environment where the approaches of green port are promoted by International Maritime Organization worldwide.

- (a) Briefly, determine the term of sustainability in port development  
(5 marks)
- (b) The master plan of a port allocates the land within the port to the various uses required, describes the projects needed to implement the plan, and gives an indicative implementation scheme by development phase. Explain the port planning at individual level and terminal level for port development.  
(20 marks)

**Question 3**

A seaport has been simply described as a geographic nodal point along a given shoreline where the node of transportation changes from land to sea or water, or vice versa and involves the provision and presence of geophysical opportunities and merits, socio economic potentialities and endowments, state of technological advancement and political considerations.

- (a) Discuss the elements that influence a port delays during the operations. (6 marks)
- (b) Briefly explain the critical factors of delays that will effects to the port reputation and to the shippers. (10 marks)
- (c) Discuss the main purpose of the International Ship and Port Facility Security Code on maritime industries (9 marks)

**Question 4**

Higher demand for service segmentation adds to the growing complexity of networks among shipping line and the port. The optimized the shipping networks are by rationalizing coverage of ports, shipping routes and transit time.

- (a) Evaluate phase of regionalization in development of port system. (10 marks)
- (b) Explain briefly how hub and spoke transport concept in hub feeder networks. (5 marks)
- (c) Discuss the advantage and disadvantages of hub and spoke concept. (10 marks)

**Question 5**

Privatization can be either comprehensive or partial. The latter takes the form of a public private partnership and is usually combined with the introduction of a landlord port authority. Comprehensive privatization remains an exception and is not a preferred option for major ports.

- (a) Discuss briefly the reasons that might prompt governments or a port authority to enter into the privatization process. (10 marks)
- (b) Distinguish briefly the strengths and weaknesses of a fully privatized port model. (10 marks)
- (c) There are four main models of port management. Discuss the functions of tool port. (5 marks)

**Question 6**

CNF Shipping Global Sdn Bhd is an international shipping company that manage about 50 of ships. One of the operations is at Mediterranean Sea areas. Two ships owned by this shipping company will enter Port of Rotterdam at the same time with different service needs. A chemical tanker, Duta Specific with IMO No 9041758 and call sign 9MVB3, not sailing in Schedule Service with a Gross Tonnage of 57463 GT and 105351 deadweight (DWT) need to transshipped Other Liquid Bulk of 5,900 ton and transshipped Mineral Oil Products of 15, 500 ton. Eco Dynamic, general cargo ship with IMO No 9277486 and call sign 9MQS5, sailing in Shortsea/Feeder Service with a Gross Tonnage of 20211 GT and 32354 deadweight (DWT) need to transshipped general cargo of 5,201 tons and other dry bulk of 2100 tons. Calculate the payable port dues for these ships.

(25 marks)

**END OF EXAMINATION PAPER**

## Appendix 1

### SCHEDULE 1: PORT DUES GROSS TONNAGE

Ltr	Type of ship	Switch percentage	GT tariff
A	Oil-/product tankers	133.639	0.299
B	LNG tankers	133.7	0.309
C	Chemical/gas tankers	133.7	0.299
D	Bulk carriers	133.7	0.299
E	Container ships in Deepsea Services	n.a	0.240
F	Container ships in Shortsea/Feeder Service	50.3	0.174
G	Container ships not in Schedule Service	133.7	0.299
H	General Cargo ships in Deepsea Service	61.9	0.290
I	General Cargo ships in Shortsea/Feeder Service	50.3	0.176
J	General Cargo ships not in Schedule Service	133.7	0.302
	General Cargo ships not in Schedule Service > 20,000 GT	n.a	0.302
K	Car Carriers, Ropax- and Roll-on/Roll-off ships in Schedule Service	67.6	0.090
L	Car Carriers, Ropax- and Roll-on/Roll-off ships not in Schedule Service	67.6	0.135
M	Cruise ships	n.a	0.111
N	Offshore ships	133.7	0.299
O	Other Vessels/Seagoing Vessels	133.7	0.299

### SCHEDULE 2: PORT DUES CARGO VOLUME

No.	Type of cargo	Cargo tariff
01	Agribulk	0.487
02	Iron Ore and scrap	0.487
03	Coal	0.487
04	Other dry bulk	0.487
05	Crude oil	0.698
06	Mineral oil products (including petcokes)	0.487
07	Other liquid bulk	0.487
08	Roll-on/Roll-off	0.448
09	Containers (including flats)	0.503
	-Shortsea/Feeder Service	0.448
	-Deepsea Service	0.477
11	Other general cargo	0.492
	-Shortsea/Feeder Service	0.463
	-Deepsea Service	0.465
12	LNG	0.503
13	Biomass	0.487

Source: Port of Rotterdam