



UNIVERSITI KUALA LUMPUR
Malaysian Institute of Marine Engineering Technology

FINAL EXAMINATION
SEPTEMBER 2016 SESSION

COURSE CODE : LOB 40103
COURSE NAME : INTERGRATED MARINE POLLUTION CONTROL
PROGRAMME NAME : BACHELOR OF MARITIME OPERATIONS
DATE : 24 JANUARY 2017
TIME : 9.00 AM – 12.00 PM
DURATION : 3 HOURS

INSTRUCTIONS TO CANDIDATES

1. Please read the instructions given in the question paper CAREFULLY.
2. This question paper is printed on both sides of the paper.
3. Please write your answers on the answer booklet provided.
4. Answer should be written in blue or black ink except for sketching, graphic and illustration.
5. Answer **FOUR (4)** questions only
6. Answer all questions in English.

THERE ARE 3 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

INSTRUCTION: Answer FOUR (4) questions only.
 Please use the answer booklet provided.

Question 1

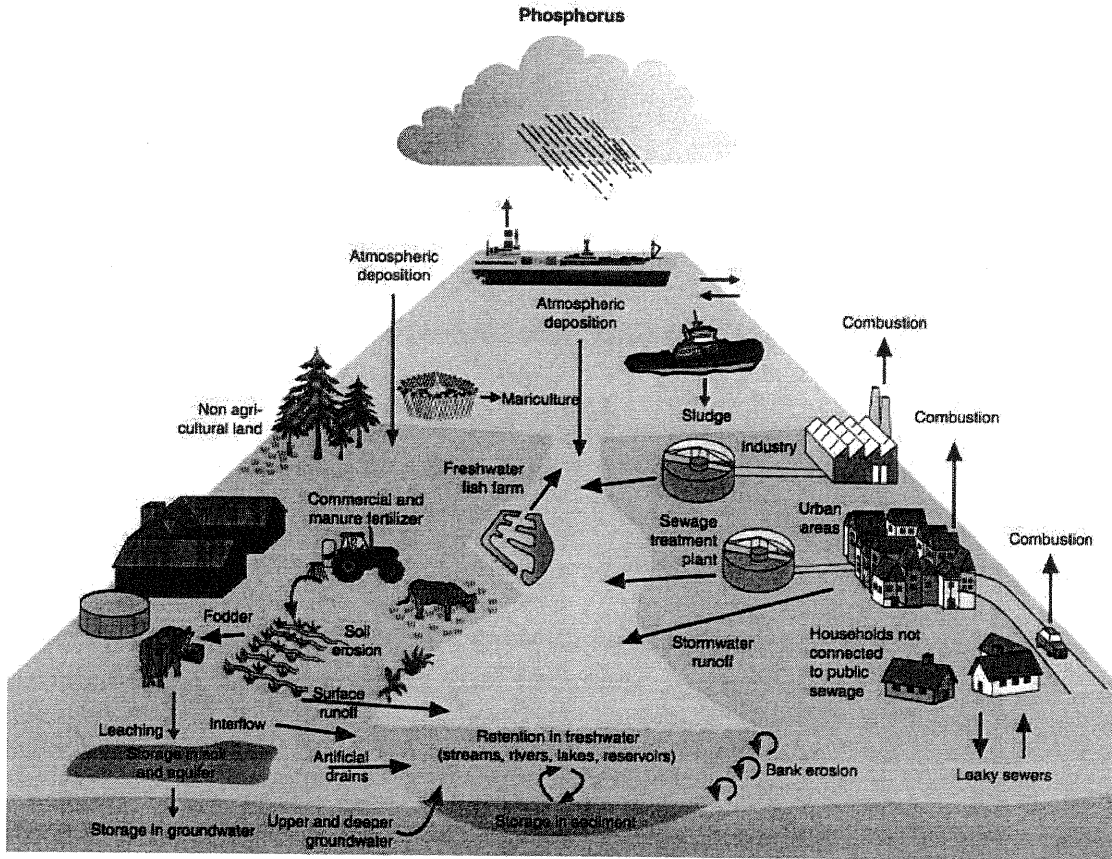


Figure 1: Sources of Marine Pollution

- (a) Base on Figure 1 above, **distinguish** in details the **activities which contributes as the main sources of marine pollutions**. (Use table to explain your answer). (10 marks)
- (b) Marine pollution occurs when harmful, or potentially harmful, effects result from the entry into the ocean of chemicals, particles, industrial, agricultural and residential waste, noise, or the spread of invasive organisms. **Explain** the following maritime terminologies:
- i. **Pollutant** (3 marks)
 - ii. **Biodegradation** (3 marks)
 - iii. **Global warming** (3 marks)
 - iv. **Mousse** (3 marks)
 - v. **Mangrove Swamps** (3 marks)

Question 2

The **International Maritime Organization (IMO)**, is a specialized agency of the United Nations responsible for regulating shipping. The IMO was established in Geneva in 1948 and came into force ten years later, meeting for the first time in 1959. Headquartered in London, United Kingdom, the IMO has 172 Member States and three Associate Members.

- (a) **Discuss TWO (2) International Conventions** under International Maritime Organization which focus on the elements to avoid pollution especially from ships. (Use table to explain your answer). (20 marks)
- (b) Discharge of oil or oily mixtures are prohibited unless the ships follow the standard as mentioned in MARPOL 73/73. **Distinguish FIVE (5) criteria** that allow ships to discharge the oil. (5 marks)

Question 3

The Exxon Valdez, a two year old single hull oil tanker with capacity of 1.48 million barrels (62 million gallons) of oil, was the newest and largest of Exxon's 19-ship fleet. On evening of March 23, 1989 and with 1.26 million barrels of oil (54 million gallon) in cargo, the Exxon Valdez departed for Long Beach, California from Valdez, Alaska). As the Exxon Valdez approached Prince William Sound at 12 miles per hour, an effort was made to avoid chunks of ice from the nearby Columbia Glacier. The captain tried to turn into an empty inbound shipping channel where it struck underwater rocks in Prince William Sound, which tore huge holes in 8 of the vessel's 11 glans cargo holds, releasing more than 11 million gallons of oil within 5 hours. After 7 hours the resulting oil slick was 1000 ft. wide and 4 miles long.

- (a) **Discuss** the cleanup method used to clean the oil spill from Exxon Valdez ship. (20 marks)
- (b) **Justify** the ecological impact on the affected area as a result from this case. (5 marks)

Question 4

In **article 4**, Oil Pollution Reporting Procedures under **International Convention on Oil Pollution Preparedness, Response and Co-Operation (OPRC)**, has mention that "Masters / persons in charge of ships or offshore units are required to report without delay any event on their ship or offshore unit involving a discharge or probable discharge of oil; (1) In the case of a ship, to the nearest coastal State; (2) In the case of an offshore unit, to the coastal State to whose jurisdiction the unit is subject."

- (a) **Justify the pollution reporting procedures.** (20 marks)
- (b) **Illustrate** how boom's work. (Any type of boom) (5 marks)

Question 5

International Maritime Organization (IMO) has come out with a guidelines for Oil spill contingency plan.

Develop an Oil Spill Contingency Plan complete with the main content as required by IMO. (25 marks)

END OF QUESTION