



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL & AUTOMOTIVE ENGINEERING

UNIVERSITY EXAMINATION FOR:

DIPLOMA MARINE ENGINEERING

EMR 2119 : MARINE ENVIRONMENT PROTECTION II

END OF SEMESTER EXAMINATION

SERIES: APRIL 2016

TIME: 2 HOURS

DATE: Pick Date May 2016

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attempt any **THREE** questions.

Do not write on the question paper.

Question ONE:

- a) i) What is Fouling? **2 marks**
ii) State any **SIX** characteristics that make a good biocide for use in an anti-fouling system. **6 marks**
- b) Explain **FIVE** harmful effects of Tributyltin (TBT) on the environment. **12 marks**

Question TWO:

- a) From Annex VI of MARPOL 73/78, explain the Health and environmental effects associated with marine diesel engines: particulate matter emissions and diesel engine exhaust. **12 marks**
- b) Explain the surveys and inspections done on diesel engines, as shown in Annex VI of MARPOL 73/78. **8 marks**

Question THREE:

- a) Define the following terms, as shown in MARPOL 73/78:
- i) New ship
- ii) Existing ship

- iii) Sewage
 - iv) Holding tank
 - v) Garbage **5 marks**
- b) Write in full the following abbreviations:
- i) ISPP Certificate
 - ii) IMDG Code
 - iii) IMO **6 marks**
- c) Explain THREE major reasons that Regulations 3, 4 and 5 of Annex V on Regulations for the Prevention of Pollution by Garbage shall NOT apply. **9 marks**

Question FOUR:

- a) Explain the conditions under which the International Pollution Prevention Certificate shall cease to be valid. **10 marks**
- b) Explain the categorization of Noxious Liquid Substances, as shown in Regulation 3 of Annex II of MARPOL 73/78 **10 marks**

Question FIVE:

- a) Define the following terms as shown in Annex I of MARPOL 73/78;
 - i) Crude oil tanker
 - ii) Product carrier
 - iii) Crude oil
 - iv) Tank
 - v) Existing ship **10 marks**
- b) From Regulation 7 of Annex IV on the Prevention of Pollution by Sewage, explain all possibilities of duration of certificate. **10 marks**