



TECHNICAL UNIVERSITY OF MOMBASA
**Faculty of Engineering &
Technology**

DEPARTMENT OF MECHANICAL & AUTOMOTIVE ENGINEERING
DIPLOMA IN MARINE ENGINEERING (DME YI, SII)

EMR 2123: MARINE ENGINEERING II

END OF SEMESTER EXAMINATION

SERIES: APRIL 2014

TIME ALLOWED: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer booklet*

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

All questions carry equal marks
Maximum marks for each part of a question are as shown
This paper consists of **THREE** printed pages

Question One

- a) Define the following terms as used in MARPOL 73
- (i) Discharge
 - (ii) Ship
 - (iii) Incident
 - (iv) Organization
 - (v) MARPOL
- (10 marks)**
- b) Under Article XII of LDC, 1972 the contracting parties pledge themselves to promote within the competent specialized agencies and other international bodies measures to protect the marine environment against pollution. State these causes or sources of pollution. **(10 marks)**

Question Two

- a) Define the following terms as used in Annex 1 of MARPOL 73/78:
- (i) Oil Fuel
 - (ii) Combination carrier
 - (iii) Tank
 - (iv) Crude oil tanker
 - (v) Product carrier
- (10 marks)**
- b) State and explain **THREE** types of surveys for which ships undergo as shown in Regulation 4 of Annex 1 of MARPOL 73/78 **(10 marks)**

Question Three

- a) Write the following abbreviations in full: **(10 marks)**
- (i) IOPP
 - (ii) SOPEP
 - (iii) IMO
 - (iv) IMDG code
 - (v) ISPP certificate
- b) Explain **THREE** major reasons in which discharge of oil into sea is allowed, as shown in Annex 1, Regulation II of MARPOL 73/78 **(10 marks)**

Question Four

- a) Define the following terms as used in Annex II of MARPOL 73/78. **(10 marks)**
- (i) Liquid substances
 - (ii) Noxious Liquid substance
 - (iii) Chemical tanker
 - (iv) Ship constructed
 - (v) Similar stage of construction

- b) State and explain the categories of Noxious liquid substances. **(8 marks)**
- c) State any TWO operations to be recorded in the Cargo Record Book when such operations with respect to noxious liquid substance take place in a ship. **(2 marks)**

Question Five

- a) Explain the types of ships to which the provisions of Annex IV of MARPOL 73/78 (i.e. Regulations for the Prevention of Pollution by sewage from ships) shall apply. **(10 marks)**
- b) Explain the following alternative anti-fouling systems:
- (i) Copper-based anti-fouling paints
 - (ii) Clearing
 - (iii) Electricity
 - (iv) Natural resistance, natural biocides **(10 marks)**