

Indian Maritime University
(A Central University, Govt of India)
End Semester Examinations – December 2023
Programme Name: B Sc (NS)
Semester: V
Subject Code: UG21T5505
Subject Name: MARINE ENVIRONMENTAL PROTECTION

Date: 13.12.2023

Max Marks: 70

Duration: 03 Hrs

Pass Marks: 35

General Instructions

- (i) All Sections (A, B & C) are to be attempted.
- (ii) Options, if any, are specified in respective section.

Section A

Ten MCQs/Fill in the Blanks of 01 Mark each – Choose the correct answer as applicable.

1. International Convention for the Prevention of Pollution from Ships (MARPOL) entered into force on _____.
2. _____ Manual identifies the arrangements and equipment needed to comply with Annex II and specifies the operational procedures for cargo handling.
3. _____ Record book is to be completed, whenever any operations with respect to a noxious liquid substance take place on a vessel.
4. Harmful substances are those substances which are identified as marine pollutants in the _____ code
5. A ship discharging comminuted and disinfected sewage should be at a distance of more than _____ from the nearest land.
6. The abbreviation IECC stands for _____.
7. MARPOL Annex VI- Regulations for the Prevention of Air Pollution from ships came into force on _____.
8. EMISSION means any release of _____, subject to control, from ships into the atmosphere or sea.
9. The BWM convention requires that vessels should conduct ballast water exchange at least _____ nautical miles from the nearest land.

10. The International Convention on the control of Harmful Anti-fouling systems on ships prohibits the use of harmful _____ compounds in anti-fouling paints used on ships

Section B

Five Questions of 02 Marks each

11. What are the carriage requirements of ORB Part 1?
12. Define Noxious Liquid Substances as per Marpol Annex II
13. Under what circumstances can harmful substances defined in Annex III be jettisoned?
14. What is the criteria for ships to carry a Garbage Management Plan?
15. Define an ECA with examples.

Section C

Seven Questions of 10 Marks each of which any 05 questions to be answered.
Questions which have two parts (a & b) carry equal marks for both parts (5 marks each).

16. What is the criteria for discharge of Oil residues from Cargo spaces of Oil Tankers outside special areas?
17. What is the criteria for ship-board garbage discharged at sea outside special areas?
18. State the NOx Tier 1, Tier 2 and Tier 3 requirements of Annex VI.
19. a) What are the entries required in an ODS record book?
b) What are the contents of a SOPEP locker?
20. Draw and label a Marine Sewage Treatment Plant and explain its working.
21. a) Describe the various methods of ballast exchange (D1)
b) Draw and label a typical Ballast Water Treatment plant.
22. a) Describe the harmful effects of Anti fouling paints which led to the International Convention on the control of Anti Fouling System on Ships.
b) Write short notes on NPDES.