

Indian Maritime University
(A Central University, Govt of India)
End Semester Examinations – June 2024
Programme Name: B Tech (ME)
Semester: IV
Subject Code: UG11T4404

Subject Name: Marine Pollution Prevention and Safety

Date: 06.06.2024

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

Answer all Questions
Choose the Correct Answer [10 x 1 = 10 Marks]

1. Administration surveyors when checking foreign Flag ships in their ports for compliance of international regulations such as MARPOL / SOLAS is called
 - (A) FSI (Flag State Inspection)
 - (B) PSI (Port State Inspection)
 - (C) Annual Survey
 - (D) Intermediate Survey
2. Most harmful cargo (noxious liquid) carried in chemical tankers is under
 - (A) Z Category
 - (B) Y Category
 - (C) X Category
 - (D) OS
3. The..... is a designated Particular Sensitive Sea Area by IMO.
 - (A) Great Barrier Reef
 - (B) Baltic Sea
 - (C) Black Sea
 - (D) Red Sea
4. Oil Pollution Act 1990 is applicable to navigable waters of
 - (A) Europe
 - (B) USA
 - (C) United Kingdom
 - (D) None of the above
5. Which bacteria is used in Sewage treatment plant on board?
 - A) Anaerobic Bacteria
 - B) Aerobic Bacteria
 - C) Sewage Bacteria
 - D) none of above
6. Fuel oil sludge from purifiers when incinerated onboard should be recorded in
 - (A) Oil Record Book No. I
 - (B) Oil Record Rook No. II
 - (C) Ballast Water Record Book
 - (D) Cargo Record Book

7. Fouling of a ship's hull can be prevented by
 (A) Bottom Painting with Anti-Fouling Paint
 (B) Marine Growth Prevention System such as Impressed Current System
 (C) Ship's Hull Cleaning
 (D) All of the above
8. As per ISM code maintenance program for the machinery is responsibility of
 (A) Flag State
 (B) Ship Manager
 (C) Machinery Maker
 (D) Classification Society
9. What is the full form of SMS in ISM code
 A) Safety Management ship B) Safety management system
 C) Safety measures systems D) Spill Management safeties
10.procedure enables an operator to effectively isolate dangerous machinery before commencing with their maintenance
 (A) Lock Out-Tag Out
 (B) Lock In-Tag In
 (C) Look Out-Tag In
 (D) All of the above

Section B

Answer all Questions **[5 x 2 = 10 Marks]**

11. Define Special Area as per MARPOL and Name any two area as per Annex I
 12. State the full form of SOPEP and explain its purpose
 13. Mention the various permits which are used onboard?
 14. What are the criteria needs to be fulfilled for the discharge of Garbage from ships?
 15. Explain briefly about AFS convention?

Section C

Answer any 5 Questions **[5 x 10 = 50 Marks]**

- 16 (a) Explain requirements for control of emissions from ships as per MARPOL Annex VI (6 Marks)
 b) What are the categories of NLS in annex II? What are discharge Criteria in annex II? (4 Marks)
- 17 (a) Describe pollution prevention measures for on board Bunkering activity (5 Marks)
 (b) Write a short note on CLC 1969 convention? And describe what is Maritime Casualty as per CLC 1969? (5 Marks)
- 18 (a) Draw and Explain Oily Water Separator. (5 Marks)
 (b) Criteria to fulfil as per MARPOL requirements for pumping out Engine Room Bilges (Machinery Space of all Ships) (5 Marks)
- 19 (a) Discuss the use of safety induction procedures on board (5 Marks)

- (b) Explain Enclosed Space Entry and Rescue Drills (5 Marks)
- 20 (a) Sketch and Describe Biological Sewage Treatment Plant used on-board (5 Marks)
- (b) Sketch and Describe Shipboard Incinerator (5 Marks)
- 21 (a) Define Hot Work with Examples and Explain "Hot Work Permit" (5 Marks)
- (b) Explain Risk Assessment in ISM Code and steps for conducting it on-board (5 Marks)
- 22 (a) What are the methods of Ballast Water Exchange (3 Marks)
- (b) What are the criteria to be followed for handling Ballast Water (7 Marks)



